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Bernardes-de-Oliveira, M.E.C. 1968. Flora of the Rio Bonito formation: glossopteris, noeggerathiopsis, ephenopteris, gangamopteris e rhabdotaenia, in the Bainha acclivity, Criciúma, SC state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1944 **1968** Date of presentation:

Mary Elizabeth Cerruti Bernardes-de-Oliveira Advisor(s): Mendes, J.C.

Committee:

Subject of thesis: Palaeoecology

State: SC 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Farjallat, J.E.S. 1968. Neopaleozoic diamictites and associated sediments of southern of Mato Grosso state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2082 **1968** Date of presentation:

Jose Eduardo Siqueira Farjallat Advisor(s): Mendes, J. C.

Committee:

Subject of thesis:

State: MT 1/1,000,000 sheet: SE21 Centroid of the area: ' - 'W

Abstract

Yoshida, R. 1968. Preliminary description of the neopaleozoic conifers of the Paraná basin. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2083 **1968** Date of presentation:

Riuiti Yoshida Advisor(s): Mendes, J. C.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Carvalho, R.G. 1969. Contribution to the knowledge of the morphology of some devonian brachiopoda of Paraná state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1992 1969 Date of presentation:

Ronaldo Gama de Carvalho Advisor(s): Mendes, J. C.

Committee:

Subject of thesis: Palaeontology

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Isotta, C.A.L. 1969. Contribution to the study of the Romaria diamond deposit, MG state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2086 1969 Date of presentation:

Carlos Augusto Luciano Isotta Advisor(s): Leinz, V.

Committee:

Subject of thesis:

State: MG 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Minioli, B. 1969. Potassium-argonium determinatin in rocks situated near or in the northern litoral of São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2090 1969 Date of presentation:

Bruno Minioli Advisor(s): Leinz, V.

Committee:

Subject of thesis:

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Moreschi, J.B. 1969. Test of the application of lead geochemical prospection in the Itaoca granite. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2085 1969 Date of presentation:

João Batista Moreschi Advisor(s): Ellert, R.

Committee:

Subject of thesis: Geochemistry

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Oliveira, M.A.F. 1969. Charnockitic rocks of the São José do Rio Pardo region, São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2021 1969 Date of presentation:

Marcos Aurélio Farias de Oliveira Advisor(s): Coutinho, J.M.V.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Svisero, D.P. 1969. Electronic microscopy of surface structures in diamond crystals of Brazil. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1977

1969

Date of presentation:

Darcy Pedro Svisero

Advisor(s): Camargo, W.G.R.

Committee:

Subject of thesis: Mineralogy and Petrology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

Corrêa da Silva, Z.C. 1970. Geology and stratigraphy of the Tubarão group - Barão do Triunfo quadrangle, Guaíba municipality - RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 243

1970

Date of presentation:

Zuleika Carreta Corrêa da Silva

Advisor(s): Figueiredo Filho, P.M.

Committee:

Subject of thesis: Stratigraphy

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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Abstract

This dissertation deals with the geological mapping and the stratigraphy of the sedimentary rocks of Tubarão Group in Barão do Triunfo Quadrangle, Rio Grande do Sul State.

The sedimentary sequences are related to Itararé Sub-Group and Rio Bonito Formation, which belongs to Sub-Group Guatá.

Fossilized leaves of both Glossopteris and Gangamopteris Floras showed that the rocks of Tubarão Group are of Lower Permian age.

The sediments were considered to be formed in a fluvio-lacustrine environment and the rocks of Sub-Group Itararé are related to a glacial climate.

The evaluation of clay resources in the area of Potreiro Grande indicated that kaolinite is worth exploiting.

Purper, I. 1970. Revision of the genus Cytheridella (ostracoda): Ecology, stratigraphic, distribution, paleogeography. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 702

1970

Date of presentation:

Ivone Purper

Advisor(s): Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

For a better interpretation of the systematics, ecological, palaeoecological and stratigraphic studies of the genus Cytheridella Daday 1905, a complete revision was made, as well as a redescription of the type-species, based on the type material of Daday. Other species of the genus, including a new one - Cytheridella boldii n.sp. - were also studied. The results of this research led to new ecological, palaeoecological and palaeogeographic interpretations and to the identification of the stratigraphic distribution of the genus from the Eocene to the Recent.

Röettger, É.U. 1970. Bathymetric distribution of recent foraminifera along the southern Brazilian continental shelf (Rio Grande do Sul, Brazil). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 701

1970

Date of presentation:

Érica Ulrica Röettger

Advisor(s): Closs, D.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

Recent foraminifera collected in the Continental Shelf of Rio Grande do Sul State, between latitudes 29°S and 33°S, were studied in order to: a) determine the bathymetric associations at successive depths; b) recognize the species biologically indicative of the Brazil and Falklands Currents; c) elaborate a qualitative and quantitative account on the species found and compare with those pertaining to ecologically equivalent areas.

The following bathymetric associations were found:

— Between 13 and 83m: Elphidium discoidale, Elphidium aff. discoidale, Nonionella atlantica and Nonion grateloupi grateloupi;

— Between 22 and 95m: Buliminella elegantissima;

— Between 34 and 135m: Cassidulina crassa forma minima, Bulimina marginata forma typica and Bolivina fragilis;

— Between 46 and 143m: Uvigerina peregrina forma parvula.

The survey revealed 189 benthic and 22 planktonic species. Among the biologically indicative species, those associated with the Brazil Current predominate. Benthic species associated with the Falklands Current have a low percentage of occurrence (27%), whereas the planktonic ones, though qualitatively numerous, occur as isolated specimens.

Villas,R.N.N. 1970. Geology and tectonics of the Liberdade quadrangle, Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1192

1970

Date of presentation:

Raimundo Netuno Nobre Villas

Advisor(s): Costa,L.A.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

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Abstract

This paper deals with the Geology of the Liberdade Quadrangle which has for geographical coordinates 22°00' and Greenwich. It is situated in the south of Minas Gerais State within the orogenic belt known as Serra da Mantiqueira. The Precambrian rocks of this area were included in two lithologic sequences separated by an angular unconformity, which correspond to two migmatogenic series. The upper one was divided into two plutomorphic domains: (1) Liberdade Metamorphites, consisting of muscovite rich mica-schists (green-schists to almandine-amphibolite facies), commonly interbedded with quartzites and minor amphibolites; (2) Carvalhos Metamorphites, composed of upper gneissic rocks (almandine-amphibolite facies), characterized by light quartzose bands, plenty of kyanite and garnet porphyroblasts, and biotite-rich dark bands, sometimes garnetiferous. Amphibolites are usually associated with these gneisses too, being always concordant and lime-rich zones are also present. In this sequence was established a direction of progressive increase of metamorphism, trending NW. Locally these rocks are incipiently migmatized. The lower one represents a broad migmatitic region where were distinguished three plutomorphic domains: (1) Augusto Pestana Complex, composed of high-gneisses (almandine-amphibolite facies) whose mineralogical assembly is marked by the presence of biotite and sillimanite. Among these rocks were noted several migmatization nuclei, mobilizing pegmatoid and granitoid materials; (2) Passa Vinte Complex formed by granulitic gneisses (upper zones) characterized by hornblende or sillimanite-rich types. Interbedded with them are found many feldspathic- and diopsidic quartzites as well as lime-silicate bands. The incipient migmatization mobilized aplo-pegmatoid material; and (3) Bocaina Complex, mapped as metatexites with local occurrence of diatexites, representing highly granitized rocks. It is pointed to the gneissic rocks of this sequence a direction of increase in metamorphism grade, trending SE, while the migmatization front advances toward north and east. This front gave rise to a migmatitic aureole in the upper sequence, which was contaminated with aplitic, pegmatoid and granitoid injections. Several intrusions were observed in the area. The acid ones are represented by aplitic-bearing pegmatite veins and granites both related to the granitization processes. The granites to two distinct generations: the syntectonic of granitic composition and porphyritic texture and the late- or post-tectonic of quartz-monzonitic composition, leucocratic and nearly equigranular. The ultrabasic intrusion is probably alpinotype and is situated at the contact between the schists and upper gneisses. Originally it could be emplaced in the lower sequence, after rising up through the fault zone which marks that contact. It is serpentinized and mineralized with nickel, whose most important ore is garnierite resulting of exogenic processes. The basic dykes, composed of basalt or diabase, follow many directions and cut both sequences. These different geologic units have monoclinic fabrics of deformation with local triclinic domains. Its most remarkable structures are fracturing and faulting, trending N10°E and N50°E, which are present in both migmatogenic series, and folding. In the lower sequence the folding is cylindric, more or less isoclinal. The Carvalhos Metamorphites form a large open synclinal plunging to N, while the Liberdade Metamorphites show an irregular folding due to the different competence of its rocks. There are zones where the folding is disarmonic and others where it is conic; in other ones the beds only dip northward with high angles. To this sequence is suggested a tectonic developed mainly by vertical movements.

Araújo, M.P.C. 1971. Contribution to the stratigraphy of the Cretaceous of northeastern Brazil, by means of palynological analysis of a drill core from the Jandaíra formation (RN). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 704

1971

Date of presentation:

Maria de Pompéia Correa de Araújo

Advisor(s): Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The palynological study of the stratigraphical drilling BSJ-1-RN, carried out in the region of Macau, Rio Grande do Norte State (northeastern Brazil) is presented. Having analyzed the stratigraphy and paleontology of the area, a palynological study was made, of which resulted a very poor association composed of 27 species of pollen, amongst which one is considered as new and another as *Incertae Sedis*. The identification of the species with chronological value led us to calculate their age as between Cenomanian and Turonian, the sediments being related to the lower part of the Jandaíra Formation of the Potiguar Basin. The absence of microplankton and the abundance of cuticles and of other organic remains indicate a partially closed basin of shallow and moving waters. The predominance of angiospermian grains, the abundance of ephedroids and the absence of pteridophytes suggest a dry climate.

Eichler, B.B. 1971. Observations on beach cusps in the northern littoral of Santa Catarina. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 425

1971

Date of presentation:

Beatriz Beck Eichler

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: SC

1/1,000,000 sheet:

SG22

Centroid of the area:

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Abstract

This dissertation represents a study of the main grain characteristics of the beach sediments in the northern part of Santa Catarina between Porto Belo and Itajubá. Among the outstanding features, the beach cusps are specially mentioned and the most important relations of grain texture are established for this feature. In this regard, the most diagnostic size parameter is the arithmetic mean (Mz), which showed higher granulometry on ridges than on the small embayments that give form to this feature. The remaining statistical values show a great similarity for both regions, however with clearly coast features. The morphoscopic characters indicate rates of 0.5 up to 0.7 on sphericity and round to well-rounded grains, and predominant polished rounded grain surface of the sand studied, not showing any variation between ridges and embayments. Some aspects of construction, maintenance, and dimensions, as well as some considerations on the building or erosional characteristics of these features are also presented.

Gaglianone, P.C. 1971. Geology and tectonics in the Serra do Engenho Novo - Sumaré intermission, Guanabara state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1191

1971

Date of presentation:

Paulo César Gaglianone

Advisor(s): Costa, L.A.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: RJ

1/1,000,000 sheet:

SF23

Centroid of the area:

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Abstract

During the course of the present work, are reported some comparative field data, with statistic analysis from Serra do Engenho Novo, Sumaré and Borel in Guanabara state. The metasedimentary rocks of the region belonging to the Precambrian are widely distributed. They comprise a considerable portion of the "Fundamental Complex" as gneisses and migmatites and a younger granitic intrusion on the occidental margin of Serra do Engenho Novo. They have been affected by different degrees of foldings and the diagrams (s-pole and frequency of linear structures) show the effect of interference by superposed foldings. The overall relationship suggest that the structure of Serra do Engenho Novo is different from the other areas and they are very complex.

Gammernann, N. 1971. Rosario do Sul Formation. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 393

1971

Date of presentation:

Natálio Gamermann

Advisor(s): Figueiredo Filho, P.M.

Committee:

Subject of thesis: Stratigraphy

State: RS

1/1,000,000 sheet:

SH21

Centroid of the area:

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Abstract

The limit between Permian and Triassic rocks is a rather controversial aspect of the stratigraphy of the Gondwana of the Paraná Basin.

In Rio Grande do Sul State the controversy lies on the identification of the beds situated between the Estrada Nova and Botucatu Formations. These beds have been interpreted as different units, thus receiving different names.

The Santa Maria fossiliferous beds, which occur only and locally in Rio Grande do Sul, are also included in this stratigraphic problem.

The identification of the Rosário do Sul Formation in the geologic column of Rio Grande do Sul not only solves the problem of plurality of names and interpretations, but also unifies the litho-stratigraphy, establishing type-sections and describing the characteristics of the adjoining formations. As a result, the limits of the Rosário do Sul Formation can be easily recognized.

The Rosário do Sul Formation includes all the red beds situated between the Estrada Nova and Botucatu Formations. It is subdivided into two facies; one is typically fluvial, with flood plain characteristics, and the other is a fossiliferous facies, with lacustrine sediments, of restricted occurrence, known as Santa Maria. Based on the paleofauna of this facies, a Triassic age was determined for the Rosário do Sul Formation. The upper and lower contacts of this formation are, respectively, with the Botucatu Sandstone and the Estrada Nova Formation and exhibit a transitional nature.

The Rosário do Sul Formation can be genetically and temporally correlated with the Pirambóia Beds, whose best exposures can be seen in São Paulo State. Considering that Pirambóia is, in fact, thicker than it has usually been described, and that it is a unit which can be mapped, it is suggested here that further studies be made on these aspects, so as to bring the Pirambóia facies to a Formation status into the São Bento Group.

Jost, H. 1971. The quaternary of the northern region of the Rio Grande do Sul coastal plain - Brazil. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 421

1971

Date of presentation:

Hardy Jost

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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'W

Abstract

Results of a systematic study based on surface mapping of the northern region (between latitudes 29°15' and 31°S) of the Rio Grande do Sul Coastal Plain, South Brazil, are presented and discussed.

Surface mapping and cross-sections showed that this area contains the following main events:

- a progressive overlap of continental deposits over marine Miocene deposits of the Pelotas Basin. This overlap is represented by 250m of continental sediments known as Graxaim Formation;
- a marine progressive overlap, that partially covers the Graxaim Formation, and whose deposits are known as Chui Formation. This unit comprises a complete transgressive-regressive sedimentary sequence. During the transgression the sea level rose up to 15m above the present level;
- this transgression was responsible for a morphologic transformation of the coast, developing bays and "Rias" from parallel 30°15'S to the north. In one region the low altitudes allowed the ocean to invade the continent deeply, originating a bay environment;
- during the regression, successive dune strings developed and are known as Itapoã Formation; the upper section of the Chui Formation (marine) was deposited, and the bay environments received fluvial deposits developing the Guaíba Formation;
- the "Porto Alegre Basin" is a tectonic unit defined in this report.

Semi-arid climatic conditions, alternating with humid periods, prevailed during the whole Pleistocene, and probably during the Miocene-Pliocene and part of the Holocene, as it could be deduced from paleosoils, paleopavements and their relations with the lithostratigraphic units of the area.

The lithologic characterization of each stratigraphic unit is presented. The Graxaim Formation comprises a conglomeratic facies related to alluvial fans deposition, and a silty-sand facies probably deposited along a coastal "bajada". The Chui Formation is built up of near shore sand deposits, and along the surface this unit is entirely represented by emersion sands. The Guaíba Formation is represented by a conglomeratic facies (alluvial fans and deltas), and a sandy facies (alluvial plain and bay deposits). The Itapoã Formation comprises a series of sand strings deposited by eolian action along the coast, at successive stationary sea levels during the Pleistocene and Holocene.

The author emphasizes the still remaining problems that must be studied and solved for a better understanding of the whole Coastal Plain region.

All the elements of this research are proposed as modifications to the stratigraphic and lithologic studies made by Delaney (1965) in the same region.

Katoo, Y. 1971. Mesozoic conchostraceans from the south of Brazil: A contribution to the stratigraphy of the Santa Maria and Botucatu formations. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 706

1971

Date of presentation:

Yoco Katoo

Advisor(s): Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The present dissertation comprises the systematic study of conchostracea which occur in the Santa Maria Formation, Rio Grande do Sul State, Brazil, as well as the comparative study of these fossils with those of the Botucatu Formation, São Paulo State. This work aims to clarify the relative stratigraphic position of the two units. Conchostracea found in the Santa Maria Formation are: Euestheria cf. minuta von Zieten, Euestheria cf. emmonsii (Raymond), Euestheria cf. forbesii (Jones) and species of genera Lioestheria, Pseudoasmussia, Echinestheria?, Estheriina? and Orthothemos?.

Lioestheria sp. comes from the base of the Santa Maria Formation. The other forms come from a new outcrop called here "Belvedere", which is located near the city of Santa Maria, RS. This outcrop is considered to be of a fluvial facies, which is related to the top of the Santa Maria Formation by some authors and to the base of the Botucatu Formation by other authors. The problems involving the position of the sequence are discussed on the basis of the biota. The established correlations between the Santa Maria Formation and the Botucatu Formation are discussed.

Lima, M.R. 1971. A palynological contribution to the Cretaceous stratigraphy of northeastern Brazil: Analysis of the drill core GSB1, Serra Branca, Pernambuco state. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 705

1971

Date of presentation:

Murilo Rodolfo de Lima

Advisor(s): Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State:

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Centroid of the area:

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Abstract

his dissertation represents a first attempt to study the palynology of the Araripe Basin. The palynological content of the studied material is extremely rich and 57 types were selected, described, and identified up to their genus and in some cases up to the species.

Based on statistical analyses, three different zones were identified and each association led to various conclusions. The presence of sometypes with stratigraphic value allowed to determine an Albian age to the whole section. On the other hand, based on the characteristic types, paleogeographic, paleoecological, paleoclimatic, and paleofloristic conclusions were drawn. These conclusions are, however, conditioned by various restrictions, owing to the fact that this is a new area of palynological research.

Madeira, M.L. 1971. Ecological distribution of thecamoebina and foraminifera in mixohaline environments along the southern brazilian littoral. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 703

1971

Date of presentation:

Marly Lopes Madeira

Advisor(s): Closs, D.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The southeastern Brazilian coast, comprising Rio Grande do Sul, Santa Catarina and Paraná States, is mainly characterized by a low sandy coastal plain which extends from the oceanic shore line inland to the granitic hills disposed NNE to SSW. The main geographic features of this region are beaches, deltas, estuaries, bays, fresh and mixohaline water lagoons.

Thecamoebian and foraminiferal associations of mixohaline environments of this region, as obtained from samples collected from Chuí (Rio Grande do Sul State) to Paranaguá (Paraná State), were analyzed. Based on these data, four marginal marine environments were distinguished: lagoons, marshes, bays-estuaries, and beaches.

The main ecological factors considered to be responsible for the distinctive distribution of the associations are salinity, temperature and depth.

Martins, I.L.R. 1971. Sedimentology of the Rio Grande channel. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 420

1971

Date of presentation:

Inês Leonida da Rosa Martins

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

SI22

Centroid of the area:

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Abstract

The Lagoa dos Patos inlet bottom sediments were studied by means of their textural properties.

On this base, the inlet can be divided into three distinct sedimentary environments:

- 1) Lagoonal, the most interior, predominantly silty, sometimes argillaceous sediments;
- 2) Transitional, medium position, consisting of variable mixtures of sand and fine sediments, within a range of silty clay, sandy silt and clayey silt, characterizing the meeting of two sedimentary domains;
- 3) Marine, external position, with a more expressive energy level, characterized by well-sorted fine sands, with textural properties very similar to the adjacent oceanic beach sands.

Bittencourt, A.C.S.P. 1972. Some aspects of recent sedimentation in the atlantic coast of Salvador. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1274 1972 Date of presentation: 10/3/1972

Abílio Carlos S. P. Bittencourt, Advisor(s): Allia, E.N.Committee: Gaston R. Sieffermann -
Tereza Cardoso da Silva - IG/UFBA

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

Wave energy and the proximity of granulite outcrops or river mouth appear to be three principal factors controlling the composition and texture of the sand in the atlantic litoral of Salvador, State of Bahia, Brazil.

The sand is chiefly quartzose with contributions of biogenic carbonate grains (maximum 58%, minimum 6%).

Samples collected on the beach near granulite outcrops have feldspar content up to 3.5%, sub-angular grains, medium coarse median-diameters, a positive skewness and characteristics of transport by rolling. Samples taken distant from outcrops show sub-rounded grains, medium to fine median-diameters, a positive or negative skewness depending on the proximity or absence, respectively, of river mouths, and have been transported in graded suspension with or without additional rolling.

High energy beaches have the lowest content of bioclasts and, where rock outcrops are absent, exhibit a symmetrical distribution or negative skewness.

The best sorting values correspond to medium sand. The degree of roundness grows with the sphericity and with particle size.

Bortoluzzi, C.A. 1972. Contribution to the geology of the Santa Maria area, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 394 1972 Date of presentation:

Carlos Alfredo Bortoluzzi Advisor(s): Figueiredo Filho, P.M.

Committee:

Subject of thesis: Stratigraphy

State: RS 1/1,000,000 sheet: SH21 Centroid of the area: ' - 'W

Abstract

SH22

The region surrounding the city of Santa Maria (Rio Grande do Sul State, southern Brazil) was surveyed, so that the present dissertation could offer up-to-date evidences and conclusions on the stratigraphical characteristics of the Santa Maria Formation (Triassic) in its type-area.

As this formation comprises some of the most conspicuous sediments of the Gondwana sequence in Rio Grande do Sul State, it was also decided to study its stratigraphic relationships to the other units of the São Bento Group in the same area, from stratigraphic, sedimentological and structural points of view.

Surface geologic studies were complemented by data provided by sedimentological, petrographic and clay mineralogy (XRD) analyses. The obtained results led to the following conclusions:

a) the São Bento Group in Rio Grande do Sul State comprises four geologic formations, from bottom to top: Rosário do Sul s.s., Santa Maria, Botucatu and Serra Geral;

b) the Rosário do Sul Formation (sensu Gamermann, 1970) must have its stratigraphic range restricted, so as to include only fluvial clastic sediments exhibiting through cross-bedding and lying between the Estrada Nova (Permian) and Santa Maria (Triassic) Formations; in reference to this, it is here proposed that it should be named Rosário do Sul Formation (s.s.);

c) the Santa Maria Formation should be maintained as a valid lithostratigraphic unit, which exhibits a lower part, made up of conglomerates, sandstones, siltstones and shales with the Thinnfeldia- Dicroidium flora, and an upper part, mainly silty, associated with a well-known reptilian paleofauna;

d) the contact between the Rosário do Sul (s.s.) and Santa Maria Formations is conformable, but the latter exhibits an unconformable contact with the overlying Botucatu Formation;

e) within the studied area, the Botucatu Formation can be divided into a sandy/muddy lower unit, of fluvial-lacustrine origin, which gradually passes upward into the eolian upper unit;

f) the contact between the Botucatu Formation and the Serra Geral basic lavas is locally unconformable.

Carvalho, I.G. 1972. Talco mineralization in Sitio Serra, Iguape municipality, São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1990 1972 Date of presentation:

Ilson Guimarães Carvalho

Advisor(s): Ellert, R.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet: SG23 Centroid of the area: ' - 'W

Abstract**Cunha, R. 1972. The Guaíba estuary: Textural, mineralogic and morphologic characteristics. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.**

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 424

1972

Date of presentation:

Roberto Cunha

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

Based on textural and mineralogic studies of bottom samples collected in the Guaíba Estuary, Rio Grande do Sul, Brazil, the author defines four estuarine facies: sandy facies, divided into coarse, medium and fine sub-facies; sandy-silt facies; silty-sand facies; and sandy-silty-clayey facies. Each one is thought to be the result of a mixture and deposition of solids provided by four different source areas, which range in time from Pre-Cambrian up to the Quaternary. Clay mineralogical studies in the estuary show a significant relation between clays and the source areas, and the Pre-Cambrian chlorite and kaolinite, the montmorillonite from the Graxaim Formation, and the kaolinite resulting from the erosion of the Pleistocene ferrallitic soil of the Serra de Tapes Laterite are discussed. Comparison with sedimentary patterns from other similar environments throughout the world are made, indicating the great influence of the borderland areas on the distribution of the bottom sediments.

Dias, A.C. 1972. A new copper deposit defined by geophysical methods in Fazenda Bela Vista - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1538

1972

Date of presentation: 20/10/1972

Adalberto da Costa Dias

Advisor(s): Dias, C.A.

Committee:

José Seixas Lourenço

-

André Davino

-

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

This Thesis is part of the geophysical studies of the area of Bela Vista, in Jaguarari District, 10 km to the north of the locality of Caraíba, as part of the Geophysics Program of the Federal University of Bahia to locate mineralized zones in the copper district of the State of Bahia. AFMAG and Telurics surveys were conducted for selection of targets. The method of Electrical Induced Polarization and Resistivity were used for determination of the geometrical parameters and characterization of the mineralization. As a result significant anomaly of conductivity and I.P. has been determined, with probably 600 million tons of rock mineralized with copper sulphides, and its associated pyrite and graphite. Some important regional structural features have also been studied. The various geophysical methods and electrical systems used have been evaluated in tropical environment. In fact, this is the first time that an integrated work, using systematically the various geophysical methods is performed in Brazil.

Forti, I.R.S. 1972. Paleoecology of cenozoic mollusks from the coastal plain of Rio Grande do Sul. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 709

1972

Date of presentation:

Ieda Regina da Silva Forti

Advisor(s): Closs, D.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The paleoecological study of fossil mollusks from the Rio Grande do Sul Coastal Plain drill-holes and outcrops showed, by comparing them with the recent fauna, the existence of a marine environment of shallow water, with fresh-water afflux, during the

deposition of these associations. The occurrence of mixohaline species suggests yet a deltaic environment.

Guerreiro, M.G.S. 1972. Alluvionar prospection applied to Dom Bosco and Morro do Bule region - Minas Gerais state. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 977

1972

Date of presentation:

Manoel Gabriel Siqueira Guerreiro

Advisor(s): Cassedanne, J.P.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Cette recherche a eu pour objet de déterminer l'efficacité de la prospection alluvionnaire systématique dans la recherche des indices minéralisés. Dans ce but a été choisie une région dont la géologie était connue et où l'on savait exister de petites minéralisations.

Kotzian, S.C.B. 1972. The genus Chlamydotheca (ostracoda) in Brazil: Taxonomy, observations on its ecology, geographic distribution and stratigraphic position. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 710

1972

Date of presentation:

Sônia Conceição Bender Kotzian

Advisor(s): Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

About thirty two species of the genus Chlamydotheca are known presently. This dissertation deals with the occurrence of the genus in Brazil. This occurrence has demonstrated to be very representative in quantity, since twenty two different species were registered, six of which are new.

In the description of the species the same importance is given to the soft parts and to the morphology of the carapace, what permits to present more data for the systematics of the genus and specially to use them for future comparisons with fossil ostracodes. Ecological aspects, considerations about geographical distribution and stratigraphical position of this group are also discussed.

Leão, Z.M.A.N. 1972. A shelly deposit on the bottom of Baía de Todos os Santos bay, near the Laje de Ipeba flag stone. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1275

1972

Date of presentation: 10/3/1972

Zelinda Margarida de Andrade Nery Leão

Advisor(s): Allia, E.N.

Committee:

Gaston R. Sieffermann

-

Tereza Cardoso da Silva

- IG/UFBA

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SD24

Centroid of the area: ' - 'W

Abstract

Grain size and composition sediment analysis of a carbonate deposit located at the northern part of Todos os Santos Bay, revealed two biotrititic assemblages, which characterize two different sedimentary sub-facies: an Halimeda dominante sub-facies and an Ostrea/Plicatula dominante sub-facies. The textural parameters such as grain size distribution, mean, sorting, skewness and grain roundness, distinguished these sub-facies. The sub-facies Halimeda dominante sediments is rather homogeneous and better sorted, contrary to the sub-facies Ostrea/Plicatula dominante sediments, that is characterized by the presence of a bi/poli modal material, composed by high percentages of very coarse and very fine-grained sediments. Observations of five sediment cores, 2 to 5m thick, which have the same sedimentological of those of the surficial bottom sediments, indicate that the environmental conditions, in the studied area, did not changed during the deposition of this carbonate deposit.

Lima e Cunha, M.C. 1972. A contribution to the stratigraphic paleontology of the Passa Dois group in Rio Grande do Sul. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 395

1972

Date of presentation:

Maria do Carmo Lima e Cunha

Advisor(s): Figueiredo Filho, P.M.

Committee:

Subject of thesis: Stratigraphy

State: RS

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

The present dissertation deals with the study of the fossil content of four geologic profiles made up of sediments belonging to the Passa Dois Group (Permian of Rio Grande do Sul State, southern Brazil) and including the four facies established for this group by Figueiredo F^o (1971).

The combined faciological and paleontological observations revealed the following data:

- a) the identified fragments of crustaceans (Liocaris) and vertebrates (mesosaurid reptiles) are found in the calcareous lenses of the lower facies of the Irati Formation;
- b) fragments of crustaceans (Pygaspis) and plants (Glossopteris Flora) occur, as imprints, in the pirobituminous shales of the lower facies of the same formation;
- c) teeth and fish scales (Palaeoniscidae) occur in siltstones at the base of the lower facies of the Estrada Nova Formation;
- d) bivalvian mollusks (Cowperesia?), identified in calcareous concretions, septaria-like, associated to sand beds of the upper facies of Estrada Nova Formation, are for the first time registered in Rio Grande do Sul State; plants of the Glossopteris Flora occur at the bottom of this facies.

Lindstaedt, H.P. 1972. Alteration of alkaline rocks - Lages - Santa Catarina. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 466

1972

Date of presentation:

Heinz Peter Lindstaedt

Advisor(s): Formoso, M.L.L.

Committee:

Subject of thesis: Geochemistry

State: SC

1/1,000,000 sheet:

SG22

Centroid of the area:

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Abstract

In Santa Catarina, northeast from the city of Lages, occurs a domitic structure owing to the intrusions of alkaline rocks, with an age of 65 million years.

The alkaline rocks were classified according to their structure in porphyry micro nepheline syenites, phonolites and tinguaite.

A geochemical study of the alkaline rocks showed that they are of the miaskitic type.

The alkaline rocks present two different types of alteration: an incipient alteration characterized by the preservation of the alkaline feldspars and a bauxitic alteration, characterized mainly by the presence of gibbsite.

The factors which control this differential occurrence of alteration seem to be related mainly to the texture of the original rock and the topography.

Comparative geochemical studies of the main chemical elements as well as of the trace elements on both types of alterations showed a decrease in the grades of SiO₂, FeO, CaO, MgO, MnO, Na₂O, K₂O, and an increase in the grades of Al₂O₃, Fe₂O₃, and H₂O⁺ in the bauxitic alteration.

In the incipient type of alteration there is a decrease of Al₂O₃, Fe₂O₃, CaO, Na₂O, and an increase in FeO, MgO, MnO, K₂O and H₂O⁺.

It was also observed that the grades of Zr, Nb, Ga, and V, among the trace elements, showed a notorious increase in the bauxitic alteration.

Chemical comparisons at constant volume over the profile of bauxitic alteration presented a decrease of SiO₂, CaO, MgO, Na₂O, K₂O, and MnO, and an increase in Fe, Al, Ti, and H₂O⁺.

Menegotto, E. 1972. Sedimentology of the Tupanciretã formation. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 422

1972

Date of presentation:

Egydio Menegotto

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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Abstract

Field and laboratory studies showed that the Tupanciretã Formation in the State of Rio Grande do Sul, Brazil, consists mainly of fine to very fine sandstones, silty sandstones, and conglomerates restricted to the Southern part of the studied area. The research evidenced the existence of a sand facies located between Júlio de Castilhos and Cruz Alta.

Although not abundant, the structures are represented by tabular cross-bedding deeping to NE and E and few occurrences of cut-and-fill (through) bedding.

Results of mechanic analyses showed that these sediments present a high number of textural classes, high standard deviation, mean size between 2 and 4 ϕ , with positive skewness and leptokurtic distributions. Morphoscopic aspects are characterized by high sphericity, sub-rounding, and kidney-shaped polished surface texture. Light mineral is chiefly quartz, heavy minerals are mainly magnetite, tourmaline, and zircon, and the most abundant clay mineral is kaolinite.

The origin of these sediments is fluvial, accumulated by meandering rivers. Their source area consisted of basaltic rocks, which supplied the coarser components of the conglomerates, and sedimentary rocks situated in the region known as "Depressão Central".

Tectonic events raised and deepened the whole area westward, thus allowing the establishment of the present drainage.

Ornellas, L.P. 1972. Minicythere, n.gen. et sp. (ostracoda) from southern Brazil: Related genera and faunistic associations indicative of mixohaline environment. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 707

1972

Date of presentation:

Lília Pinto de Ornellas

Advisor(s): Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

A new ostracode: *Minicythere heinii* Ornellas, n.gen. et sp. is described. The exhaustive comparison with allied genera resulted in the revalidation of *Cushmanidea*, *Pontocythere*, *Hemicytheridea* and *Hulingsina*, considered as synonyms by precedent authors. The systematic position of *Cytheridea perangusta* Zálányi, 1913, its stratigraphic distribution and of the genera above are also discussed. Evidence that the association of the genera *Cypridea*, *Perissocytheridea*, *Cytherura*, and the new genus *Minicythere* are excellent indicators of brackish water environment was also established.

Podolsky, V.M.L. 1972. Eolian dynamics in the Santa Catarina Island. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil; pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 423

1972

Date of presentation:

Vera Maria Leal Podolsky

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: SC

1/1,000,000 sheet:

SG22

Centroid of the area:

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'W

Abstract

This dissertation aims at studying the eolian dynamics of Santa Catarina Island. The relationships of granulometry and morphoscopy were studied considering the three faces of the dune: crest, lee and stoss sides, from the point of view of size and classification.

At the same time, studies were made to compare the eolian dynamics and the other sedimentary dynamics of the areas adjacent to the dunes.

Regarding the granulometry, it was observed that the mean size of the material of the dune is situated in the "fine sand" group, with very well-classified sediments, presenting a small number of textural classes and a clearly positive skewness.

The lagoon material is situated in the "medium sand" group; these sediments are well-classified and present a predominantly negative skewness.

The sediments of the ocean beach range from "coarse to fine sand"; the classification of the sediments varies from good to moderate and they present alternate skewness (positive/negative), with a predominance of the negative sign.

As to the morphoscopic aspects of the studied sediments, most of the diversity was found in the superficial texture between the eolian and beach environments; in the first there was a predominance of polished grains for all sizes and in the latter there was an oscillation, so that the smaller grains show a polished texture, and the greater ones a dominant polished smooth texture.

Popp, J.H. 1972. A contribution to the stratigraphy and sedimentology of the Camarinha formation, predevonian of Paraná state. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil; pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 396

1972

Date of presentation:

José Henrique Popp

Advisor(s): Bigarella, J.J.

Salamuni, R.

Committee:

Subject of thesis: Stratigraphy

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

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'W

Abstract

Main stratigraphical and sedimentological features of the Camarinha Formation (Pre- -Devonian) are presented in this dissertation.
Stratigraphy is discussed based on three typical sections.
Primary sedimentary structures are described in detail, aiming to solve the problem of the origin of the Camarinha deposits.
The data gathered suggest depositional conditions of the "molasse" type.

Rösler, O. 1972. New fossiliferous occurrences of the Passa Dois group in Rio Grande do Sul. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 708

1972

Date of presentation:

Oscar Rösler

Advisor(s): Closs, D.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

New fossiliferous occurrences in the Irati and Estrada Nova Formations (Passa Dois Group, Permian), registered for the municipalities of Pinheiro Machado and Bagé (southern region of Rio Grande do Sul State) are discussed. Remains of Mesoraurus brasiliensis McGregor, crustaceans, fish scales, and fossil plants, besides other indeterminate remains, were found in fine-grained siltstones and calcareous levels pertaining to the Irati Formation in Pinheiro Machado. The sedimentary sequence outcropping along the Bagé-Aceguá Highway has revealed, for the first time, the presence of Lycopodiopsis in the Irati Formation. The same sequence also revealed, for the first time, the presence of Pinzonella in the sediments of Estrada Nova Formation in Rio Grande do Sul, whereas this bivalvian mollusk is an usual occurrence of Estrada Nova outcrops in other southern Brazilian areas. The study here developed on the metric relationships of mesosaurian teeth proved to be useful for the identification of isolated pieces. The São Sepé outcrop, in reference to its geologic age and presence of Calamites, is also commented on.

Sadowski, G.R. 1972. Preliminary considerations on the geology of the Baixa-Verde batolith- Pernambuco state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2107

1972

Date of presentation: 8/11/1972

Georg Robert Sadowski

Advisor(s): Melfi, A.J.

Committee:

Subject of thesis:

State:

PB

1/1,000,000 sheet:

Centroid of the area:

' - 'W

PE

Abstract

Silva Filho, B.C. 1972. Some data on the weathering and mineralogy of the basaltic clays and their residual soils. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 467

1972

Date of presentation:

Breno Corrêa da Silva Filho

Advisor(s): Figueiredo Filho, P.M.

Committee:

Subject of thesis: Geochemistry

State:

RS

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

This paper deals with the preliminary results of a study concerning the clay mineralogy both of weathered basalts and the soils originated from these rocks. The area in which this work was accomplished is in the municipality of São Valentim, in the State of Rio Grande do Sul. The clay mineralogy study of the rock showed that lightly weathered basalt contains montmorillonite. As the weathering of the rock becomes greater, kaolinite is substituted for montmorillonite. In soils, kaolinite is also the outstanding clay mineral. Chlorite and illite also occur but in very small quantities. The same can be said in relation to gibbsite which is found sometimes in rock samples deeply weathered. This mineral is also found in some soil samples. Anyway, the occurrence of such a mineral is not important in the area so that kaolinite represents the highest degree of weathering in that region. On the other hand, samples of a paleo-soil, situated 40 meters below the surface between different lava flows, and taken from underground by drill-holes, have montmorillonite and illite in the clayey material. This fact does not agree with data related to

modern soils and calls for quite different climate conditions. According to the factors controlling montmorillonite genesis in soils, that climate must have been of arid or semi-arid type.

Takahashi, F. 1972. Cranial osteology of Teius teyou teyou (Lacertilia, Teiidae). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 711

1972

Date of presentation:

Fumika Takahashi

Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

The present dissertation deals with the osteology of syncranium of *Teius teyou teyou* (DAUDIN, 1802) as well as with the ecological study of this teiid lizard. Ten specimens, collected nearby the cities of Viamão and Porto Alegre, RS, were prepared and described at the Departamento de Paleontologia de Vertebrados do Instituto de Geociências da Universidade Federal do Rio Grande do Sul.

A comparison between the cranial osteology of *Teius* and *Tupinambis* is presented.

Many osteological differences were detected, as shown on Table 5. Another conspicuous difference is to be seen in the dentition. *Tupinambis* exhibits a globularization of the molars, indicating a crushing mechanics during masticatory activity. The teeth in *Teius* show a sectorial border, indicating that this form does not include mollusks in its diet.

Villwock, J.A. 1972. A contribution to the Holocene geology of the coastal province of Rio Grande do Sul - Brazil. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 426

1972

Date of presentation:

Jorge Alberto Villwock

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

SI22

Centroid of the area:

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Abstract

The Southern Brazilian coastal area, defined as Rio Grande do Sul Coastal Province, is composed of two major geologic elements: Basement and Pelotas Basin. The former is constituted by the Pre-Cambrian Cristaline Complex and by the Palaeozoic and Mesozoic sedimentary and volcanic sequences of the Paraná Basin. During the Triassic, when this basement was acting as an instable platform; the latter, a marginal basin, was originated by faulting.

The sedimentary sequence which was accumulated in that basin results from successive transgressions and regressions early controlled by the balance of subsidence and sedimentation rates. Later, from Pleistocene to recent times, they depended on the glacio-eustatic oscillations which took place along the Cenozoic Era.

The Holocene sedimentary cover that lies over them needs to be considered as another important geologic element in that coastal province. It makes up all the major morphographic features which are responsible for the present superficial configuration of that area. That sequence is constituted by a transgressive bed whose upper portion is exposed on the coastal sandy plain. There one can find many discontinuous lithostratigraphic units, variable in age from place to place, as a result of the displacement of different sedimentation environments over the same area. The geological history of that coastal sandy plain could be determined by means of a detailed geomorphological analysis.

The coastal sandy plain which keeps apart the Patos Lagoon from the Atlantic Ocean, is composed of a series of four connected barriers and was defined as Patos Lagoon Multiple Barrier. The origin of this multiple barrier is directly related to the eustatic oscillations which took place in that region during the last 6,000 years, after the end of the Flandrian Transgression.

The first barrier began when the sea level was in its higher position, at the end of the great Holocene transgression. It was built over a series of bay mouth bars and spits which had been constructed along the submergence coast of that time. Wind-blown sand taken from the shores during minor variations in the sea level was accumulated over them, making the barrier wider and higher.

Three more barriers were built on the coast, each one beginning through the emergence of longshore bars during the successive and alternated regressive and transgressive periods which have been occurring in the last thousand years.

The accumulation of large quantities of sand along this time, without any tectonic activity in the area, caused a progradation of the coast (depositional regression). Most of this sand was brought from offshore and was piled on the shore from where it was wind-blown to the barrier.

All these data suggest that the Rio Grande do Sul coast is a barrier type, secondary coast, according to Shepard's classification of coast lines.

The essay of correlation of the eustatic oscillations obtained by means of the geomorphological interpretation of that area with the Fairbridge's sea level eustatic variations curve for the last 6,000 years showed a lot of coincidences, but it will be necessary more radiocarbon data to obtain trustworthy results.

In spite of everything, the evolutive sketch proposed here may be used as a workable hypothesis in the study of all the remnant Holocene terrains of the Rio Grande do Sul Coastal Province. It may be useful in the chrono-stratigraphic organization of the various sedimentary units that one can find there.

Barcellos, M.T. 1973. Study of the scales and teeth of fishes from the Budó facies, Itararé subgroup - RS. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 719

1973

Date of presentation:

Marlene Terezinha Barcellos

Advisor(s): Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

This dissertation presents the results obtained from the study of thin sections of internal structures of teeth and scales of marine fishes from the Budó Facies, Itararé Sub-Group, in Rio Grande do Sul State. Informations on the stratigraphy of the studied sediments are also dealt with.

The revision of the paleofauna led, for the first time, to the description of Elasmobranchia teeth, scales and teeth of Crossopterygii (Actinistia) and scales of Paleoniscoidei. Three geologic profiles developed at the Budó, Acampamento Velho and Cambaí Grande outcrops provided stratigraphic correlations based on lithologic, structural and paleontologic characteristics.

The studies carried on evidenced that the Budó and Acampamento Velho outcrops share a clear identity of their characteristics, whereas the characteristics of the Cambaí Grande outcrop are substantially distinctive.

Coulon, F.K. 1973. Engineering geological maps of Morretes and Montenegro (Rio Grande do Sul, Brazil). MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 397

1973

Date of presentation:

Flávio Koff Coulon

Advisor(s): Figueiredo Filho, P.M.

Committee:

Subject of thesis: Stratigraphy

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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Abstract

By means of its text and evidences gathered from maps of the Morretes and Montenegro quadrangles, this dissertation aims at establishing some general criteria for the elaboration of engineering geological maps at a regional scale in Rio Grande do Sul State, Brazil.

In the presented maps, which cover a type-area in this State, some engineering geological types of material were individualized and identified by a special notation composed of symbols (letters and numbers), regardless its location in the area.

In order to use adequately the information contained both in the text and maps, a throughout understanding of the mapping code is needed; thus, it was sufficiently detailed and explained.

The major engineering geological data of this study were collected during highway surveys and in several Offices related to them. However, the detailed information offered by the text and maps, may also be adopted for different specializations within Applied Geology.

In the first part of the text, the present status of engineering geological mapping in several countries is discussed. There was no intention of establishing comparisons in doing so, but only of reporting on the ways and the basic conceptions that each country is giving to this type of mapping.

Dellazzana, J.G. 1973. Contribution to the palynology of the Irati formation (Permian), Rio Grande do Sul, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 715

1973

Date of presentation:

Julieta Gisselda Dellazzana

Advisor(s): Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

In this dissertation the microspore association from Irati Formation, Rio Grande do Sul State, Brazil, considered to be of Permian age, is systematically described.

Sixteen species are described, four of which are new: *Convolutispora pinto*, *Protohaploxypinus labratus*, *Piceapollenites archangelskyi* and *Lueckisporites iratiensis*.

Based on the comparison of this association with other Gondwanic microspore associations, an Upper Permian age was assigned to the Irati Formation.

Ferreira, J. 1973. Study of thermoluminescence of quartzite in a gold and uranium mineralized zone

(Canavieiras, Jacobina - Bahia state). MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1539

1973

Date of presentation: 12/11/1973

Jorge Ferreira

Advisor(s): Nordemann,D.R.

Committee:

Subject of thesis: Geophysics

State: BA

1/1,000,000 sheet:

SC24

Centroid of the area:

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Abstract

The quartzite of Canavieiras gold mine (Jacobina-Bahia, Brasil) shows, in its natural glow curve, a high temperature peak at $(280 \pm 2)^\circ\text{C}$. The study of the reproductibility of this peak resulted in the standardization of measurement for grain sizes between 80 and 100 mesh (0.149 and 0.177 mm). For this interval, the grinding effects are less and the errors introduced are less than 5%.

"In situ" total gamma-ray profiles were made, using a portable SPP3 scintillation detector, for the purpose of studying the distribution of radioactive elements near the pyrite, uranium and gold strike.

In the interpretation of the profiles it was possible to show a positive correlation between thermoluminescence and uranium yields. Saturation was reached for points near the uranium high content (up to 700 ppm) strike.

The thermoluminescence peak is a sufficiently high temperature peak to let thermoluminescence accumulate at ambient temperatures. It was used in an attempt to estimate the time and the event that initiated the accumulation of thermoluminescence. The result obtained, (7 ± 4) . 106 years, may correspond to the last heating of the rocks at a relatively recent time.

Guerra,M. 1973. The occurrence of the genus Polysolenoxylon in the Irati formation, Rio Grande do Sul. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 716

1973

Date of presentation:

Margot Guerra

Advisor(s): Leistikow,K.U.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

A new species of a petrified gymnosperm wood, *Polysolenoxylon bageense* n.sp., is described. It is represented by a fragment collected by Prof. Carlos Alfredo Bortoluzzi in an outcrop situated at the sides of the Bagé-Hulha Negra highway, Rio Grande do Sul State, Brazil, whose sediments belong to the Permian IratiFormation of the gondwanic sequence (Paraná Basin). The finding of this fossil wood permitted to establish the paleogeographic distribution of the genus and to confirm its stratigraphic position.

Hessel,M.H.R. 1973. Bageopitys articulata n.gen. and n.sp., a new gymnospermian fossil wood from the Irati formation, Rio Grande do Sul, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 717

1973

Date of presentation:

Maria Helena Ribeiro Hessel

Advisor(s): Leistikow,K.U.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The specimen here described was collected in an outcrop of the Valente Facies (Irati Formation, Permian), on the highway Bagé-Aceguá, at a site 10km south of Bagé, municipality of Bagé, Rio Grande do Sul State, southern Brazil. It was included in the characteristic dark gray shales of the above-mentioned facies. Determined as *Bageopitys articulata* n. gen., n. sp., it was well preserved and allowed a detailed morpho-anatomical observation of its pith and the primary and secondary xylem structures. Though presenting particular characteristics, the specimen exhibits anatomic features (such as "araucaroid" to "mixed" radial punctuations) which are frequently observed among Permo-Carboniferous Gondwanic woods. A comparative survey on Gondwanic woods is also presented.

Palma,J.M.C. 1973. Paleontology and stratigraphy of São José do Itaboraí basin, Rio de Janeiro state. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1426

1973

Date of presentation:

Jane Maria Codevila Palma

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: RJ

1/1,000,000 sheet:

SF23

Centroid of the area:

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Abstract

The São José de Itaboraí basin, located in the State of Rio de Janeiro, has been the object of geological and paleontological studies since 1929. Its lithology is made up principally of various types of limestones. Three associated faunas are recognized: one is of Paleocene vertebrates, rich in primitive mammals, principally marsupials, which are concentrated in solution channels cutting the lower limestones and filled with marls; a second is of continental gastropods which are found in the massive intermediate limestones and whose age within the tertiary is still open to discussion; finally there are Pleistocene vertebrates in the gravel beds of the sediments lying on the uppermost limestones. All the fossils of these three associations are listed with their synonymy. Greater attention has been given to the gastropod fauna, the principal object of the present study. We have also presented a summary of the geological and paleontological research conducted up to the present time in the São José de Itaboraí basin.

Pieruceti, J.A. 1973. Basic intrusion of José Fernandes, PR state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1823

1973

Date of presentation: 3/12/1973

José Alberto Pieruceti

Advisor(s): Gomes, C.B.

Committee:

Subject of thesis: Mineralogy and Petrology

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

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Abstract
Ramires, L.V.O. 1973. Echinoids of the lower Miocene from the northern of Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1456

1973

Date of presentation:

Luzinete Vicente de Oliveira Ramires

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: PA

1/1,000,000 sheet:

SA23

Centroid of the area:

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Abstract

The Pirabas Formation, made up principally of limestones of the Lower Miocene, outcrops along the coast of the States of Pará, Maranhão and Piauí. Its fossils have been studied ever since the work of Maury (1924), but the echinoids have only been described since 1958, when Marchesini Santos classified five new species, two of which belong to the Clypeaster genus and the rest to the genera Anisopetalus, Echinolampas and Karlaster, this last one proposed as new. In the present work a general study is made on the echinoids of the Pirabas Formation. We confirmed the presence of the genera Phyllacanthus, Prionocidaris, Agassizia and Plagiobrissus, mentioned by Marchesini Santos (1967) and noted the occurrence of Histocidaris, Schizaster and one more species of Clypeaster.

Ribas, L.B. 1973. Contribution to the knowledge of foraminifera from continental shelf recent sediments in Rio de Janeiro state (Enseada dos Anjos and surroundings - Cabo Frio). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1431

1973

Date of presentation:

Lélia Bonel Ribas

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: RJ

1/1,000,000 sheet:

SF24

Centroid of the area:

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Abstract

The object of this study is an initial survey of the recente microfauna of foraminifera in the Enseada dos Anjos and environment in Cabo Frio (Rio de Janeiro State). The average water temperatures vary from 21.9oC in the winter to 17.9oC in the summer and the salinity oscilates from 3.591% in the winter to 3.555% in the summer, frequent variations occurring during these periods. 87 samples were collected from the beaches out which the foraminifera specimens were sorted and stored in special cells. The relative velocity of sedimentation was estimated, using foraminifera from all the seasons, and an average rate of 43.5 centimeters per 1,000 years was found. The place was divided into five areas: Enseada dos Anjos, Enseada do Forno, Circalitoral (off the Bay), Baixo and Boqueirão. Some groups of species are present only in restricted areas. The most common ones are: Elphidium discoidale, Archaia angulatus, Bulmina marginata, Nonionella atlantica, Poroepionides lateralis, Textularia agglutinans. The live fauna association of the foraminifera was determined in the greatest quantity in deposits situated between Ilha dos Porcos and the mar inland, near the Enseada do Forno.

Santos, L.C.S. 1973. Geochemical evolution and mineralogy in the formation of a nickeliferous soil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 978

1973

Date of presentation:

Luiz Carlos Surcan dos Santos

Advisor(s): Távora Filho, E.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

Seletive samples and a latosolic profile on serpentinite at Liberdade (Minas Gerais) has been investigated in order to elucidate the genesis of the secondary minerals and the main element behaviour during tropical weathering. Nickel bearing minerals and related species were identified by mineralogical, optical, chemical, X-ray diffraction and differential thermal analyses. The parent rock is composed basically of serpentinite (90 to 95%). Minor amounts of magnetite, chlorite, spinel, talc, pyroxene, amphibole and goethite are also present. The mineral assemblage of the soil consists of goethite, quartz and chalcedony, chlorite, serpentine minerals, vermiculite, kaolinite, gibbsite and magnetite. Minor amounts of talc, montmorillonite, amphibole (cummingtonite and tremolite), spinel, cromite and rutile are also present. Serpentine gradually alters, with the formation of intermediate phases, into goethite, kaolinite, gibbsite and free silica (chalcedony and quartz). The presence of Mg²⁺ in a basic environment promotes the formation of montmorillonite and chlorite in an amount proportional to the content of Al₂O₃ in the original solutions. Both minerals are unstable. Magnetite, rutile and chromite which are stable, remains in the profile and are concentrated mechanically. MgO which is removed more easily than silica was lost. Silica is partially removed and partially precipitated as colloidal silica with later recrystallization. Alumina is concentrated in the upper part of the profile. Some is held in the goethite structure and the rest is constituted by kaolinite and gibbsite. Iron shows a large accumulation in the B horizon as goethite at different degrees of crystallization. Titanium in the soil is either associated with goethite or present as free TiO₂ in rutile and anatase or again, in minor quantity, in the magnetite structure. Nickel is concentrated in the C2 horizon, just above fresh serpentinite, by two convergent processes: alteration of the parent rock and leaching of unstable minerals "per descensum" in the B horizon. This leaching is aided by the presence of iron hidroxides giving rise to slight acidity of the soil (pH 6,0) in the B horizon. However, ideal conditions for nickel precipitation are found in the C2 horizon which has a higher pH (6,8). Nickel is always associated with sheet silicates like serpentinite, chlorite, montmorillonite and vermiculite. Nickel is in diadocic substitution of magnesium, mainly in clay fraction. There are no significant amounts of nickel associated with goethite of magnetite. The presence of kaolinite and gibbsite in the B horizon indicates a mature soil.

Schrage, C. 1973. Barakaroxylon brasiliense, sp. nov. - A fossil wood of the irati formation, Rio Grande do Sul, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 718

1973

Date of presentation:

Claudete Schrage

Advisor(s): Leistikow, K.U.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

A fragment of silicified wood found in continental sediments of the Irati Formation (Rio Grande do Sul State, Brazil) permitted the establishment of a new species: Barakaroxylon brasiliense, n.sp. Owing to anatomical characteristics, particularly those of the pith, it was possible to define generic affinities in relation to a gondwanic species occurring at the Kungurian Baraker horizon of India. A revision of the species Dadoxylon lafoniense Halle 1925 is also presented. Based on the analysis of the descriptions made by the above-mentioned author, the obtained data led to the identification of this species under a new combination: Barakaroxylon lafoniense (Halle), n.comb. The geographic and stratigraphic distributions of certain elements of the Permian flora in the Southern Hemisphere allowed the correlation between the different floristic provinces of the Gondwana.

Soliani Jr, E. 1973. Geology of the Santa Vitória do Palmar region (RS) and the stratigraphic position of the

pleistocene fossil mammals. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 714

1973

Date of presentation:

Enio Soliani Júnior

Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

This dissertation intends to solve the problem of the stratigraphic position of pleistocene mammal fossils found in sediments of the coastal plain near Santa Vitória do Palmar, Rio Grande do Sul, SE Brazil. Geologic and geomorphologic mapping of the meridional portion of the coastal plain has been made by the author. After the deposition processes which originated the Pliocene to Middle Pleistocene Graxaim Formation, the field works showed that the continental margin was affected by three transgressive events. These landward shoreline migrations are supposed to be correlatable to the Aftonian, Yarmouth and Sangamon interglacial periods of the northern hemisphere. To the Aftonian/Kansan, Yarmouth/ Illinoian and Sangamon/Wisconsin limits, i.e., from one interglacial to the immediately following glacial corresponds a regressive event responsible for the generation of conditions to the deposition of lagoonal, fluvial and eolian sediments which partially cover the shallow marine and beach sediments of the Chuí Formation.

The mammalian fossil remains are preserved in lagoonal sediments represented by green quartzose sands which generally show a gradation to the top to gray organic sands or to peat. These lagoonal sediments along with their fossil content are considered by the author as characteristic of a new lithostratigraphic unit of the coastal plain by him formally defined as Santa Vitória Formation. Sediments more modern than the Wisconsin do not contain fossils belonging to the considered pleistocene fauna, and this suggests that the extinction processes, in this area, occurred at the limit between the Upper Pleistocene and the Lower Holocene. Paleosoil studies indicate that paleoclimatic conditions were uniform during all the Upper Pleistocene time and were developed under steppe environment with mild temperature and humidity, ending with a rapid cool and dry period. This climate favored the growing of an abundant grass and arbustive vegetation, whose roots are preserved in these paleosoils. These paleoenvironment conditions are in agreement with the mammalian ecology.

Based on paleogeographic studies it was possible to interpret the evolution to the present configuration of the coastal province southernmost part and it was also possible to conceive the most probable tectonic behavior of the considered area during the Upper Pleistocene.

Urdininea, J.S.A. 1973. Distribution of the concentration frequencies of some chemical elements of crystalline rocks and soils from the Jamanxim river basin, Pará state. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 468

1973

Date of presentation:

Jaime Simon Almaraz Urdininea

Advisor(s): Formoso, M.L.L.

Committee:

Subject of thesis: Geochemistry

State: PA

1/1,000,000 sheet:

Centroid of the area:

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Abstract

This dissertation aims at defining the most representative probability types of the distributions of concentration frequencies in reference to constituent elements (in majority or minority) of the geologic materials, particularly the ones integrating the unaltered rocks and their residual soils.

The collected samples were obtained by means of the field work developed by the author in the Jamanxim River Basin, during 1970-1972, under the auspices of SUDAM (Superintendência do Desenvolvimento da Amazônia). This hydrographic basin is located in the Pre-Cambrian Shield, on the southern border of the Amazon Basin (Itaituba municipality), with an area of 20,800 km² in Pará State, Brazil.

Once determined the adjustable probability functions, this study endeavored to calculate geochemical parameters to be utilized for the lithogeochemical prospection of residual soils.

The probability functions were studied for the following majority oxides and minority elements in dacite rhyolites, diorites and granitoids: SiO₂, Al₂O₃, K₂O, Na₂O, CaO, FeO, MgO, MnO, TiO₂, Cu, Pb, V, Cr, Co, Ni, Zr, Sr, Sc, Y and Ba; Zn, Cu and Pb were analyzed from the residual soils of these lithologies (also including the andesitic soils).

Thirteen theoretical distribution functions were tested for each of the above-mentioned populations. These functions were the twelve curves of Pearson's system plus the log-normal function.

Araújo, D.C. 1974. Taxonomy and relationships of the Proganosauria of the Paraná basin. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 720

1974

Date of presentation:

Dina Celeste Araújo

Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The present dissertation deals mainly with the taxonomy of the Proganosaurian reptiles which occur in the Irati Formation (Permian, Paraná Basin). The ordinal name Proganosauria, as proposed by Baur (1887) and including the genus *Stereosternum*, is adopted in this research, by reasons of priority, instead of Mesosauria. The order includes a single family, Mesosauridae. The precarious conditions of preservation determined that rather than a purely osteological analysis, the material should also be studied under a statistical approach. As it was well known by the time this study started, previous osteological contributions did not lead to sufficiently explanatory conclusions from a taxonomical point of view. Nevertheless, osteology was kept as an important set of data for basing the statistical procedures.

Upon the analysis of 79 specimens, the following conclusions were reached:

a) the Proganosauria of the Paraná Basin are represented by three species: *Stereosternum tumidum* Cope 1886, *Mesosaurus brasiliensis* MacGregor 1908 and *Brazilosaurus sanpauloensis* Shikama & Ozaki 1966;

b) those forms had an endemic ancestor, what caused the restricted geographic distribution of the group (South America and Africa);

c) phylogenetic distance from the ancestor is not very great, as it can be testified by the similarities of morphologic and structural characteristics shared by all known proganosaurs;

d) on the other hand, some marked adaptations for feeding (*M. brasiliensis*) and water locomotion (*B. sanpauloensis*) suggest a rapid evolution;

e) *M. brasiliensis* lived in a larger geographic area, nowadays equivalent to Rio Grande do Sul, Santa Catarina and Paraná States (Zone A), whereas *S. tumidum* and *B. sanpauloensis* occupied a more restricted region, corresponding to São Paulo State (Zone B).

Barreto, P.T. 1974. Use of nuclear geophysical methods in the study of the Gavião apatite deposit and Serra de Jacobina gold deposit - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1541

1974

Date of presentation: 17/12/1974

Pedro T. Barreto

Advisor(s): Nordemann, D.R.

Committee:

Subject of thesis: Geophysics

State: BA

1/1,000,000 sheet:

SC24

Centroid of the area:

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Abstract

This thesis is part of the sub-project "Analysis of Rocks and Minerals by Gamma-Spectrometry" of the Program of Research and Postgraduation in Geophysics of the Federal University of Bahia. It presents: 1) the results of preliminary radio-geological surveying in Cenozoic, Mesozoic and Pre-Cambrian lands between the cities of Salvador and Miguel Calmon; detailed radiogeological works in two radioactive anomalous areas: Gavião at Riachão de Jacuipe town, and Canavieiras mine and vicinities at Jacobina town, state of Bahia. The Combined results of field gamma-ray survey, gamma-spectrometry accomplished at laboratory from samples, petrographical and mineralogical studies led to the correlation between apatite mineralization with thorium, and Gold with uranium in the Conglomerates of Serra do Córrego formation giving the possibilities in both cases of making the prospection and exploration by the cintilometry.

It was proved the litological control of the apatite bearing by piroxenites and sienitic pegmatites dikes. Otherwiae the dispersion of radioactive elements and petrographical studies suggest e sedimentar primary origem of the regional metamorphic rocks. At canavieiras gold-bearing mine rendered the stratigraphical control of the Serra do Córrego formation. The highest concentration of uranium detected was from 735 to 655 ppm, at pyritous level, only. The results indicated that in radioactive anomalous zones the combined measurements of field gamma-ray survey and laboratory gamma-spectrometry may lead to the localization of radioactive mineral deposits or ore-bodies of non radioactive mineral associated with them, or of any maner related to the anolalous radiogeological distribution.

Campanha, V.A. 1974. The stratigraphic position of the Miriri limestone, Paraíba, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 724

1974

Date of presentation:

Vilma Alves Campanha

Advisor(s): Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Petrographic and paleontological studies were made on the Miriri limestone situated in the Rio Tinto municipality, Paraíba State. Field work and the results obtained in the laboratory confirmed a Maastrichtian age and determined the paleoecology of the limestone, which constitutes the most northerly extension of the Pernambuco - Paraíba sedimentary coastal basin. Stratigraphically, the Miriri limestone belongs to the limestone lithofacies of the Gramame Formation, however representing a new biofacies. For stratigraphical correlation similar studies were made on the nearby Oiteiros limestone in Canguaretama, Rio Grande do Norte State.

Dutra, T.L. 1974. The Quaternary of the Rio Pardo area - Rio Grande do Sul. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 722

1974

Date of presentation:

Tânia Lindner Dutra

Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Stratigraphy

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This dissertation is a first attempt to characterize the inner sedimentary Quaternary areas of Rio Grande do Sul State, Brazil, using as a model a part of the middle portion of the Rio Pardo valley, where the following aspects were identified:

1. there were predominantly warm, semi-arid climatic conditions alternated with humid periods, from the final part of the Tertiary up to the beginning of the Pleistocene (Nebraskan-Aftonian limit), what led to the formation of flattened surfaces and their correlated terrace levels with gravels, at least under two complete cycles;
2. a gradual passage to more humid climates occurred, establishing a steppe-like climate in the region, which lasted until the final period of the Pleistocene. Two low terraces with gravels, covered with paleosoils and related to the variations of the Rio Pardo local base were formed;
3. the present climates, with the formation of less expressive terraces without paleosoil cover, also associated with local variations of the base level in the drainage network.

Similar events, which occurred in other parts of Brazil and on the coastal regions of the State, can be correlated with those present within the studied area. Although, non-correlation was observed concerning the duration of the more severe climates, which originated the oldest flat surfaces and their correlative deposits, between the events here described and those occurred outside the State of Rio Grande do Sul.

Farias, C.C. 1974. Phosphate minerals from the Mina Sapucaia pegmatite, Galiléia, Minas Gerais. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 980

1974

Date of presentation:

Carlinda Campelo Farias

Advisor(s): Cassedanne, J.O.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The Sapucaia pegmatite is granitic in composition and yields a significant production of muscovite and beryl. The phosphate minerals occur either in intimately intergrowth with many other phosphates or with accessory minerals such as spodumene, beryl, tourmaline and sulfides. The chemical analysis, the approximate indices of refraction, the specific gravity, differential thermal analysis and X-ray powder data are listed. Eighteen phosphate minerals from the Sapucaia pegmatite are described and three additional (unidentified) that may be alteration products of minerals described or known only from this locality.

Roisenberg, A. 1974. Clay minerals in fresh basaltic rocks: Mineralogy of the primary stages of weathering in basaltic rocks. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 469

1974

Date of presentation:

Ari Roisenberg

Advisor(s): Formoso, M.L.L.

Committee:

Subject of thesis: Geochemistry

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Serra Geral basalts and associated acidic rocks were studied from the mineralogical point of view.

Clay minerals were investigated both in fresh rocks and their incipiently weathered equivalents. Complementary considerations are presented on the geochemistry of the alteration process. Results obtained are related to the geotechnical behavior of these rocks.

The methods used include optical and electron microscopy, X-ray diffraction, isodynamic magnetic separations and staining techniques, besides other technological methods. The samples were collected in the States of São Paulo, Paraná, Santa Catarina and Rio Grande do Sul, and comprise both alteration products from the two top weathered layers and fresh rocks. The clay minerals in the fresh rocks are of deuteritic origin, three reaction mechanisms being mostly responsible for their formation. The newly-formed complex is constituted by an almost constant association of nontronite, montmorillonite, kaolinite (and halloysite), chlorite and interlayered illite-montmorillonite (corren-site). Serpentine only occurs in olivine-bearing rocks. Nontronite is the main clay mineral in basalts and diabases, occurring in amounts equivalent to the interlayered illite- -montmorillonite in the acidic differentiates. The isodynamic magnetic separation of minerals allowed a good correlation between the alteration products and their original primary minerals.

Alteration products from rocks subjected to incipient weathering are the same as above plus gibbsite. Serpentine and illite may occur but are of residual origin. The proportions of clay minerals in the alteration products are directly related to the rock type and are similar to those of deuteritic origin. Based on the laboratory studies, considerations are made on the relative stabilities of the primary silicates and the newly-formed alteration products.

The geochemical trend is towards increasing removal of elements, except titanium and aluminium; the latter may be leached locally. Potassium is the least mobile of the alkalines and alkaline-earth, owing to the accentuated stability of orthoclase during weathering.

Rolim, J.L. 1974. Paleontology and stratigraphy of the continental pleistocene of brazilian northeast - "Cacimbas formation". MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 723

1974

Date of presentation:

José Lins Rolim

Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This dissertation presents an overall analysis of the continental Quaternary sequence of northeastern Brazil, by means of a paleontological, stratigraphical and sedimentological study of the discontinuous Pleistocene deposits represented by "tanks" and small lagoons, assigned to the "Cacimbas Formation". It is thus aimed to present an interpretative account on the paleogeographic, paleoclimatic and paleoecological features of the northeastern Brazilian Pleistocene.

Silva, R.W.S. 1974. Integrated methods of geophysical prospection in Fazenda Poço da Vaca area - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1540

1974

Date of presentation: 19/4/1974

Raymundo W. S. Silva

Advisor(s): Dias, C.A.

Committee:

Subject of thesis: Geophysics

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The área of "Poço de Vaca", State of Bahia, has been prospected for metallic ore deposits with geophysical methods of exploration. Reconnaissance AFMAG and magnetic surveys were conducted together with detailed induced electrical polarization and resistivity surveys. Geological and geochemical studies have also been carried out in order to complement the geophysical work. The geological survey has permitted the identification of five lithologic units from the Caraíba "Group". The geochemical studies have shown the presence of up to 600 ppm of copper in the soil. The AFMAG survey has delineated conducting zones corresponding to faults, fractures and bands of major probability of concentration of metallic minerals, whereas the magnetic method has distinguished structural features of basic and ultrabasic rocks and variations in the magnetite content of the gneissic rocks. detailed induced polarization and resistivity studies in selected areas have outlined two promising conducting zones for further detailed analysis.

Souza, J.M. 1974. Pan exploration of the Dom Bosco district - Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 979

1974

Date of presentation:

José Moreira de Souza

Advisor(s): Cassedanne, J.P.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This study describes the investigation of the distribution of heavy index mineral in an area of approximately 60 square kilometers in the regions of Dom Bosco and Morro Gabriel of central Minas Gerais through the technique of mineral tracing by hand panning and sample concentrate identification. Field and laboratory procedures of sampling and preparing eighty-six panned concentrates for identification with the binocular microscope are reviewed. The physical characteristics of twenty-two indicator minerals including romeite and wulfenite, which had never been found previously in the area investigated, are described and isograde maps showing their distribution are presented. Cinnabar and topaz which are more interesting are discussed from the viewpoint of genesis and possible economic importance. From the data obtained the author concludes that sampling by hand panning is the most satisfactory procedure in exploring for economic minerals over widespread areas.

Veiga, P. 1974. "Intertrapp" sandstones of the Serra Geral formation in the region of Santa Maria. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 398

1974

Date of presentation:

Péricles Veiga

Advisor(s): Figueiredo Filho, P.M.

Committee:

Subject of thesis: Stratigraphy

State:

RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

'W

Abstract

The mapping of an area near the city of Santa Maria, Rio Grande do Sul State, and detailed geologic profiles are presented. The presence of at least four basaltic lava flows of the Serra Geral Formation was detected. Three intertraps of eolian sandstones, with thicknesses varying from 30cm to 50m, were found between the basaltic levels. Sedimentary analyses were carried out in the intertrap sandstones, as well as in the eolian sandstones of Botucatu Formation, which occur immediately below the Serra Geral Formation. We can conclude that the intertrap sandstones are intimately related to the eolian sandstones of the Botucatu Formation, and they represent a continuation of the sedimentation during the first lava flows. Consequently, we can consider that the contact Botucatu-Serra Geral is in agreement with the time of deposition and the Botucatu Formation is contemporaneous with the first basaltic flow of the region, which presents, by K/Ar process, approximate ages of 120 m.a., according to personal information by Dr. U. G. Cordani, of the Institute of Geochronology (São Paulo University), who analyzed five samples of the extrusive rocks of the Santa Maria area.

Azevedo, A.M.R. 1975. Concentrations and distributions of radioactive natural elements in tropical and semi-arid soils: Fazenda Bela Vista - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1581 1975 Date of presentation: 27/11/1975

Antônia M. R. Azevedo

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

Uranium, Thorium and Potassium concentrations were determined on 239 samples collected from a grid of 3 Km² in a part of the Bela Vista Farm, Jaguarari Country, Bahia. The samples are mainly surface soils and rocks, but includes a few ones from trenches as well. The horizontal and vertical distribution of these elements in the soils were investigated. This area studies by Dias (1972) consists of metamorphic rocks of the granulitic facies, part of the precambrian migmatitic complex of Bahia, with banded gneisses, pyroxenites and amphibolites. The strike of the two main fault systems occurring regionally are N20oE and N40oW. The terrain is relatively flat. The climate is semi-arid, tupe Bsh and the soils were classified as vertisols with thickness of up 2m. Since the area studied is closer to a copperiferous district, in addition to the natural radioactive elements determined by gamma-ray spectrometry, the samples were also analysed for copper and nickel content by flame atomic absorption in order to obtain complementary geochemical information. Correlation between elements as well as with local geology were studied and it was found that: a) except for uranium, the isoconcentration contour maps generated for all elements were approximately parallel to the geological structure and to the existing IP geophysical anomaly; b) potassium showed an irregular distribution and no correlation was found with the other elements; c) uranium concentrations were in general very low and this caused difficulties in its determination and correlations; d) the Th/U ratios were very high. These ratios found in the residual soils were the same as the ratios observed in the subjacent rocks suggesting very little leaching, thereby indicating a probable low geochemical evolution; e) the concentrations found for copper, nickel and thorium were closer to the average concentrations of intermediate igneous rocks than those of basic and ultrabasic rocks.

Candia, M.A.F. 1975. Stability of rodocrosite-pyroxmangite-tephroite-quartz (experimental study at 500 bars), in the presence of CO₂ + H₂O fluid phase. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2111 1975 Date of presentation: 13/1/1975

Maria Angela F. Candia

Advisor(s): Valarelli, J.V.

Committee:

Subject of thesis: Geochemistry

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Carraro, C.C. 1975. Geological interpretation of high and medium São Francisco river region based on MSS / ERTS-1 images. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1366 1975 Date of presentation: 11/6/1975

Clóvis Carlos Carraro

Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Chiang, L.C. 1975. Geological interpretation of high and medium São Francisco river region based on MSS / ERTS-1 images. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1368 1975 Date of presentation: 11/6/1975

Liu Chan Chiang

Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Costa, W. D. 1975. Geomechanical characterization of a basaltic breccia of the Paraná basin. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1606

1975

Date of presentation:

Walter Duarte da Costa

Advisor(s): Haberlechner, H.

Committee:

Subject of thesis: Geotechnical Mapping

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The scope of this work is to identify the geomechanical properties of a volcanic breccia (basalt) in the Paraná Basin, to describe the influence of external factors in its deformability, and to analyse the variations in the elastic and mechanical behaviours in response to different kinds of tests. This research was based on interpretations of deformability tests conducted in galleries, built for the São Simão hidroelectric plant, in the State of Minas Gerais. In these tests the "bore hole dilatometer" and "large fault jack" methods were used, both developed in Portugal. The presentation of this research is divided into two parts: in the first part it was made an appreciation of the physiographic and geologic features of the area, looking at a better correlation between the geomechanical phenomena and the environmental features; in the second part, the interpretation of the tests is presented as well as a discussions about the influence of various factors on the deformability of the rock and an analysis of the different test methods used.

Dehnhardt, E.A. 1975. Contribution to the sedimentology of the Brazilian continental shelf between Salinópolis and Fortaleza. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 430

1975

Date of presentation:

Ely Alberto Dehnhardt

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: CE 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This dissertation deals with the surface sediments of the Brazilian Continental Shelf between Salinópolis and Fortaleza. Hydrography and the diversification of the littoral in the area under study as well as size variation of the particles (according to statistical standards) were also taken into consideration. The analyzed samples were collected at tracts 5 and 6 of the Projeto Remac do Cruzeiro "Águas Claras" and processed at the Center for Coastal and Oceanic Geological Studies (CECO), Federal University of Rio Grande do Sul. It was found that these sediments have a predominantly terrigenous origin, owing to the contribution of an intense and perennial drainage; towards the edge of the shelf, it progressively incorporates terrigenous-marine sediments and, finally, biotrititic marine sediments are found at the edge.

Fernandes, J.M.G. 1975. The upper Cenozoic genus *Uvigerina* (Foraminifera) in the Pelotas basin, Rio Grande do Sul, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 727

1975

Date of presentation:

Jane Maria Garrafiello Fernandes

Advisor(s): Bertels, A.

Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State: RS 1/1,000,000 sheet: SH22

Centroid of the area: ' - 'W

Abstract

In the present dissertation fossil foraminifera pertaining to the genus *Uvigerina* are described from drill holes made by PETROBRÁS at Cassino and Mostardas in the Pelotas Basin, Rio Grande do Sul State, Brazil. Four informal and correlatable biostratigraphic zones could be delimited in both drill holes. The age of the sedimentary sequences and the ecologic factors which conditioned the distribution of the genus *Uvigerina* were discussed for both drill holes.

Figueiredo Jr, A.G. 1975. Geology of the biotrititic calcareous deposits of the Rio Grande do Sul

continental shelf. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 427

1975

Date of presentation:

Alberto Garcia de Figueiredo Jr

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

The morphology of the inner continental shelf off Rio Grande do Sul State, Brazil, is generally quite smooth. However, in some places it displays sand bodies of Holocene age that are sometimes connected to the shoreline and sometimes isolated from it. Elongated deposits of biotrital material also occur on the shelf in association with these Holocene sandy bodies. These biotrital deposits have been interpreted in the past as representing fossil shorelines. We suggest that these biotrital deposits may not be fossil shorelines but may have been formed in response primarily to the hydrodynamics of the inner shelf. The hydrodynamics of the inner shelf is also responsible for the development and orientation of the sandy bodies. This paper is based on the study of the ecology of Mollusca contained in these biotrital deposits, associated beachrocks, C-14 dates, a study of the submarine morphology, shallow structure, currents and sediment transport in the area.

Klein, V.C. 1975. Paleontology and stratigraphy of an estuarine facies of Itapecuru formation, Maranhão state, Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1427

1975

Date of presentation:

Victor de Carvalho Klein

Advisor(s): Ferreira, C.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

This paper presents the results of our studies on Itapecuru Formation. Its formal names, Urucua, Serra Negra and Alcântara are discussed. The denomination proposed by Lisboa (1914) - Itapecuru - is maintained. Paleontological studies carried on S. Luís area (estuarine facies) show the occurrence of bivalvia such as BRACHIDONTES, INOCERAMUS, NEITHEA (NEITHEOPS), PLICATULA, ACESTA, APIOTRIGONIA 9HETEROTRIGONIA0 and PTEROTRIGONIA (SCABROTRIGONIA); a fish, belonging to the Ceratodontidae family, reptile teeth, a bone of bird and Angiospermae leaves.

Leite, J.L. 1975. Geophysical study of coastal aquifers from Canavieiras and Belmonte areas - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1542

1975

Date of presentation: 20/10/1975

Joaquina L. Leite

Advisor(s): Barker, R.D.

Committee:

Subject of thesis: Geophysics

State: BA

1/1,000,000 sheet:

SD24

Centroid of the area:

' -

'W

Abstract

This thesis constitutes the results of the work done, in the Programa de Pesquisa e Pós-Graduação em Geofísica of the Universidade Federal da Bahia, aiming the determination of the hydrodynamic properties and the extension of the tertiary and quaternary coastal aquifers in two sites of the southern part of the state of Bahia, Canavieiras and Belmont. The possibility of seawater intrusion in the aquifers was also studied using the geophysical methods of electroresistivity and seismic refraction. The first method, systematically applied in vertical electrical soundings, using the Wenner configuration, was very efficient in solving proposed problems, but the same thing did not happen to the seismic refraction method, due to its inability in distinguishing sand beds saturated with saltwater from the clayey layers. The work delineated a shallow aquifer, at the depth of 1 to 3 m, at Canavieiras. This aquifer was shown to have a minimum thickness of 15 m, excellent hydrogeological properties and to extend throughout the area of study. The aquifer appears to be recharged by rain and river waters and shows no signs of seawater intrusion. The same does not apply to a possible lower aquifer of sandy deposits, at the depth of 55 m, that seems to possess local mineralization of the groundwater. At Belmont, the shallowest permeable layer does not possess the required properties for exploration, due to its thinness, but the geophysical soundings suggest the existence of an underlying aquifer, at depth 30 to 40 m, still not well defined. The quantitative interpretation of the vertical electrical soundings has been performed with four methods, previously developed by the following researchers: (i) Zohdy (1965), (ii) Mooney, Orellana, Pickett and Tornheim (1966), (iii) Koefoed (1965a, 1965b, 1968) and (iv) Ghosh (1971). The four methods have been analysed with the purpose to select a both practical and efficient technique, to be applied in every electrical sounding on the areas. As a result a semi-automatic and indirect method was systematized, which gathers contributions of Zohdy, Flathe (1955b) and Ghosh. This method has the additional advantage of being very useful in solving equivalence problems.

Lira, L.G.G. 1975. Geology of the Santa Cruz channel and submarine beach adjacent to Itamaracá Island - PE. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 428

1975

Date of presentation:

Luiz Gonzaga Gomes Lira

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: PE

1/1,000,000 sheet:

SB25

Centroid of the area:

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'W

Abstract

Though being not an exhaustive account on the several features of the Santa Cruz Channel, its affluent rivers and the submarine beach surrounding the Itamaracá Island (Pernambuco State), this dissertation tried to draw a sedimentological panorama of the area under study. Accordingly, the biotic, sedimentologic, geochemical, chemical and dynamic characteristics were analyzed and the ecological implications emphasized.

It is hoped that the results of this research, when utilized by future students of the ecological characteristics of the area, will assure them that Geology is an important tool for studying the living forms of the aquatic environment. Only then the aim of the present study shall be totally accomplished.

Loss, E.L. 1975. Contribution to the sedimentology of the Brazilian continental shelf between Fortaleza and Recife. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 429

1975

Date of presentation:

Eloy Lopes Loss

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

This dissertation aims at adding some data to the studies of superficial sediments of the Brazilian Continental Shelf between the cities of Fortaleza (Ceará State) and Recife (Pernambuco State).

Supplementary geologic, tectonic and hydrographic studies of the continent in front of the Shelf were developed. In addition, comments on coastal classifications and morphological characteristics of the Shelf were made.

The mechanical analysis of the superficial sediments gathered during the Cruzeiro Águas Rasas Operation (REMAC Project, tracts 4,5,6,7) made it possible the computer-programmed establishment of four statistical parameters correspondent to the four characteristic moments of a sedimentary distribution. The textural classification allowed to identify the several sedimentary facies present.

Maps of median variation, arithmetic mean, standard deviation, asymmetry and kurtosis were built for a better elucidation of the distributions.

The examination of the obtained elements permitted to characterize a larger occurrence of the biogenic- biotrititic sediments in the Brazilian Continental Shelf between Fortaleza and Recife.

Maciel, N.L.W. 1975. Ichthyodonts and Ichthyodoruliths (Pisces) from the Estrada Nova formation and their stratigraphic utilization in the Passa Dois group. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 726

1975

Date of presentation:

Norma Luiza Würdig Maciel

Advisor(s): Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

This dissertation introduces, for the first time in Brazil, a methodology for the utilization of ichthyodonts, ichthyodoruliths and fish scales in stratigraphical and paleoecological studies. This study was made mainly with material collected in the Permian Estrada Nova and Irati Formations; the specimens from the first were more numerous.

The use of this material demanded the utilization of two types of systematics: the natural systematics and another one, artificial, specially conceived for stratigraphical purposes and based on morphologic patterns of Palaeoniscid teeth, not easily adjustable to the natural systematics procedures.

According to the natural systematics, three new species of Elasmobranchiomorpha were described: *Xenacanthus santosi* Würdig-Maciel, n. sp. and *Orodus milleri* Würdig-Maciel, n. sp. from Estrada Nova Formation; *Xenacanthus pricei* Würdig-Maciel,

n. sp. was collected in Irati Formation.

A typical association was determined for each formation indicating a sub-aqueous environment with low salinity at the beginning of the sedimentation, changing to a continental fresh-water environment at the end of it.

The sediments corresponding to the Irati Formation and the beginning of the Estrada Nova Formation have been already dated as Ufimskian to Kazanian, based on the flora and fauna. The upper part of the Estrada Nova Formation could reach the Tatarian.

Piccoli, A.E.M. 1975. Contribution to the study of sedimentary structures in the Rio Bonito formation - Santa Catarina state. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 400 1975 Date of presentation:

Ana Emilia Mendes Piccoli Advisor(s): Figueiredo Filho, P.M.

Committee:

Subject of thesis: Stratigraphy

State: SC 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

This dissertation deals with the Rio Bonito Formation in relation to its sedimentary structures and environmental significance. The study was based on the analysis of nine cores from the coal basin located in the southern part of the State of Santa Catarina. The drill holes were alligned in a North-South direction. Outcrops were also studied for comparative purposes.

The base of this formation consists mainly of arkosic and feldspatic sandstones. The medium part contains siltstones and shales, partly carbonaceous in nature. The top consists mainly of quartzitic sandstones associated with the upper coal seams; the sandstones are finer than those occurring at the base.

The Barro Branco coal seam is continuous all over the studied area. Other coal seams are limited to isolated zones in the basin and probably represent topographic lows in the sedimentary environment.

Several kinds of sedimentary structures occur in the Rio Bonito Formation. The stylolites found may be used in determining stratigraphic levels. Stylolites occurring below the lower coal seams are filled with calciferous material. Those above the lower coal seams are filled with argilo-carbonaceous material.

The top layers of the Rio Bonito Formation are similar to the Palermo layers; both have dark siltstones with flaser structures and bioturbation. The contact between the two formations is gradational.

The sediments of the Rio Bonito Formation studied here were deposited in a typical deltaic environment. This is indicated by the sedimentary structures and lithologies present in that area. The absence of marine levels and fossils denies a marine delta hypothesis.

Pons, M.E.H. 1975. Palynological study of the subgroup Itararé in "White's Column". lower Permian - Santa Catarina. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 725 1975 Date of presentation:

Maria Elisabeth Happel Pons Advisor(s): Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Palynological studies of the sandstones and shales of the Itararé Sub-group at "White's Section", of Lauro Müller, Santa Catarina, revealed a large variety of miospores in the assemblage, with Trilete, Monosaccite, Disaccite, Striatiti, Monocolpate, Praecolpate, Polyplacate forms and Incertae sedis.

The assemblage comprises 53 species, one of which is new, Neoraistrickia baculicapillosa, sp. nov.

Trilete forms constitute 70% of the palynological content, mainly the genera Punctatisporites, Granulatisporites, Deltoidospora and Calamospora. Pollenite forms and Incertae sedis are the other components of the assemblage.

Among Pollenite group, Monosaccate forms dominate in the palynological assemblage. The genera Cordaitina, Potoniesporites and Virkipollenites are well represented.

Striatiti (Protohaploxypinus, Striatopodocarpites, Lueckisporites and Vittatina) are poorly represented in the assemblage.

Palynological content analysis suggests a Lower Permian age, probably Sakmarian, for the Itararé Subgroup in the studied area, based on correlations with other Gondwanic miospores assemblages.

Ramos, E.M. 1975. Geographic and geologic aspects of the north metropolitan region of Porto Alegre. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 399 1975 Date of presentation:

Enio Medeiros Ramos Advisor(s): Figueiredo Filho, P.M.

Committee:

Subject of thesis: Stratigraphy

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

he present dissertation aims to provide the continuity of the geologic mapping of the northern region of Porto Alegre, the capital of Rio Grande do Sul State. It was thus provided the joining of the Morretes and Montenegro Quadrangles to the Gravataí and Taquara Quadrangles. The geology of the São Leopoldo and Novo Hamburgo Quadrangles is described.

The surveyed area constitutes the physical basis of the northern metropolitan region of Porto Alegre and, owing to the diversity of industrial and commercial activities it lodges as well as its high populational density (the largest in the State), the geoeconomical importance of this area is obviously very great.

Rotta, C.L. 1975. Soils mineralogy of a topossequence of Atibaia, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1829

1975

Date of presentation:

Carlos Laerte Rotta

Advisor(s): Cordani, U.G.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Soares, R.M.C. 1975. Petrology of the mafic-ultramafic complex of Barra Velha, SC state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1824

1975

Date of presentation: 17/12/1975

Rosa Maria Cotrim Soares

Advisor(s): Gomes, C.B.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SC

1/1,000,000 sheet:

SG22

Centroid of the area:

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Abstract

Souza, J.V. 1975. Contribution to the geology of the Boquira formation (BA state). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1190

1975

Date of presentation:

José Vitorino de Souza

Advisor(s): Cassedanne, J.P.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

Afin d'étudier la séquence lithologique des environs de la mine de Boquira (Ba), ont été effectuées des coupes géologiques de direction E-W, sur une surface de 220Km² allongée suivant une direction NNW-SSE. Celle-ci comprend les municipes de Oliveira dos Brejinhos, Boquira et Macaúbas, dans la région centrale de l'Etat de Bahia (Brésil). La lithologie de cette région est très variée, surtout dans sa partie centrale. Mais, vers le Nord et vers le Sud elle devient plus simple. On y rencontre les types de roches suivants: quartzites, schistes à biotite, chloritachistes, quartzites ferrugineux, itabirites, amphibolites, dolomes, marmres, quartzites calcaires, calcaires dolomitiques, conglomérats, laves et gneiss. La direction générales des roches varie de N 10° E à N 20° W, avec pendage vers l'est. L'ensemble est faillé longitudinalement et transversalement. Il existe une mine de plomb à Boquira et des indices de ce métal à Contendas et Arraial. La description détaillée des coupes géologiques a permis de distinguer sept sous-provinces dans la Formation Boquira. Une séquence des événements géologiques l'ayant affecté est proposée. Des ces études on peut conclure que la séquence de la mine est exceptionnelle.

Thiesen, Z.V. 1975. Bolivinitidae and Caucasinidae (Foraminiferida) from the upper Cenozoic of Pelotas basin, Rio Grande do Sul, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 728

1975

Date of presentation:

Zoah Valladão Thiesen

Advisor(s): Bertels, A.

Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This dissertation deals with the taxonomic study of fossil species of the families Bolivinitidae and Caucasinidae. The material was supplied by PETROBRÁS and obtained from two drill holes (Cist-1-RS and Most-1-RS) from Pelotas Basin, State of Rio Grande do Sul, Brazil. Three informal biostratigraphic zones were established and could be correlated in both drill holes. The geographic and stratigraphic worldwide distribution of the species studied is analyzed; geological ages for the sedimentary sequences concerned are proposed and paleoecological and paleoclimatic considerations suggested.

Yamagata, S.K. 1975. Geological interpretation of high and medium São Francisco river region based on MSS / ERTS-1 images. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1367

1975

Date of presentation: 11/6/1975

Sérgio Kunio Yamagata

Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Almeida Filho, R. 1976. Study of the Poço de Caldas alkaline massif using LANDSAT images with emphasis on radioactive mineralizations. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1369 1976 Date of presentation: 28/12/1976

Raimundo Almeida Filho Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W
SP

Abstract

Becker, R.D. 1976. Quaternary sedimentology and stratigraphy of the Itajaímirim river lower valley (Santa Catarina). MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 434 1976 Date of presentation:

Rosemari Dora Becker Advisor(s): Bigarella, J.J.

Committee:

Subject of thesis: Marine Geology

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

The main purpose of the present Master Dissertation is devoted to the description and interpretation of the several degradational (pediment) and aggradational (gravel terrace) levels found in the lower Itajaí-Mirim valley.

With this in mind, a series of analyses were made. They included the textural (grain size and morphoscopy) and structural (pebble long axis attitude) characteristics of the Itaipava Formation and Canhanduba Member gravel deposits. The former occurs along the Itajaí-Brusque highway, while the latter is found at the locality of Canhanduba, in a road cut of the BR-101 near the city of Itajaí.

The grain size analysis and the structures of the deposits indicated that the sequences were laid down under torrential regime in which the paleoclimatic conditions were completely different from the present ones.

The sedimentary assemblage represented by the Itaipava Formation indicates the past alternation of two main group of processes. One caused the lateral degradation of the terrain followed by sedimentation. The other was responsible for the vertical dissection originating the erosive unconformities or diastems separating sedimentary sequences.

The statistical study of the attitude of the pebbles shows that at times the direction of the long axis was normal to the precious flow inside the paleovalley. This demonstrates that the pebble was rolling with its long axis perpendicular to the flow sense. When the flow stopped there was no time for the pebble to imbricate upstream. In other occasions, with more continuous flow, there was enough time and good conditions to the once rolling pebble to achieve an upstream imbrication.

In general, the measurements showed that all positions are between the transversal and the parallel attitude in relation to the paleovalley orientation.

The study of the deposits suggests and confirms the presence of semiarid (concentrated rainfall) epochs alternating with humid ones (better distributed rainfalls) in the past.

Burjack, M.I.A. 1976. Palynological study of the Charqueadas coalfield, Rio Grande do Sul, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 729 1976 Date of presentation:

Maria Iêda de Almeida Burjack Advisor(s): Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The present dissertation deals with the palynological study of the Charqueadas Coalfield, MB, I1B and I2B seams in Rio Grande do Sul, Brazil.

The assemblage comprises 44 genera and 77 species, two which are new: *Sulcatisporites minimus* n. sp. and *Sulcatisporites medius* n. sp.

With the study of the sporopollinical assemblage, the palynological features of each seam were established.

The comparison of the studied material with other regions of the Gondwana showed that it belongs to the Artinskian-Kungurian, Lower Permian age. Paleocological interpretation was attempted for each coal seam.

Campos, H.S. 1976. Study of the C13/C12 and O18/O16 isotopic variations in the environment of beach rock formation in the Itaparica island - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1578 1976 Date of presentation: 13/4/1976

Hélio S. Campos

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

Calcium carbonate-cemented beach sands or "beach rocks" have been observed to occur in the intertidal zone of many tropical beaches. Near Salvador (Brasil) occurrences are found in several locations on the island of Itaparica. A study of the stable isotope composition (C13/C12 and O18/O16) of the cement and the local groundwater was carried out to determine the origin of the carbonate cement. For area A, the cement has $\delta^{13} = -9\%$ showing that CO₂ in groundwater charged by decay of organic material is the source of carbonate in the cement. probably cementation occurs during loss of excess of CO₂ is possible. In area B, where the cements contains on the average, $\delta^{13} = +1.3\%$, the cement is formed from carbonate typical of sea water or a mixture of sea and fresh water.

Cerqueira Neto, J.X. 1976. Geophysical studies of ilmenitic and monazitic placers in the Itaparica island - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1580 1976 Date of presentation: 7/4/1976

Joaquim X. Cerqueira Neto

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

A ground scintillometric survey along the southern shores of the island of Itaparica, Bahia, Brazil, discovered numerous anomalies. Detailed geophysical and sedimentological studies proved that the major anomaly is due to an ilmenite placer deposit. A comparison of the field geophysical measurements (ground scintillometry, magnetics and induced polarization) with the laboratory samples suggests the following: i) Ground scintillometry is suitable for locating and delineating such placer deposits. ii) Induced polarization is useful to investigate the deposit at depth. iii) Magnetic surveys were not particularly useful in spite of the high ilmenite concentration, thus they do not appear to be a helpful survey tool in this case. Shallow seismic refraction surveys were shown to be useful because at times simple augering was impossible in loose sediments which contained ground water. The Laboratory gamma-ray investigation revealed the cause of radiation as detrital accumulations of 160 ± 34 ppm thorium and 10 ± 2 ppm uranium (95 percent confidence limits). Statistical studies made on a sample of 103 indicate that heavy minerals have a lognormal frequency distribution and a mean value of 13.8 ± 3.4 weight percent (95 confidence limits). Sedimentological analysis of field sample and geophysical field measurements indicated the existence of a deposit containing ilmenite, zircon, monazite and rutile. The deposit studied is small, but economic exploration may be possible, considering other occurrences in the area. Finally the proposes a more extensive prospecting program in the Brazilian coastal areas particularly in the State of Bahia. More efficient and cost effective surveys have to be based on an understanding of the geological nature of such deposits. The aerial photographs are indispensable for rational planing.

Coimbra, A.M. 1976. Sandstones of the Bauru formation : study of the source areas. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1882 1976 Date of presentation: 15/9/1976

Armando Márcio Coimbra

Advisor(s): Petri, S.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Falcão, M.F.L. 1976. Conglomerate Facies of the Cabo Formation (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Cabo Formation, conglomerates, Facies study

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 561 1976 Date of presentation: 31/5/1976

Marlene Ferreira Lima Falcão Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: PE 1/1,000,000 sheet: SC25 Centroid of the area: ' - 'W

Abstract

The conglomerate facies of the Cabo Formation, occurring South of Recife (Pernambuco), called much attention, due to its aspect. The conglomerates are composed of boulders and cobbles of the chiefly granitic basement rocks, quartz and granite pebbles, and an arkosic matrix. These conglomerates have been studied by means of sedimentological analysis such as grain size composition, petrographic composition, study under a binocular microscope, shape and aspect of the coarse components, in the field as well as in the laboratory. For this purpose eight representative outcrops were selected for a detailed study. The results of the grain size analysis show a bimodal distribution with a lack in the 32-2mm size. The matrix is very arkosic, with signs of transport on the more stable grains. The shape indices of the pebbles point to a shaping in two environments, with uni- and bidirectional currents. The conglomeratic complexes are not bedded, containing, however, locally lenses of arkosian sandstones or clay layers. In this way it was concluded that the conglomerate facies of the Cabo Formation has a multiple origin. The greater components proceed from a spheroidal weathering of the basement. They have been transported by gravity (colluvium and slides) and by torrential rivers, accumulated at the foot of tectonically formed scarps. At the deposition site some reworking took place in a littoral environment. The clay intercalation point to periods of more tectonic tranquility.

Gambôa, L.A.P. 1976. Morphology, stratigraphy, structure and evolution of São Paulo plateau (southeastern Brazilian margin) and implications for the early history of South Atlantic. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 432 1976 Date of presentation:

Luiz Antônio Pierantoni Gambôa Advisor(s): Kumar, N. Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The São Paulo Plateau is a prominent marginal plateau in the southeastern Brazilian margin. It is bounded on the north and south by fracture zones and appears to be situated on oceanic crust which was created between the Neocomian and Aptian. This marginal plateau is underlain by 1 to 2 km of Albian- and younger terrigenous and calcareous sediments which overlie 2 to 3 km of Aptian evaporites. The stratigraphy of the plateau has been inferred through correlation of seismic-reflection profiles with the drilling data from Site 356 (DSDP) located on the southeastern corner of the plateau. Direct correlation of this stratigraphy is possible with the stratigraphy of the Santos Basin, a shelf basin located adjacent to the plateau. A continuous evaporitic layer of Aptian age extends from the basin to the plateau. In the Albian, shallow-platform limestones were deposited in the basin, while open-marine limestones were deposited on the plateau. Coarse conglomerates were deposited in the basin during the Turonian-Coniacian time, whereas distal turbidites were contemporaneously deposited on the plateau. A major transgression in the Maestrichtian trapped the terrigenous sediments within the Santos Basin and halted terrigenous sedimentation on the plateau. Cenozoic sediments in both areas are open marine. The sedimentary history of the Santos Basin and the São Paulo Plateau thus suggests that the two regions have been structurally continuous at least since the Late Cretaceous. The region occupied by the plateau has acted as a depocenter and has evolved as a marginal plateau since the termination of evaporitic deposition in the South Atlantic.

Godolphim, M.F. 1976. Geology of the coastal Holocene of Rio Grande area, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 401 1976 Date of presentation:

Moanilda Frôes Godolphim Advisor(s): Figueiredo Filho, P.M.

Committee:

Subject of thesis: Stratigraphy

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

This dissertation represents an attempt to identify the elements that permit the division of Holocene in the Coastal Plain of Rio Grande do Sul State by the use of morphological criteria in order to determine its stratigraphy. The Holocene transgression moved the shoreline across the exposed upper surface of the Pleistocene barrier to a position several kilometers inland of its present position. During the last six thousand years, the shoreline has regressed by the deposition of a sheet-like body of littoral sand. During this depositional regression, the sea-level has changed and each small oscillation built a deposit of sand ridges. The sand of the individual ridges coalesced to form a sheet sand with a furrowed upper surface.

It was possible to ascertain the correspondence between the seven series of beach-ridges and the small sea-level fluctuation that occurred at the same time.

The Holocene deposits were treated in terms of their original environments and their morphologic features, what allowed the establishment of geomorphological criteria.

These criteria were used for age differentiation of Holocene successions and led to the determination of the Holocene stratigraphic sequences in the Coastal Plain of Rio Grande do Sul.

Gomes, M.B. 1976. Palaeoecological evolutionary model for the late Quaternary of the Campanhaeste region of Rio Grande do Sul (Brazil). The Touro Passo formation, its fossil content and postdepositional paedogenesis. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 731

1976

Date of presentation:

Miguel Bombim Gomes

Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

A multidisciplinary study of the last 15,000 years record of the Arroio Touro Passo Basin (Uruguaiana - RS - Brazil) is made by using geomorphological, stratigraphical, sedimentological, paedological, paleontological, archaeological and radiocarbon dates criteria.

A new formation (Touro Passo Formation) is proposed as well as five climatic phases, beginning at the end of the last glacial period. A model to explain those changes based on atmospheric circulation is presented.

Other noteworthy ecological facts have also occurred in the area even in this geologically short period, such as megafaunal extinctions and the arrival of Man.

Habekost, N.T. 1976. Paleoenvironments of the Palermo formation in the southeastern part of Santa Catarina state - Brazil. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 403

1976

Date of presentation:

Nirlei Troller Habekost

Advisor(s): Andreis, R.R.

Committee:

Subject of thesis: Stratigraphy

State: SC 1/1,000,000 sheet: SH22

Centroid of the area: ' - 'W

Abstract

This dissertation deals with sedimentary structures. Specifically, it attempts to reconstruct the environment in which the sedimentary structures of the sediments of the gondwanic Palermo Formation, in the southeastern part of the State of Santa Catarina, Brazil, were formed.

Six cores were studied and described in detail. The cores came from the four areas studied by DNPM and CPRM, as reported in "Relatório Integrado do Projeto Carvão de Santa Catarina" (Complete Report of the Santa Catarina Coal Project). The six cores were drawn at about equal distances along an approximately north-south line, between the localities of Capivara Alta (Lauro Müller) and Lagoa dos Bichos (Araranguá).

In the study area, the Palermo Formation is made up mainly of sandy siltstones and siltstones. Fine sandstones are found less frequently. The gray hues of the sediments are predominant.

In general, mechanical (many kinds of laminations, flasers, etc.) and biogenic (only bioturbation) structures are the most common, while the chemical ones are rarer.

The abundance of the primary sedimentary structures made possible the determination of the areal and vertical distribution of the types referred to, based on sequence deposition cycles.

It was concluded that the sediments of the Palermo Formation in southeastern Santa Catarina were deposited in a transitional environment, probably a tidal flat related to the intertidal zone.

Kinoshita, H. 1976. Applicability of ⁴⁰Ar/³⁹Ar metho in polycyclic rocks. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 64 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1093

1976

Date of presentation:

Hideo Kinoshita

Advisor(s): Cordani, U.G.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Krause, L. 1976. Postcranial osteology of Tupinambis teguixin (L., 1758) sensu Boulenger, 1885 (Lacertilia, Scincomorpha, Teiidae). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 730

1976

Date of presentation:

Ligia Krause

Advisor(s): Barberena, M.C.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The present dissertation deals with the post-cranial osteology of *Tupinambis teguixin* (L., 1758) sensu Boulenger, 1885, in continuation to the paper by Barberena, Gomes & Sanchotene (1970), in which its cranial osteology was described. Two specimens, collected in Aparados da Serra, State of Rio Grande do Sul, were put to death and prepared; the skeletons were numbered ZOO 001, a male, and ZOO 002, a female. The latter, being older, was chosen as the main material for descriptive purposes.

Detailed osteological description is here emphasized, rather than biomechanic or morpho-taxonomic aspects. Those subjects will be dealt with by the author in further studies.

Marques, T.M. 1976. Geophysical studies in the Patamutê area - Bahia state and their applications to copper prospection. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1579

1976

Date of presentation: 7/4/1976

Telésforo M. Marques

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA

1/1,000,000 sheet:

SC24

Centroid of the area:

' -

'W

Abstract

The present work was performed in the area of Patamutê, State of Bahia, as part of a larger research project, and it is related to the determination of the geophysical response of the Cupriferous Province of the Curaçá valley, and to the prospection of potentially mineralized zones with copper and other metallics. The geology and geochemistry of this area had already been studied and four holes drilled, but the results were not conclusive. In the present study magnetic and electromagnetic reconnaissance and semi-detailed surveys were conducted permitting the precise mapping of the rock bodies, the systems of faults of the area, and the spatial dimensions of the bodies. The methods of electrical induced polarization and resistivity were used on some targets, selected by the previous methods, trying to characterize the possibility of occurrence of deposits carrying disseminated metallics. This study resulted in the finding of an interesting geophysical anomaly, underlying an area of approximately 0,20 km² over the main basic rocks body, localized in the central part of the area, and on its geological contacts with the gneissic country rock. In the first case the anomaly is at depths shallower than 75m, and in the second case at depths greater than 75m. PFE readings over this anomaly varied from 4% to 7% as compared to the background value of approximately 1,5%. This anomaly is probably caused by magnetic metallic oxides and/or sulphides, probably associated with disseminated copper or nickel sulphides. The results exclude the possibility of massive concentration of metallics. The author suggests a new drilling program to this area.

Paradella, W.R. 1976. Study of the Poço de Caldas alkaline massif using LANDSAT images with emphasis on radioactive mineralizations. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1370

1976

Date of presentation: 28/12/1976

Waldir Renato Paradella

Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

SP

Abstract**Pessoa, D.A.R. 1976. Geochronological study of polycyclic rocks from São Vicente complex in the Caico and Florania anticlinoria - RN state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 53 pp**

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1046

1976

Date of presentation:

Derleide Araujo Ribeiro Pessoa

Advisor(s): Cordani, U.G.

Committee:

Subject of thesis: Geochemistry and Petrology

State: RN

1/1,000,000 sheet:

SB24

Centroid of the area:

' -

'W

Abstract

Pina, L.C. 1976. Study of the C, O, Ca, Mg elements behaviour in the Paraguaçu river estuaire - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1577

1976

Date of presentation: 10/9/1976

Luiz C. Pina

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA

1/1,000,000 sheet:

SD24

Centroid of the area:

' -

'W

Abstract

Measurements have been made of the concentrations of Ca+2 e Mg+2, pH, salinity and the stable isotope ratios of carbon (C13/C12) and oxygen (O18/O16) in samples of mineral carbonates, dissolved carbonate and water. This data is used to determine the behavior of these elements in the Paraguaçu river - Todos os Santos bay - "mixing system" and the carbon and oxygen isotope ratios are used to demonstrate the control of salinity on the isotopic composition of in situ formed mineral carbonate. A strong correlation exist between the salinity and the oxygen isotope composition of water from the mouth of the Paraguaçu river (entering the Todos os Santos bay) to at last 12 kilometers upriver. Ca+2 and Mg+2, pH e dC13 of dissolved bicarbonates do not show such a behavior. This water has a high Ca+2 concentration and a reasonable concentration of Mg+2 and carbonates with different isotope composition. Regarding solid carbonate, there exist a correlation between dO18 versus dC13, indicating the need of measurements of dC13 when the dO18 measurement is being used as a temperature indicator.

Pintaúde, D.A. 1976. Study on the alteration of the Capivarita anorthosite, Rio Pardo (RS). MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 470

1976

Date of presentation:

Dione Alves Pintaúde

Advisor(s): Formoso, M.L.L.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

'W

Abstract

The Capivarita Quadrangle is situated in the northern border of the Uruguay - Rio Grande do Sul shield in the contact area between those crystalline rocks and gondwanic sedimentary rocks. The oldest rocks of this area belong to the Cambaí Group and include migmatites, anorthosites, gneissic syenite and amphibolite. The principal body of anorthosite occurs in a plain (49km²) located in the Capivarita Quadrangle.

Gullies are very conspicuous in the anorthosite plain principally on the hill slopes. The weathering of anorthosite and the development of impermeable argillaceous soils would cause the formation of those gullies. The largest gully is 600m long and 40m wide, where eight soil profiles were studied.

Labradorite (An 52-62) is the most important mineral of anorthosite. A humid temperate climate (annual precipitation: 1635mm; average temperature: 16.6°C) gives good conditions for the chemical weathering of labradorite, which affects directly the minerals of the kaolinite group.

Morphologically the anorthosite soils with A, B, and C sequences are included in the Hydromorphological Brunizem and those with A and A/C sequences as vertisols.

The minus two micron soil fraction consists of minerals of the kaolinite group (kaolinite, fire-clay and halloysite). In the coarser fractions, plagioclase (98%) and quartz are predominant.

From the base to the top of the soil profile the normative anorthosite decreases a four-fold and the normative albite a three-fold. Kaolinite is the dominant clay mineral increasing a three-fold in the direction of the top of the soil profile. Quartz increases residually and irregularly from the base to the top.

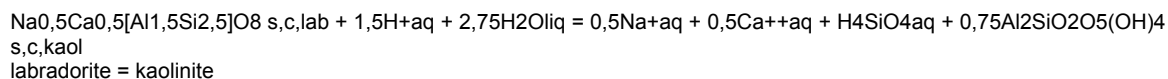
There is a loss of alkaline and earth alkaline elements during the weathering of the anorthosite. Using constant aluminum method, calcium and sodium are leached from the soil profiles, in the amount of 87%. Potassium is anomalous. Iron (+3) increases in the direction of the top, amounting up to 69%. Titanium also increases in the same direction (+1020%).

Calcium is partially retained in calcareous concretions formed in grayish sandy horizons (C1). Plagioclase is almost completely replaced by calcite in these concretions.

With the aid of scanning electron microscopy, the presence of halloysite and fire-clay was observed evidencing the alteration of plagioclase to low cristallinity clay minerals.

Plotting in bidimensional diagram (with log[H4SiO4] and log[Na+]/[H+] as coordinates), analysis of waters in probable equilibrium

with anorthosite, it is observed that the composition of those waters are in kaolinite field or in montmorillonite field but very close to the boundary with the former. Therefore, the clay mineral in equilibrium with those waters and which normally would be formed is kaolinite. Plotted in the $\log[H_4SiO_4]$ and $\log[Ca^{++}]/[H^+]^3$ diagram, those waters are situated in the montmorillonite field but close to the boundary line with the kaolinite field. Probably montmorillonite is present in deep contact with anorthosite as it is present in small quantities in the base of the studied profiles. The alteration of labradorite to kaolinite follows the equation:



The low pH makes the weathering of the labradorite easier.

Tridimensional diagram, using $\log[Na^+]$, $\log[H_4SiO_4]$ and $\log[Ca^{++}]/[H^+]^3$ as coordinates, shows a plane dividing the fields of kaolinite (internal field) and labradorite (external field). Decrease of $\log[Na^+]$, $\log[H_4SiO_4]$ and $\log[Ca^{++}]/[H^+]^3$ facilitates the alteration of labradorite to kaolinite.

Strontium changes from 1020 to 70ppm from the base to the top of profiles. Strontium has a similar behavior to calcium during the weathering of anorthosite. Even in calcareous concretions, which are formed in C soil horizon and indicate the leaching of calcium, strontium behaves as calcium. The correlation coefficient between these two elements in the profiles is +0.91.

Poncano, W.L. 1976. Actual sedimentation in the Sepetiba bay, Rio de Janeiro state : a study for the evaluation of the geotechnical feasibility in view of a port implantation. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2113 1976 Date of presentation: 28/6/1976

Waldir Lopes Poncano Advisor(s): Hasui, Y.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Rodrigues, J.E. 1976. Transcurrent faulting of Jacutinga. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2112 1976 Date of presentation:

José Eduardo Rodrigues Advisor(s): Penalva, F.

Committee:

Subject of thesis: Tectonic and Structural Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Rodrigues, M.F.B. 1976. Basaltic rocks of Rio Grande do Norte and Paraíba states. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2020 1976 Date of presentation:

Maria Florida Brochini Rodrigues Advisor(s): Coutinho, J.M.V.

Committee:

Subject of thesis: Mineralogy and Petrology

State: RN 1/1,000,000 sheet: Centroid of the area: ' - 'W

PB

Abstract

Sidrim, A.C.G. 1976. Geology and petrography of Piuí, MG state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1188 1976 Date of presentation:

Antonio Carlos Guimarães Sidrim Advisor(s): Costa, L.A.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The aim of the present research is the regional geological mapping of an area of 720Km², in the scale of 1:100.000, corresponding to the Piuí Quadangle (MG), and colluvium and alluvium prospection of the Caxambú Creek Valley located in the southern part of the area. Stratigraphically the area consist of the Canastra and Bambuí Groups. The Canastra Group consists os schists, quartzites, phyllites. This Group is intruded by ultrabasic, basic and acid rocks. The Bambuí Group is represented by clays, marls, carbonates and conglomerates of the Sete Lagoas Formation. The aim of the prospecting work in the colluvium and alluvium is to study the distribution of cromite in the soil and to determine possible new locations of mineralizations besides the ones already known in the refered valley. In conclusion some economic aspects of the mineral resources of the area also discussed.

Silva,M.A.M. 1976. Mineralogy of the beach sands between Rio Grande and Chuí - Rio Grande do Sul. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 433 1976 Date of presentation:

Maria Augusta Martins da Silva Advisor(s): Martins,L.R.S.

Committee:

Subject of thesis: Marine Geology

State: RS 1/1,000,000 sheet: SI22 Centroid of the area: ' - 'W

Abstract

The foreshore and backshore sands between Rio Grande and Chuí are predominantly composed of quartz, but in some places heavy- -mineral concentrations appear as dark patches on the backshore surface. Opaques (ilmenite, magnetite, leucoxene, limonite) are the predominant minerals followed by epidote, augite, hypersthene and hornblende. Minor quantities of tourmaline, staurolite, garnet, rutile, kyanite, andalusite and nonazite are also present. The minerals show two associations: the first one in the north of the area where epidote, augite, hypersthene and hornblende predominate; the second in the south where the opaques predominate. The primary source of the heavy minerals was the igneous and metamorphic rocks of the Sul-Rio-Grandense Shield and the basalts from the Serra Geral Formation. They were incorporated in the coastal sediments during the Quaternary eustatic changes in sea level and, with the coastal plain evolution, they were spread over the beaches. At the present time, the fluvial contribution of heavy minerals is insignificant because most of the river sediment is trapped in the lagoons which parallel the shore. A small part of fluvial material reaches the ocean through the Rio Grande channel, probably influencing the basic character of the northern heavy-mineral association. The inner continental shelf, underlain predominantly by relict sands, is the main nowadays source of the shoreline sediments. The La Coronilla headland and Chuí cliff are also sources of minerals to the southern association. The deposits were originated by three concentration mechanisms: one related to the swash and backwash in stormy weather or during the strongest tides; another one caused by the development on the backshore of tidal ponds and/or channels; and the last one related to eolian winnowing action. The concentrates occur principally between Albardão lighthouse and Chuí village, where the black sands extend for some tens of kilometers. The concentrations near Chuí reach up to 47% by weight, the opaques represent 72% of the concentrate, 58.4% of which are ilmenite. Rutile and zircon show maximum values between 5 and 6% and monazite occurs only as traces.

Torres,A.G. 1976. Geology of the Bela Fama gold mine, Nova Lima - Minas Gerais state. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1189 1976 Date of presentation:

Abrahão Gomes Torres Advisor(s): Leonardos,O.H.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The present work describes the geology of the Bela Fama gold mine in Nova Lima, Minas Gerais. The country rocks are formed by metasediments and metavolcanics of the Rio das Velhas series metamorphosed in the green schist facies. The main rock tipos are schists and phyllites, iron formation, Quartz-Dolomite-Ankerite shists, locally know as the "LAPA SECA" and metaconglomerates. The sequence iscut by metamorphosed dolerite dykes and Quartz and carbonates veins. The gold mineralization is in Quartz veins, associated with carbonate paragenesis. Detailed mineralogy and structural control of the Bela fama ore are given and its genetical aspects discussed. A nesothermal origin is favored.

Xavier,M.G.V. 1976. Barreiras Group in the Recife Plain (State of Pernambuco). MSc Thesis, Departament of Geologi, University Federal of Pernambuco, pp.

Recife plain, Barreiras Formation, Sedimentological study, Depositional environment, Hillslope Stability

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 544 1976 Date of presentation: 13/4/1976

Maria da Graça de Vasconcelos Xavier Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: PE 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

Abstract SC25

In this thesis, field and laboratory observations made on the nonfossiliferous, loose sediments of various colours and grain size compositions, cropping out as low hills and tablelands around the plain of Recife (Pernambuco State), are reported.

The study was divided into two distinct parts. The first and more important part deals with the sedimentological investigation of the deposits, emphasizing mineralogy, grain size composition, surface character of the grains, structures, etc., in order to obtain conclusions about the origin. The second part presents some conclusions about the stability of the slopes composed of this material and about a possible economic exploration.

After field observations, the sections studied have been divided into two groups: (a) represented by the Macaxeira section, suggesting a deposition chiefly by mud flows, and (b) represented by the Caxangá section, pointing to fluvial deposition, in intermittent rivers.

With respect to the stability of the slopes, it proved to be impossible to determine exact angle values, due to the variation in thickness and lithology of sediments.

Zeltzer, F. 1976. Geology and paleogeography of the Laguna dos Patos sand bar - RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 402 1976 Date of presentation:

Flora Zeltzer Advisor(s): Andreis, R.R.

Committee:

Subject of thesis: Stratigraphy

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

The purpose of this research is to analyze the geological and paleontological aspects of the Patos Lagoon's Sand Bar, which consists of a sandy ribbon that separates the Patos Lagoon from the Atlantic Ocean.

The geological and geomorphological mapping of the Northeast part of the State Coastal Province as well as the analysis of the mechanisms that have created it revealed the following aspects:

- The Sand Bar is constituted of a sequence of multiple barriers whose origin is related to the relative level fluctuations of the sea during the Quaternary Era, and also to the climate and supplying rate of sedimentary materials.

- The vestiges of transgressions that occurred gradually in a decreasing height level were denominated: Viamão, Palmares, and Mostardas (Pleistocene); Desertas, Conceição, and Bojuru (Holocene), according to Godolphim 1976.

This dynamics allied to climate changes seems to have helped the development of depositional environments (marine, lagoon, and aeolian) characterized by their own sedimentation, which has lasted until the present days.

The research showed the possibility of correlation with similar events observed in other areas of the State Coastal province as well as in much further areas.

Alves, E.C. 1977. Shallow structure of the continental slope and rise, continental margin of Rio Grande do Sul and Uruguay. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 437

1977

Date of presentation:

Eliane da Costa Alves

Advisor(s): Urien, C.M.

Committee:

Subject of thesis: Marine Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Seismic data along the Rio Grande do Sul and Uruguai continental margins revealed a thick wedge of sediments belonging to the Pelotas Basin and to the southern part of the Santos Basin. This wedge is identified in refraction records as a 1.8 km/sec seismic velocity layer.

The deposition of the wedge was initiated during the Upper Miocene and continued through the Pleistocene. Alternating periods of deposition and erosion, owing to eustatic sea level fluctuations, caused the development of four distinct sedimentary sequences.

The distribution of the centers of maximum deposition of each of the sedimentary units suggests an overall progressive migration of the source towards the continent, probably because of marine transgression.

The accumulation of the sedimentary sequences within the 1.8 km/sec interval was responsible for the major physiographic features present in the study area. Of these, the Rio Grande cone is the most striking. Its construction took place mainly during the first depositional cycle, between the Upper Miocene and Lower Pliocene, forming a 900m thick depocenter. Later sequences were deposited over the distal portions of this depocenter.

The Rio Grande cone was active until the Late Wisconsin, with sedimentation rates averaging 20 cm/10³ years. This value was at least four times greater than Holocene rates.

During the Mid and Late Wisconsin, when lowered sea level prevailed, the continental shelf edge suffered erosion resulting in the truncation of the prograding sediments. The eroded material was fed to the Rio Grande cone via suspension and/or gravitational processes.

Since the Holocene transgression, the southern Brazil continental margin has not received any significant amount of terrigenous contribution. Two processes are still active: widespread pelagic sedimentation and geostrophic contour current activity along the lower continental rise.

Alves, M.L.M. 1977. Cranial osteology of Ophiodes striatus (Spix, 1824) (Lacertilia, Anguidae). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 734

1977

Date of presentation:

Maria Lúcia Machado Alves

Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This dissertation aims to contribute to the knowledge of the cranial osteology of Ophiodes striatus (Spix, 1824) and to supply data for future comparative studies with other lizard species.

Six skulls of specimens that belong to the reptilian collection of the Museu de Ciências Naturais, Fundação Zoobotânica do Rio Grande do Sul, were prepared and incorporated to that collection as osteological samples.

Anjos, C.E. 1977. Application of remote sensing in the study of geothermal anomaly in the Caldas Novas municipality/ Goiás state. MSc Thesis, National Institute of Spatial Research, INPE, pp.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1371

1977

Date of presentation: 18/5/1977

Célio Eustáquio dos Anjos

Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: GO

1/1,000,000 sheet:

SE22

Centroid of the area:

' -

'W

Abstract

Antezana Paniagua, R.D. 1977. Importance of the seismographic station type Valinhos array. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1914 **1977** Date of presentation:
Remy David Antezana Paniagua Advisor(s): Ribeiro Filho, E.
 Committee:
 Subject of thesis: Seismology
 State: 1/1,000,000 sheet: Centroid of the area: ' - 'W
Abstract

Assis, A.D. 1977. Quaternary Geology of the Lucena Plain (State of Paraíba). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Lucena plain, Quaternary, Geologic-geomorphologic history

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 562 **1977** Date of presentation: 10/2/1977

Abelci Daniel de Assis Advisor(s): Sial, A.N.

Committee:

Subject of thesis: Sedimentary Geology

State: PB 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

Abstract

The Quaternary plain of Lucena, State of Paraíba, with characteristics of a prograding coast, exhibits two terraces of 3-6 meters and 1-2 meters of height. Another terrace of 7-9 meters is situated in the Guia river left margin.

Petrographically the terraces are constituted by medium-grained sand, with different granulometric and textural characteristics for each terrace, with possibility of interpretation of the sedimentation environments: the 7-8 meter terrace is estuarine, the 3-6 meter terrace is of shallow sea and the 1-2 meter terrace is also estuarine but with higher energy and fluidity.

The geologic-geomorphologic evolution of the area is considered from the deposition of Guararapes Formation, and consequent origin of the "Superfície dos Tabuleiros", in the Gunz age. In the Gunz/Riss interglacial, the Riacho Morno weathering occurs and in the Riss age the Macaiba Formation is deposited, in a period of intense tectonism. During the beginning, of the Riss/Würm, interglacial the 7-8 meter terrace is formed. The Würm age is characterized by strong erosive actions, with aliviation of pressure in the continent. This is true up to the Flandrian. The 3-6 meter terrace is formed by tectonic uplift of the continent, as a consequence of the isostatic balance. The 1-2 meter terrace is formed during the Post-Flandrian regression.

Avanzo, P.E. 1977. The sedimentation in the central sector of Baía de Maragogipe bay, Bahia state. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1281 **1977** Date of presentation: 15/8/1977

Paulo Eduardo Avanzo Advisor(s): Vilas Boas, G.S.

Committee: Kenitiro Suguio - IGc/USP
 Luiz Roberto Silva Martins - IG/UFRGS

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

The bay of Maragogipe is a sedimentary system composed by the lowermost course of Paraguaçu River associated with drowned valleys of ancient afluent.

Two major regions are defined: (a) a large shallow depositional body made up of an assemblage of sandbanks diverging from the mouth of the river, and, (b) an adjacent sector of peripheral features formed by tidal flats and deep channels.

Bottom samples were obtained from both areas for mineralogical and grain-size analyses.

Grain-size analyses show a gradual transition from the shallow depositional body to the peripheral sector. grain size decreases from the primer to the latter and other textural parameters confirm this transition.

The shallow depositional body was characterized as a fluvial environment, and the peripheral sector as a shallow marine environment: both are influenced by tidal and turbidity currents. The transition zone shows extreme and uncommon values of grain-size parameters, because it is a zone of mixing of sediments not a "transition environment".

Mineralogical analyses indicates a mixture of relict sediments of a fluvial-deltaic character with present-day sediments of estuarine character

Bandeira Jr, A.N. 1977. Sedimentology and calcareous microfacies calcárias of the Riachuelo and

Cotinguiba formations of the Sergipe/Alagoas basin. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1927 1977 Date of presentation: 21/7/1977

Alfredo Nunes Bandeira Júnior Advisor(s): Suguio, K.

Committee:

Subject of thesis: Sedimentology/Sedimentary Petrology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract**Barros, F.C. 1977. Study of the biogenic sediments from Tainheiros and Cabrito inlets. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp**

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1277 1977 Date of presentation: 12/5/1977

Facelúcia Conceição Barros Advisor(s): Tinoco, I.M.

Committee:

Geraldo da Silva Vilas Boas -

Kenitiro Suguio - IGc/USP

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SC24

Centroid of the area: ' - 'W

Abstract

The Tainheiros and Cabrito inlets represent restrict environments, that are characterized by high degree of pollution. Their macrofauna is constituted mainly by mollusks, among which the lamellibranchs have the larger dispersion in the area. The characteristic microfauna is composed of the genera *Ammonia* and *Elphidium* on the inlet. Other genera as *Fursenkoina*, *Nonion*, and *Bolivina* are rare and in the open zones of the inlet where the pollution degree is smaller.

The main responsible factors by the distribution of the sediments are the high and tides. The variations of the chemical and physical parameters are physical parameters responsible of the zoning of the biotic components on the area.

The correlation between the sediment composition in the surface and under the surface denotes two different phases of sedimentation: one transgressive and the other regressive. The presence of relic sediments suggests that these events pertain to the Quaternary.

Basei, M.A.S. 1977. Age of acid-intermediate volcanism in amazonian region. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 133 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1102 1977 Date of presentation: 27/12/1977

Miguel Ângelo Stipp Basei Advisor(s): Cordani, U.G.

Committee:

Subject of thesis: Geochemistry and Petrology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract**Beurmann, M.E.F. 1977. Comparative osteological study of the skull of *Hemidactylus mabouia* (Moreau de Jonnes, 1818) and *Homonota uruguayensis* (Vazferreira & Sierra de Soriano, 1961). Lacertilia, Gekkonidae. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp**

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 733 1977 Date of presentation:

Marta Elena Fabián Beurmann Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Based upon the examination of six specimens of *Hemidactylus mabouia* (MOREAU DE JONNES, 1818) and of *Homonota uruguayensis* (VAZ-FERREIRA & SIERRA DE SORIANO, 1961), a comparative description of their cranial osteology is presented. Differences are analyzed from the point of view of the form and proportion of the bones. This research is

complemented by a statistical analysis through the application of the t test, aiming at establishing the significant differences among certain cranial structures of the two species. Finally, there is a brief comparison between the obtained results and the data presented by KLUGE (1967).

Brandt Neto, M. 1977. Stratigraphy of the Bauru formation in the low Tietê region. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2117 1977 Date of presentation: 30/12/1977

Max Brandt Neto Advisor(s): Petri, S.

Committee:

Subject of thesis: Stratigraphy

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Brichta, A. 1977. The sedimentation at the Paraguaçu river mouth, Bahia state. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1279 1977 Date of presentation: 8/6/1977

Arno Brichta Advisor(s): Vilas Boas, G.S.

Committee: Alcides Nóbrega Sial - DG/UFPE

Kenitiro Suguio - IGc/USP

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

The mouth of the Paraguaçu river where it enters the Todos os Santos Bay was sedimentologically investigated. Dredged samples of the submarine fan provided data of statistic-sedimentary value (media, mean size, skew-ness, kurtosis). These sedimentological parameters were used in testing different ways of interpretation of depositional conditions (grain size image, Sahu diagram). Parameters such as contents of clay, silt, carbonates and organic matter were correlated with sedimentological data and physiographical parameters (depth, distance from the coast).

Four different facies-zones could be distinguished (sand, sand clay, clay, and a biotrititic zone). The distribution of these facies-zones is similar in fluvial and marine surroundings. The content of background carbonate shows the difference in depositional environments (below 5% in the Paraguaçu river and between 5 and 15% in the Todos os Santos Bay). Some shell deposits in the Bay area might prove interesting for production of cement.

Generally the investigated area can be characterized as a region of low-energy environment, locally influenced by physiographic variations.

Carneiro, C.D.R. 1977. Geology and geological evolution of the São José dos Campos quadrangle, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1987 1977 Date of presentation:

Celso Dal Ré Carneiro Advisor(s): Hasui, Y.

Committee:

Subject of thesis: Geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Costa, W.D. 1977. Hydrogeology of the Mearim River Basin (State of Maranhão). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Mearim river, Alluvial plain, Usable aquifers, Exploitation costs

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 541 1977 Date of presentation: 28/11/1977

Waldir Duarte Costa Advisor(s): Brito Neves, B.B.

Committee:

Subject of thesis: Hydrogeology

State: MA 1/1,000,000 sheet: SA23 Centroid of the area: ' - 'W

Abstract

The hydrogeologic reconnaissance of the Mearim river basin, State of Maranhão, was done with the scope of evaluating at a preliminary level, the exploitable resources of the groundwater in this hydrographic basin, the water quality and the approximate exploitation costs.

The studied region covers an area of about 57990 km² at the center-north of the State, with a tropical climate and high average annual rainfall of about 1.400mm, variable relief with plateaus as high as 600m in the southern part of the area and plains at the northern part. Most rivers are perennial, the geology is represented by a sedimentary sequence over 200m thick.

The shallower aquifer (up to 100m deep) and of elevated exploitable potential is restricted to the bottom of the principal valleys, to the alluvial plain and to the reloading zones of the high to middle course of the Mearim river. At depth over 100m, the water quality might be compromised and at higher depth (below 300m) the situation is completely unknown due to lack of data.

The exploitation costs, calculated from a few available parameters is of very high for most of the basin. Only in the area between Barra do Corda and Presidente Dutra and surroundings as well as in the Mearim river course, the ground water resources could be regarded as economically possible for exploitation.

Cottas, L.R. 1977. Geology of the Nuporanga-Batatais area - SP state : A contribution to the study of paulista Cenozoic. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2012 1977 Date of presentation: 30/5/1977

Luiz Roberto Cottas Advisor(s): Fúlfaro, V.J.

Committee:

Subject of thesis: Stratigraphy

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Crepani, E. 1977. Geological mapping of Goiás 1:1,000,000 sheet based on LANDSAT-1 images. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1374 1977 Date of presentation: 27/5/1977

Edison Crepani Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W
MT

Abstract

Cunha, R.P. 1977. Application of remote sensing, with emphasis on LANDSAT images, in the regional geological mapping of the Minas Gerais state northern region. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1375 1977 Date of presentation: 24/6/1977

Roberto Pereira da Cunha Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: MG 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Ferreira, M.T.G.M. 1977. Foraminifera from the Itapuã intertidals zone, Salvador-Bahia state. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1278 1977 Date of presentation: 12/5/1977

Maria Therezinha Guzzo Muniz Ferreira Advisor(s): Tinoco, I.M.

Committee: Friedrich Wilhelm Sommer - DNPM
Setembrino Petri - IGc/USP

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: Sd24 Centroid of the area: ' - 'W

Abstract

The area can be described as a normal saline lagoon with an algae substratum and there is no indications that pollution is affecting the area.

A great part of animal organic remainders are shown by molluscs and vegetables remainders are essentially made of fragments of Alga Halimeda and Lithothamnium.

Grains of quartz and fragments of rock are the main abiotic components.

When treated with HC1 samples become bimodal because they have predominant small sand with variable percentages of rougher grains. Interpretation of granulometric bends and of other sedimental parameters made evident textural differences between treated or not material, with HC1.

All the studied foraminifers are benthonic and generally present homogeneous distribution.

Fiori, A.P. 1977. Stratigraphy of the Tubarão group (Aquidauana formation) in the southwestern region of the Minas Gerais state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2116 1977 Date of presentation:

Alberto Pio Fiori Advisor(s): Landim, P.M.B.

Committee:

Subject of thesis: Stratigraphy

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Gaspar, J.C. 1977. Contribution to the study of the alkaline magmatism of Santo Antônio da Barra, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M003

DataBase Ref.: 63 1977 Date of presentation: 19/12/1977

Jose Carlos Gaspar Advisor(s): Danni, J.C.M.

Committee: Othon Henry Leonardos - IG/UnB
Reinhardt Adolfo Fuck - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

The present work is a study of the geology and petrology of the volcanic district of Santo Antônio da Barra, consisting of rocks of Cretaceous age. These volcanic rocks are of ultrabasic alkaline character and are situated in the southern most portion of the alkaline province of southwest Goiás.

They occur as sequences of alternating lavas and breccias and are composed of analcimite olivine analcimite and locally carbonaceous rocks, and are traversed by innumerable necks of - fourchite, melamonchiquite. and ale times phonolite.

The analcites of these rocks are primary (or at least the phenocrists), which is quite rare, even on a worldwide scale.

These volcanic rocks are underlain by basalts of Paraná Basin and sandstones of Botucatu Formation, and over lain by volcanic conglomerate defined here as Verdinho Formation. The latter has large quantities of pebbles of analcite phonolites, trachytes and to a lesser extent analcimitic rocks.

The petrographic description of the rocks of whole sequence is presented along with the study of minerals that are petrologically more important.

It is concluded here that the magma of the province is nephelinitic, the phonolites and trachytes being probably the more differentiated members of the series

The Bauru Formation, upper unit of the stratigraphic column, is represented by a lenticular basal conglomerate, by sandstone and by conglomeratic limestone, deposited in a fluvial - lacustrine environment.

Silexite hills are encountered along faults.

Hofmeister, T. 1977. Contribution to the sedimentology of the Brazilian continental shelf between Cabo Frio (RJ) and Recife (PE). MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 438

1977

Date of presentation:

Tânia Hofmeister

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The present dissertation deals with the characterization of the superficial sediments of the Brazilian Continental Shelf between Cabo Frio (Rio de Janeiro State) and Recife (Pernambuco State), taking into consideration the granulometric variation and the analysis of the statistic parameters, in order to establish the main types of textural facies.

Geological, hydrological and climatological studies of the continent in front of the Shelf were developed; an evaluation of the physical and chemical oceanographic aspects of the water masses as well as of the bottom morphology of the Continental Shelf is also presented.

Lehuteur, L.G.O. 1977. Sedimentary dynamics of the sands from the continental shelf of Rio Grande do Sul and their possibilities of economic utilization. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 435

1977

Date of presentation:

Loreci Gislaíne de Oliveira Lehuteur

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

According to specific bibliography on the matter, the sand and gravel in the continental shelf are the largest exploitable superficial mineral resources.

The present dissertation deals with the sand deposits found in the Continental Shelf of Southern Brazil, approached from a dynamic and economic point of view.

A detailed analysis of the mechanic, morphoscopic and physical properties of the samples existent in the above-mentioned area was carried out with the purpose of confirming the possibility of using sand deposits as a source of great economic gains.

Lisboa, N.A. 1977. Geological study of the Pedra Branca area, Bagé, Rio Grande do Sul, with special emphasis on the marble occurrences. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 404

1977

Date of presentation:

Nelson Amoretti Lisboa

Advisor(s): Andreis, R.R.

Committee:

Subject of thesis: Stratigraphy

State: RS

1/1,000,000 sheet:

SH21

Centroid of the area:

' -

'W

Abstract

A geologic study of the Pedra Branca region - an area of about sixty square kilometers, located at the northeast of Bagé, in the State of Rio Grande do Sul, was made. Special interest is given to the marble occurrences, which constitute, along with quartzites and migmatites, the pre-Cambrian Cambaí Group.

Two different types of occurrences were found. One of them, named Jazida da Chácara do Cotovelo, with about 200 acres, is here particularly detailed, owing to its economical aspects.

Luiz, J.G. 1977. Geophysical surveying of the Mundo Novo - Sítio Davi belt, Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1574

1977

Date of presentation: 30/6/1977

José G. Luiz,

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

This thesis describes a reconnaissance geophysical survey carried out by the author in the Faixa Mundo Novo - Sítio Davi area, State of Bahia. The area is located close to the Curaça River valley, the Copper Province of the State of Bahia. Previous geochemical studies carried out by SUDENE/Geological Germany Mission Showed high nickel anomalies in basic bodies located in the area. The present geophysical reconnaissance of the Faixa Mundo Novo - Sítio Davi area was carried out using AFMAG and magnetic methods. The results provided additional knowledge about the structural features in the region, and made possible the selection of two areas for a detailed study, before any decision about drilling be made. During the work the author developed a method of interpretation of anomalies of the vertical component of the magnetic field due to a dipole and to a line of dipoles, which permits to compute the geometrical parameters of the sources.

Lummertz, F.B. 1977. Subsurface Hydraulic Aspects of the Greater João Pessoa Area (State of Paraíba). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Sedimentary sequence, Beberibe aquifer, Groundwater flow

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 539 1977 Date of presentation: 1/8/1977

Fábio Bauermann Lummertz Advisor(s): Brito Neves, B.B.

Committee:

Subject of thesis: Hydrogeology

State: PB 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

Abstract

The present study involves a surface of about 380 km², situated in the coastal region of State Paraíba, including João Pessoa city and neighbouring areas.

Geologically, the area is dominated by sedimentary rocks of the Pernambuco-Paraíba coastal strip. The sequence overlaps the crystalline basement and begins with the sandstones of the Beberibe Formation which is subdivided into two members, one a lower (Santonian), essentially non-calcareous and friable, and an upper one (Campanian), calcareous, compact and with secondary porosity. Upward, follows the Gramame Formation (Maastrichtian), constituted by limestones, and on top of it the Maria Farinha Formation (Palaeocene), involving limestones and calciferous sandstones. A disconformity separates the foregoing formation from the next continental sequence of the Barreiras Group (PlioPleistocene-Holocene), with a sandy-clayey character. The recent deposits (alluvium and sandy covers) close the sedimentary sequence.

Generally, the sediments dip eastward and are affected by fault structures, trending essentially NE-SW, E-W and NNW-SSE.

The Beberibe aquifer system is the most important in the area. The value determined for its transmissivity is 2.09×10^{-3} m²/s and 1.84×10^{-2} for storage coefficient.

There are very slow groundwater flows through the Beberibe aquifer at the deepest parts. The preferred directions of the flows are eastward and towards the Paraíba river. The eastward groundwater flow is stopped by a marine barrier, with consequent leakage phenomena through the upper aquifers. The Beberibe aquifer pumping contributes to maintain the groundwater flows. Depending upon the relative hydraulic loads in the different aquifers, there occur leakage phenomena among them.

Macedo, M.H.F. 1977. Sedimentologic study of Baía de Todos os Santos bay. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1282 1977 Date of presentation: 30/12/1977

Maria Helena de Freitas Macedo Advisor(s): Vilas Boas, G.S.

Committee: Kenitiro Suguio - IGc/USP
Paulo da Nóbrega Coutinho -

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

The bay of Todos os Santos is a shallow water system of deposition, with a salinity slightly than the open ocean salinity. The bay has been divided into three parts having boundaries established according to the energy acting in those environments: - A low energy environment, which is located in the northern part of the bay in a shallow water zone, and is constituted of fine silty-clay sediments of a grayish-olive color. - A high energy environment which is situated in the channels Itaparica and Itaparica-Salvador, and comprises sandy sediments of a yellowish-gray color. - An intermediate energy environment, which is located in the central part of the bay, and is constituted of sand-clay sediments and having a grayish-olive color. The main recent and relict biotect components are represented by fragments of molluscs and algae Halimeda. The autigenic minerals chamosite and goethite are

common in the bay sediments. sedimentological analysis of the upper most bay sediments suggests that sedimentation has occurred during both a transgressive and regressive phase of sea level in the Quaternary. The coarsest-grained sediments in the bay are probably of fluvial origin, deposited by the Paraguaçu river during the last major regressive phase, approximately 15.000 years B.P. The present deposition of finer-grained and biogenic sediments began with the later Flandrian transgression which flooded the local drainage valleys.

Machado,A.J. 1977. Study of sediments and foraminifera of the Inema beach, Bahia. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1276 1977 Date of presentation: 10/3/1977

Altair de Jesus Machado Advisor(s): Vilas Boas,G.S.

Committee: Ivan de Medeiros Tinoco - DG/UFCE
Jannes Markus Mabesoone - DG/UFPE

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

The sediments of the shore of Inema (Bahia, Brasil) present a very high percentage of shells in perfect and fragmentary conditions.

Many remainders of several organisms provide a very high percentage of carbonate.

A great part of animal organic remainders are shown by mollusks and vegetables remainders are essential made of fragments of Alga Halimeda and Lithothamnium.

Grains of quartz and fragments of rock are the main abiotic components.

When treated with HCl samples become bimodal because they have predominant small sand variable percentages of rougher grains. Interpretation of granulometric bends and of other sedimental parameters made evident textural differences between treated pr not material, with HCl.

All the studied foraminifers are benthonic and generally present homogeneous distribution.

Machado,R. 1977. Geology and genesis of the Bandarra manganese deposit, Jacaraci municipality-Bahia state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2118 1977 Date of presentation:

Rômulo Machado Advisor(s): Ribeiro Filho,E.

Committee:

Subject of thesis: Economic Geology

State: BA 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Marinho,J.M.L. 1977. Geophysical surveying of Irecê region - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1572 1977 Date of presentation: 16/12/1977

José Márcio Lins Marinho Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SC23 Centroid of the area: ' - 'W

Abstract SC24

The present study was conducted in the region of Irecê, in the state of Bahia, Brazil and covers 7.500 Km². Its object was the determination of the thickness and structure of the Bambuí Group of Limestones. Gravity and resistivity methods of geophysical exploration were applied. A gravity survey comprising 1950 stations was conducted over the region being semi-detailed in nature over the Irecê Basin and regional in the surrounding areas. Resistivity soundings were conducted at several points in order to determine the thickness of the Bambuí Group. This information was used as a control in the regional-residual gravity anomaly separation. The auxiliary point method was employed in the quantitative interpretation of the electrical sounding curves. As a

check on the accuracy of the interpretations, theoretical curves, generated using these models as input, were compared with the field curves. Starting from a preliminary model of the Bambuí Limestone based on electrical sounding results and borehole information, the Bouguer anomaly was interpreted in six two-dimensional profiles. These suggest that the Bambuí Group is very variable reaching a thickness of more than 2 km in places. The Bambuí Group forms part of a deeper sedimentary basin whose maximum thickness, calculated from the regional anomaly, is between 5 and 7 km in the Serra das Laranjeiras area.

Martini, P.R. 1977. Geological mapping of Goiás 1:1,000,000 sheet based on LANDSAT-1 images. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1373 1977 Date of presentation: 27/5/1977

Paulo Roberto Martini Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W
MT

Abstract

Mattos, J.T. 1977. Application of remote sensing, with emphasis on LANDSAT images, in the regional geological mapping of the Minas Gerais state northern region. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1376 1977 Date of presentation: 24/6/1977

Juércio Tavares de Mattos Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: MG 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Mello, Z.F. 1977. Tectonic-Petrological Considerations about Molassic Sequences of Eastern NE Brazil. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Molasses, Tectonic origin, Depositional environment, Petrographic composition, Diagenesis

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 563 1977 Date of presentation: 1/8/1977

Zenaide Fonsêca de Mello Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The three molassic sequences studied in the Caririan and Sergipean mobile (orogenic) belts, represent sediments derived from several areas, including provenance of regional transported rocks, local basement and reworked materials from the molassic basins themselves. Because of this heterogeneity various ranges of lithofacies occur, where the participation of one source depended on the tectonic instability of the supply areas and in the sedimentary basins, seasonal variation of warm-humid regional climate, a cold-humid and a dry one and also of the physiographical conditions in the sedimentary environments. The distributions of the several lithic types in the field, associated to their textural-mineralogical types, led us to consider for the Estância's molasse a depositional environment of alluvial coastal plain with channel-fill, flood plain with standing fresh water as to form lacustrine subenvironments, and also marine influence with sand bars and fluvial channels with tidal influence; for the Juá's molasses a lacustrine environment that developed alluvial fans in the initial stage with channel-fill and later a lacustrine sedimentation; for the Jaibaras molasse alluvial fans disturbed by tectonic activation, channel-fill and flood plain. Post-sedimentary mineral neoformations with generalized incidence in the couple illite-chlorite where Kubler's indices pointed out illite of high grade crystallinity and the Esquevin's values detected magnesium and alumina illites in the Estância's molasse and only aluminous illite in both the Juá's and Jaibara's molasses. This phyllosilicates behavior suggests that these sediments underwent a deep burial and reached a stage of anchizone metamorphism. This generalized illite-chlorite neoformation, associated to low porosities led us to deduce Estância's molasse a burying between 3.000 a 6.000m in depth. The relative position of these with respect to stable and mobile areas, gives to Estância a character of a foredeep and of a graben for Juá basins, Jaibaras, Sítia, Jucá and Lara deeps, where late geosynclinal or early-orogenic molasses were formed in the foredeep and post-geosynclinal or syn-orogenic to late-orogenic ones in the grabens.

Meneses, P.R. 1977. Remote Sensing applied to the geological mapping of the Rio São Francisco sheet. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1319 1977 Date of presentation: 30/6/1977

Paulo Roberto Meneses Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: BA 1/1,000,000 sheet: SC23 Centroid of the area: ' - 'W
 PI
 MA
 TO

Abstract

Montes, A.S.L. 1977. Stratigraphy and sedimentology of the Bebedouro formation on Bahia state-Brazil: A possible diamond-bearing stratum. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M002

DataBase Ref.: 62 1977 Date of presentation: 24/10/1977

Adevanil de Santana Lamartin Montes Advisor(s): Dardenne, M.A.

Committee: Onildo João Marini - IG/UnB
 Detlef Hans-Gert Walde - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

This work is the result of geologic mapping on the scale 1:100000 comprising an area of 1122 km², located in the "Chapada Diamantina", north of Morro do Chapéu town, in Bahia state.

The main objective of this work is the definition of the stratigraphic and geologic position of the Bebedouro Formation, which in the Bahia State represents the base of Bambuí Group and the evaluation of its economic potential.

The lithostratigraphic column comprises of part of two thick lithologic assemblages of Proterozoic age, represented from bottom to top- by the Chapada Diamantina and Bambuí groups, and separated by an angular unconformity of low angle. The Chapada Diamantina Group is represented by Caboclo and Morro do Chapéu Formations. The Bambuí Group is constituted of Bebedouro and Salitre formations.

The Bebedouro Formation is composed of a sequence of siltstone, paraconglomerate, sandstone, arkose and graywackes.

The sedimentological analyses revealed that the Caboclo and Morro do Chapéu formations represent deltaic type sequence. The sedimentation of Bebedouro Formation is attributed to one period of glaciation that occurred in the areas adjacent to the basin of deposition. The petrographic analysis of rock fragments in the sediments of Bebedouro Formation indicates a single source area with predominance of quartzite and granitic-gneissic rocks. The statistical analysis of the large and mean axis values of the pebbles shows the shortening of middle axis from east to west. Thus, the Precambrian areas situated in the east near Serra de Jacobina represents the true source of the clastics of the sediments of Bebedouro Formation.

The Salitre Formation presents a variation from continental to shallow water marine ambients.

The lithologic sequence of Chapada Diamantina and Bambuí are considered as platform coverings. The Chapada Diamantina Group was deposited in conditions of unstable-platform. During that period of instability, the principal substratum faults were reactivated. After the deposition of Chapada Diamantina Group, block tectonics occurred and was followed by the deposition of the Salitre Formation. The Chapada Diamantina and Bambuí groups suffered compressional forces in E-W direction, resulting in large folds occurring in these groups. As a consequence of these forces, gravitational sliding occurred in the Bambuí Group over Chapada Diamantina Group. These two groups represent different cycles of sedimentation, constituting however, only one single geotectonic cycle belonging to the Brazilian cycle.

The Bebedouro Formation is considered in the present paper to be a possible, diamond source.

Montes, M.L. 1977. The diamond-bearing conglomerates of Chapada Diamantina - Bahia state - Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M001

DataBase Ref.: 61 1977 Date of presentation: 24/10/1977

Manuel Lamartin Montes Advisor(s): Dardenne, M.A.

Committee: José Caruso Moresco Danni - IG/UnB
 Henry Clement Melvill Whiteside - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: BA 1/1,000,000 sheet: Sd24 Centroid of the area: ' - 'W

Abstract

In the initial part of this work, a critical appreciation is established between geologic studies carried out in Chapada Diamantina and those considered important of the evolution of geologic knowledge in the above mentioned region.

The Chapada Diamantina Group, of Proterozoic age, comprises in the study area, a thick sequence of early metamorphosed sediments, where metasiltstones, metargillites, metaconglomerates, quartzites and oolitic chert are found. Associated volcanic rocks, predominantly acid, are also found. The Bambuí Group is essentially composed of a carbonate sequence overlying a basal paraconglomerate (Bebedouro Formation).

Sedimentologic analysis revealed quartzites and metaconglomerates of the Lavras Formation being deposited by braided streams. The Morro do Chapéu and Caboclo Formations comprise a typical deltaic sequence.

The commercial diamond deposits are found in Tertiary and Quaternary alluvial and disperse in the matrix of the Lavras conglomerates. The primary source of such minerals is thought to be located in the Northeastern part of the study area, possibly in the Jacobina range or in the Southern extension.

Nascimento, F.S. 1977. Remote sensing applied to geological mapping, geomorphologic compartmentation and identification of Zn and Pb mineralized zone in Vazante region, MG state. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1380 1977 Date of presentation: 1/7/1977

Flávio Soares do Nascimento Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Nascimento, M.A.L.S. 1977. Remote sensing applied to geological mapping, geomorphologic compartmentation and identification of Zn and Pb mineralized zone in Vazante region, MG state. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1379 1977 Date of presentation: 1/7/1977

Maria Amélia Leite Soares do Nascimento Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Nascimento, M.A.M. 1977. Sedimentologic study of the Tainheiros and Cabrito inlets. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1280 1977 Date of presentation: 15/8/1977

Maria Augusta Moraes Nascimento Advisor(s): Vilas Boas, G.S.

Committee: João José Bigarella - DG/UFPR
Louis Martin -

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

The Tainheiros and Cabrito inlets represent a restrict environment, with the following lagoon characteristics : shallow water a very weak depositional energy, and a great content of organisms.

The bottom sediments are constituted of three basic types:

Recent sediments: represented by the fine-grained material, constituted of argillaceous and quartz.

Relics sediments: composed of coarse-material, mainly constituted of quartz and avraded shell fragments.

Palimpsest sediments: represented by the mixture of the recent and the relics sediments.

The autigenics minerals are present in very bottom sediments.

The recent distribution of the sediments is practically conditioned by the vertical movements of the water and by the action of the wavelets. They originate, in the major part, from the weathering and erosion of the lutaceous rocks of the group Ilhas.

The results of the analysis of the both sediments, from the surface and from the subsurface permit to characterize two phases of sedimentation associated with the fluctuations of the sea level: an initial transgressive phase, and a final regressive phase.

The radio-carbon dating made in a shelly level of a drill core allowed to define a maximum age of $4,995 \pm 80$ years B.P., which corresponds to the Flandrian transgression of the late quaternary.

Pereira, J.F.P. 1977. Cranial osteology and odontology of *Chrysocyon brachyurus* (Illiger, 1815). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 736

1977

Date of presentation:

João Francisco Peixoto Pereira

Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This dissertation deals with the study of the cranial osteology and osteometry of *Chrysocyon brachyurus* and a detailed analysis of its teeth. It is also a contribution to the nomenclature of osseous anatomy and of odontology, allowing to make comparisons with other recent and extinct representatives of the Canidae family.

Pinto, N.M.A.C.C. 1977. Isotopic determination of carbon and oxygen in metasedimentary rocks of the Rio Pardo group - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1575

1977

Date of presentation: 28/2/1977

Nice M. A. C. C. Pinto

Advisor(s): Torquato, J.R.F.

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SD24

Centroid of the area: ' - 'W

Abstract

Determinations of the carbon and oxygen isotopic compositions were made on approximately 100 samples of Late Precambrian metasedimentary rocks of the Rio Pardo Group from Southern Bahia. The results obtained show that carbon varies from $\delta^{13}C = -5.73$ ‰ to $\delta^{13}C = +9.00$ ‰, and oxygen from $\delta^{18}O = -1.87$ ‰ to $\delta^{18}O = -19.67$ ‰ relative to PDB. The interpretations lead to some conclusions which confirm the validity of the isotopic technique as auxiliary instrument in the study of geological problems. These include: 1) the evidence of a marine transgression during the Camacã sedimentation; 2) the probability that the dolomitic metalimestones of the Agua Preta formation belong to the Serra do Paraíso formation; 3) the assignment of the dolomitic metalimestones, which occur in Itiroró and which had been previously grouped with the crystalline basement rocks, to the Serra do Paraíso formation; 4) the removal of the marble from Serra do Paraíso formation and re-assignment to the basement rocks, and finally 5) the sedimentary evolution of the Rio Pardo Group from a typical fresh-water to a marine environment.

Saad, A.R. 1977. Stratigraphy of the Itararé subgroup in the center and southern of São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2114

1977

Date of presentation:

Antonio Roberto Saad

Advisor(s): Rocha-Campos, A.C.

Committee:

Subject of thesis: Stratigraphy

State: SP 1/1,000,000 sheet: SF23

Centroid of the area: ' - 'W

Abstract

Sakai, T. 1977. Distribution of Cs^{137} in soils of the Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1576

1977

Date of presentation: 28/2/1977

Tereza Sakai

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

A high-resolution gamma-ray spectrometry method was developed in order to study the distribution of Cs137 in topsoils of State of Bahia (Brazil). The results has shown concentrations varying between 0,6 and 6,0 nCi/m². Correlation of the Cs137 concentration with environmental and physico-chemical parameters has shown a tendency for greatest accumulation in soils with regions of greatest precipitation rates: 2.0 nCi/m², on the average, for regions with 700 mm to 1,000 mm/year and 2,8 nCi/m², on the average, in regions with 1,700 mm to 2,000 mm/year. On the other hand, an anti-correlation between this radionuclide and both calcium and clay content, for soils of similar type and under similar climatic conditions in seen.

Santos,A.R. 1977. Remote Sensing applied to the geological mapping of the Rio São Francisco sheet. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1378

1977

Date of presentation: 30/6/1977

Athos Ribeiro dos Santos

Advisor(s): Amaral,G.

Committee:

Subject of thesis: Remote Sensing

State: BA 1/1,000,000 sheet:

SC23

Centroid of the area: ' - 'W

PI

MA

TO

Abstract

Santos,M.A.V. 1977. Hydrogeologic Study of the Apodí Alluvial Plain (State of Rio Grande do Norte): Economic Yield of Irrigation Wells. MSc Thesis, Departament of Geology, University Federal of Pernambuco, pp.

Alluvial plain, Tubular wells, Irrigation, Profitability

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 540

1977

Date of presentation: 5/9/1977

Mário Amilde Valença dos Santos

Advisor(s): Brito Neves,B.B.

Committee:

Subject of thesis: Hydrogeology

State: RN 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Covering na area of 51km² a detailed hydrogeological study of the alluvial plain of the Apodí river, middle-west of Rio Grande do Norte State, was carried out. This work started during the second semester of 1973, and was financed by the conventions between SUDENE and UFPE.

Based on well sections, interpretation of electrical resistivity profiles, tests of aquifer on wells and pits, inventory of water station and chemical analyses, it was concluded that the alluvium of the Apodi river, 32m thick in the center of the plain, is the main regional aquifer. It is made up of two coarse sand and gravel layers. The bottom layer is widespread in the alluvial plain area, whereas the top layer behave discontinuously. The former accumulates, under pressure, good quality water for irrigation. It has a permeability around 8x10⁻⁵ m²/s, affective porosity of about 20 percent and na average storage coefficient of 6.1 x 10⁻⁴.

The alluvial reservoir has an available water resource over 18 x 10⁶ m³, from which only 5,6 million cubic meters could be systematical used due to hydrogeological limitation. Two sets of well rows with uniform discharge rates of 18 and 42 m³/h are considered satisfactory to exploit this amount of water for irrigation at Cr\$ 0.32/m³ average price. For a semi-permanent culture of intermediate rentability an area of 354 ha could be benefitted.

A preliminary and conservative analysis suggests that such a project presents, from the economic point of view, affordable payment, benefit/cost relationship of 1.28 and an internal rate of return of 26%. Such an enterprise could proporcionate important direct and social benefits once the valley be prevented against periodical floods through the building of a restrain dam upstream.

Santos,T.M.S. 1977. Cranial osteology of *Bradypus linnaeus*, 1758 and the revalidation of the genus *Scaepus peters*, 1865 (Edentata - Bradypodidae). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 735

1977

Date of presentation:

Tânia Maria Silveira Santos

Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The present dissertation deals with the osteological description of the skull of *Bradypus Linnaeus 1758*, a living tridactyl sloth. Four specimens from the Museu Nacional, Rio de Janeiro, were examined and compared to one another and it was noticed that they could be divided into two distinct groups, probably corresponding to two different genera. A comparison, in general terms, was made among these genera and other living and fossil Edentata of the Megatheria infra-order.

Santos, U.P. 1977. Remote Sensing applied to the geological mapping of the Rio São Francisco sheet. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1377

1977

Date of presentation: 30/6/1977

Ubiratan Porto dos Santos

Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State:

BA

1/1,000,000 sheet:

SC23

Centroid of the area:

' -

'W

PI

MA

TO

Abstract
Sena, F.O. 1977. Geophysical identification of conductive bodies in the Santa Luz region, Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1573

1977

Date of presentation: 6/12/1977

Florisvaldo O. Sena

Advisor(s):

Committee:

Subject of thesis: Geophysics

State:

BA

1/1,000,000 sheet:

SC24

Centroid of the area:

' -

'W

Abstract

One of the most efficient methodology of prospecting for massive sulphide deposits consists of airborne geophysical surveys and ground follow-up. This sequence has led to the discovery of several massive sulphide ore bodies in the greenstone belts of the Canadian Archean Shield. In Brazil, where tropical weathering prevails, many geophysicists expected less favorable conditions, similar to Australia, where airborne electromagnetic methods have not been particularly successful because of considerable overburden conductivity. The first large scale airborne EM survey in Brazil, which was executed in 1976 near Santa Luz, Bahia, showed that the surface conductivity is not very high, but lithology dependent. The area of the AEM survey was previously identified as an greenstone belt with a potential of massive sulphide deposits. In the first stage, the INPUT results were used to improve the existing geological map. By combination of magnetic and conductivity maps, identification of several lithological units was achieved in the Salgadalia area. The second aim of the thesis was development of an efficient follow-up methodology. The purpose of the follow-up was not a simple recognition of a conductive zone on the ground, but an identification of massive sulphide bodies within a conductive environment. After initial tests it has become clear that low-power EM systems are not very suitable for this kind of surveys. The multifrequency horizontal loop EM system (Apex Maxmin) has become the standard equipment in the follow-up, because it permitted a reliable and efficient identification of conductors, and it provided sufficiently accurate data for the location of drill holes. Interpretational difficulties were experienced only in the case of wide conductive zones and in this case the conductance and the depth of the body could not be determined accurately. Unfortunately, interpretational diagrams for the wide model do not exist. The results of induced polarization method indicate that conductors cause anomalies of high charge ability too. Magnetic surveys have been valuable in the definition of magnetic lithology on scale 1:5000. Gravity results indicated existence of at least one dense body was confirmed by drilling to an ore zone with 15 percent pyrite. No gravity anomalies were associated with other conductive zones which were found to contain mostly graphite. Soil geochemistry was routinely used on the profiles and this kind of anomaly increases considerably the probability of encountering sulphide mineralization in the drill hole. The depth and dip estimations made on the basis of ground EM surveys have been confirmed by drilling of targets. The follow-up surveys discussed in this thesis were executed at 62 targets but only 6 examples are presented to demonstrate the above mentioned points.

Tomazelli, L.J. 1977. Heavy minerals of the continental shelf of Rio Grande do Sul. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 436

1977

Date of presentation:

Luiz José Tomazelli

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This dissertation deals with the study of heavy minerals (granulometric fraction 2-3 Ø) of 81 surface sediment samples collected at the Rio Grande do Sul Continental Shelf, Brazil.

Heavy minerals constitute a small part of the studied sand fraction (the mean percentage is about 1%). The principal species are: magnetite, ilmenite, hornblende, augite, hypersthene, tourmaline, epidote, staurolite, kyanite, garnet, zircon, rutile and sillimanite. These minerals define four associations that characterize four heavy mineral provinces: (1) Inner Rio-grandense Province; (2) Patos Province; (3) Outer Rio-grandense Province and (4) Platina Province. In regard to geographic distribution, age and provenance, each of these provinces form a unit.

Two directions of sediment input were identified: (1) offshore direction, which supplies the Inner Rio-grandense, Outer Rio-grandense and Patos Province, and (2) south-north direction, which supplies the Platina Province.

Torre, E.G. 1977. Alluvionar prospection in the Serra Negra ultramafic-alkaline complex, Patrocínio - Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 981

1977

Date of presentation:

Espedita Gonçalves de Torre

Advisor(s): Cassedanne, J.P.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The research aimed at the evaluation of the alluvial prospecting method in a region of carbonatic intrusions. The alkaline-ultramafic Complex of Serra Negra of Tertiary/Cretaceous Age is intrusive in rocks of the Bambui Group. These rocks are in overthrusting contact with the rocks of the Canastra Group. Both sequences belong to the Upper Precambrian. The work was divided in field and lab stages. The field work consisted of a systematic sampling comprising almost all the N rim of the dome where 138 panned concentrates were collected. The lab work consisted of the splitting of the concentrates and identification of their various constituents. As from the obtained data, surfaces of equal abundance were delimited and comments about the provenience, distribution and association of the minerals were done. The influence of the geomorphology on the behaviour and partition of some of these minerals was also evaluated. The results were quite interesting. It was possible to detect almost all the occurrences previously known, permitting also the discovery of other occurrences still not determined, like crandallite, gold, chalcopryrite, malachite, xenotime, monozite, corundum, siderite, andaluzite and kyanite.

Veneziani, P. 1977. Application of remote sensing in the study of geothermal anomaly in the Caldas Novas municipality/ Goiás state. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1372

1977

Date of presentation: 18/5/1977

Paulo Veneziani

Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: GO

1/1,000,000 sheet:

SE22

Centroid of the area:

' -

'W

Abstract**Vieira, M.I. 1977. Cranial osteology of *Amphisbaena darwini* trachura Cope, 1885. (Lacertilia, Amphisbaenidae). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp**

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 732

1977

Date of presentation:

Marisa Ibarra Vieira

Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The present research deals with the detailed description of the bones that form the skull and jaw of *Amphisbaena darwini trachura* COPE, 1885, found in Brazil (from São Paulo to Rio Grande do Sul), north of Uruguay and extreme northeast of Argentina.

The study was based upon the examination of five specimens, all of them from Rio Grande do Sul, deposited in the Collection of the Museu de Ciências Naturais of the Fundação Zoobotânica do Rio Grande do Sul.

Alvarenga, C.J.S. 1978. Geology and geochemical prospecting of the Bambuí and Paranoá groups in the "Serra de São Domingos" region- Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M009

DataBase Ref.: 69 1978 Date of presentation: 30/11/1978

Carlos José Souza de Alvarenga Advisor(s): Dardenne, M.A.

Committee: Reinhardt Adolfo Fuck - IG/UnB
 Robert Edmund Delavault - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SD23 Centroid of the area: 15 16 's - 46 23 'W

Abstract

This work had been the preliminary proposition of a study of the geology of Paranoá and Bambuí Precambrian groups in the region of the São Domingos ranger whose objective had been the evaluation of the economic possibilities of copper lead and zinc. This area is located in the northwestern Minas Gerais between the parallels of 15° 02'48" and 15° 28'30" and meridians 46° 37'24" and 46° 10'50" with an area of 1500 km² approximately.

The rocks of Paranoá Group are characterized by a sequence of more than 1000 meters of quartzites and siltstones of cycles with varying grain sizes increasing from bottom to top. In the lower formations and in the bottom of the upper formations occur intercalations for detritic deposits and lenses of stromatolitic dolomites.

The Bambuí Group, with nearly 2500 meters of thickness is represented stratigraphically by all those formations of this group. The basal Sete Lagoas Formation is composed of limestones and dolomites. Overlying this basal formation one comes across siltstones and coarse siltstone of Serra de Santa Helena Formation; calcitic siltstones and limestones of Lagoa do Jacaré Formations and finally siltstones and arkoses of Três Marias Formation.

In the detritic deposits of Paranoá Group quartz as the mineral predominants while in the arkoses of Três Marias Formation, the chiefs minerals are plagioclase of the type oligoclase and andesine, quartz and clay minerals.

The carbonate members are recrystallized, yet have their original features partially preserved.

Tectonically the area was affected by reverse faults, whose slips attains 4000 meters approximately. They correspond to older faults of the basement already active during the sedimentation and. reactivated during the Brazilian Cycle. Simultaneous to the vertical displacement, the reverse fault present a horizontal movement resulting in intense local microfolding of the sedimentary formations. To the W and E of Serra de São Domingos, where the sediments are sub-vertical, the formations of Bambuí Group change to horizontal position.

The geochemical prospecting mainly done in the Carbonate formations, revealed extensive anomalies of copper in dolomites of Paranoá Group, and high to medium amount of chumbo and zinc in the dolomites of Unidade 3B of Sete Lagoas formation of Bambuí Group.

The study- of this area show that the geological environments of bioherms of Paranoá groups where occur possibilities in copper deposits. This Sedimentary environment is very similar to that of copper mining in Zambia.

Andrade, G.F. 1978. The tin, beryl and copper mineralizations in the Serra Branca granite, Cavalcante, Goiás state- Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M006

DataBase Ref.: 66 1978 Date of presentation: 11/8/1978

Geraldo Ferreira de Andrade Advisor(s): Danni, J.C.M.

Committee: Reinhardt Adolfo Fuck - IG/UnB
 Onildo João Marini - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

A geological, petrographical and mineralogical study of the Serra Branca granitic dome and its relationship to the country rocks in here presented; emphasis is given to associated mineralizations.

The area lies in Central Goiás in the Cavalcanti District and occupies a surface of 160 km²

The country rocks right at the contact with the granite massif are represented by the. Middle Precambrian Serra da Mesa Group micaschists which in turn are overlaid by Upper Precambrian Araí Group metasediments. The Araí Group is here formed conglomerates, quartzites and sericite-schists of the e Arraías Formation and calc-schists, graphite-phyllites, quartzites and muscoviteschist of the Traíras Formation.

The granite massif shows widespread greisenization processes which have yielded important Sn, Be, Cu, Li and fluorite mineralized greisens and have further affected the country rocks. Several stages of greisenization are recognized and related to the above mineralization.

Bello, R.M.S. 1978. Conditions of metamorphism in Buritirama, Pará and Serra do Navio, Amapá state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1941 1978 Date of presentation: 8/8/1978

Rosa Maria da Silveira Bello Advisor(s): Valarelli, J.V.

Committee:

Subject of thesis: Petrology

State: AP 1/1,000,000 sheet: NA22 Centroid of the area: ' - 'W

Abstract

Bezerra, M.A. 1978. Production Capacity Evaluation of the Water Supply System Wells of Natal (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

[Water supply, Aquifer analyses](#)

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 543 1978 Date of presentation: 6/12/1978

Manassés Alves Bezerra Advisor(s): Brito Neves, B.B.

Committee:

Subject of thesis: Hydrogeology

State: RN 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

Abstract

The groundwater well system constructed for the water supply of Natal city, was conceived from the result of the hydrogeological study accomplished in 1970 by CONTEGE. Regardless the accuracy of the study, the wells present nowadays a lesser production than that predicted.

This thesis describes the investigation carried out to define the factors with influence the efficiency of the wells and evaluation the real output capacity of each subsistent unit. The evaluation made dispensed a detailed analysis of the static parameters from the aquifer system, that is, the geological factors defined by lithostratigraphy, structure and tectonics, and of the dynamic factors with determine the recharge mechanism, circulation and hydrochemical behavior.

The analysis of the available data and results obtained in the investigations allowed to conclude that the low efficiency of the wells is motivated only by constructive deficiency of the wells or by unsuitable pumping systems utilized. The proposed alternatives to obtain a technical and functional optimization of the system are basically supported by the elimination of the above mentioned factors.

Brandão, M.J.S. 1978. Revision of the Pirabas formation (Mioceno inferior) oysters, N-NE of Brasil; With a historic and phylogenetic survey of the Ostreacea super-family (Mollusca - Bivalvia). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1458 1978 Date of presentation:

Maria José Smilgat Leal Brandão Advisor(s): Ferreira, C.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: PA 1/1,000,000 sheet: SA23 Centroid of the area: ' - 'W

Abstract

In the present essay we try to make a revision of the Ostreacea superfamily in the Pirabas Formation. The elaboration of this revision becomes difficult through the very peculiarities of the oysters which show different shapes in the same group being influenced of difficult solution principally because of the bad preservation of morphologic characteristics of the shell formation in question. We try to sum up various works of several authors who studied oysters giving data of their most important findings. We concluded that *Hytissa haitensis* (Sowerby, 1850) is the same as *Pycnodonta haitensis* (Sowerby, 1850) whose occurrence was registered for the first time in the Pirabas Formation by Santos & Ferreira in 1996. *Neopycnodonte zomerysis* (Ferreira & Santos, 1966) is a synonym of *Ostrea zomerysis* Ferreira & Santos, 1966 a new species described by the authors in the same formation. As to the species *Ostrea distans* White, 1887, although certain doubts came up as to its systematic position, we confirm the same classification, just because a generic mutation also would a checking of the soft parts necessary, which is possible a paleontological study. The species *Cubitostrea glucomarides* (Maury, 1925) is the same as *Ostrea glucomarides* Maury, 1925. For the first time we have observed the occurrence of facies Castelo of the genus *Saccostrea*. This statement is made with certain restriction as the material for study and comparison consists of only three specimens which are deteriorated.

Cabral, F.C.F. 1978. Use of carbon isotopes in the study of underground water of the Bambuí limestone, central region of Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1570 1978 Date of presentation: 29/6/1978

Francisco Clodorian Fernandes Cabral

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA

1/1,000,000 sheet: SC24

Centroid of the area: ' - 'W

Abstract

Groundwater of 34 wells and of a spring of the Bambuí limestone aquifer, in central Bahia, Brazil, were analyzed for the ^{14}C and ^{13}C content. One sample of soil CO_2 and four of soil organic matter analyzed for ^{13}C . From these data were calculated the ^{14}C ages of these waters. A major difficulty in the use of radiocarbon in groundwater hydrology is the estimation of the initial ^{14}C concentration. In many cases, this can be simply determined by the fraction of carbon derived from soil gas, relative to the total carbon dissolved, by the use of $\delta^{13}\text{C}$ of the soil organic matter, limestone and dissolved carbon in water. This approach does not seem to be completely valid in arid or semi-arid regions, specially where the pH of the soil is relatively high. In this case, the isotopic composition of the soil water can be determined if the pCO_2 and pH of the soil can be estimated and if the isotopic composition of the soil CO_2 can be known. The final isotopic composition of the groundwater is a combination of the isotopic composition of the soil water and any limestone thereafter dissolved. The ^{14}C ages of the water samples analyzed ranged from modern to about 13,000 years. The recharge areas of the aquifer are clearly indicated, as well as the probable underground flow directions. The interpretation of the radiocarbon data is in accord with the hydrologic data.

Caetano, M.R. 1978. Application of quantitative methods to the comparative study of lithologic sections of the Upper Carboniferous of the Paraná sedimentary basin (Tubarão and Passa Dois groups). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp.

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1967

1978

Date of presentation:

Maria Rita Caetano

Advisor(s): Landim, P.M.B.

Committee:

Subject of thesis: Petrology

State:

1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Carvalho, M.F. 1978. Sediments of the Nísia Floresta Lagoon (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Nísia Floresta Lagoon, Bottom sediments, Sedimentological analysis, Deposition mechanisms

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 568

1978

Date of presentation: 5/9/1978

Marilda Fernandes de Carvalho

Advisor(s): Mabeoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: RN

1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This study presents data from bottom and subsurface samples collected in the Nísia Floresta Lagoon, State of Rio Grande do Norte. Among the analyzed aspects the following can be said:

- the deposits are predominantly microclastic;
- granulometric data (statistical parameters, sphericity, roundness, surface texture) and chemistry provide criteria for a better characterization of the sedimentary environment;
- the deposition mechanisms are affected by sea and continental waters;
- the Nísia Floresta Lagoon is a semi-confined water body with tendency to up-filling.

Carvalho, M.G.P. 1978. Analysis of the foraminifera from drill cores of the southern continental shelf of Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1432

1978

Date of presentation:

Maria da Glória Pires de Carvalho

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: RS 1/1,000,000 sheet: SI22 Centroid of the area: ' - 'W

Abstract

Sixteen submarine cores recovered off the region between Porto do Rio Grande and Arroio Chui (32°35'S - 34°21'S and 50°35'W - 52°22'N) were studied in the present work under the point of view of their faunal assemblages. The cores varied in length from 0,30m to 1,4m. The statistical study of the benthonic organisms that were present at the top of the submarine core revealed a greater faunal similarity with species known to be present in the Argentinian Continental Margin than with those found in the Eastern Brazilian Margin. Iron stained specimens of benthonic organisms were recovered at the base of one 1,35m long core (T-278) that was taken in a 60m depth. It was supposed that the iron staining processes could have been accomplished a subaerial exposure of the material. Studies of faunal assemblages of planctonic organisms along the entire length of the submarine cores shown the following: a) cores recovered in the inner continental shelf (depth \leq 70m) generally shown a complete absence of planctonic tests. One core (T-281 recovered at 52m, and being 1,35m long) shown only one planctonic specimen at its base. b) cores taken off in the outer continental shelf (depth \geq 70m) general shown sparse planctonic tests along their length. Planctonic organisms were not found at their base. The lack of planctonic remains at the base of these core is tentatively interpreted as associated with a sea-level stand deeper than the present that probably corresponded to the last glacial period (Flandrian Regression). c) the submarine cores T-290 (1.10m) e T-289 (1.35m) recovered at depth of 136m and 143m, respectively, shown an increase in planctonic specimens from the base to the top. This increase is tentatively interpreted as due to gradual easing of terrigenous influence associated with the Flandrian Transgression. d) typical faunal assemblages of warm waters and warm-temperate waters were found at the base of the core T-262 (1.20) recovered at a submarine depth of 1520m and are interpreted as associated directly with the dislocation of the waters Brazilian current towards east during a deeper sea-level stand.

Carvalho, S.M.G.C. 1978. Sediments of the Guaraíra Lagoon (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Guaraíra Lagoon, Bottom sediments, Deposition mode, Salinity, Sahu and Passega diagrams

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 565 1978 Date of presentation: 19/4/1978

Sheila Maria Garcia Cabral de Carvalho

Advisor(s): Mabeoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

Based on sedimentological studies, the bottom surface sedimentary facies of the Guaraíra Lagoon (Rio Grande do Norte) have been demarcated as well as the current intensity and directions. The distribution and movement of the sediments are controlled basically by the interference of two distinct water circulation patterns, corresponding to the sea and river currents, with low energy. Grain sizes of the sand range from very fine to medium, being the sand-silt fraction the most expressive in the influence zone of river processes. The sorting presents local variations according to the directions of the currents in the area. Associations of certain foraminifer species enabled the inference of zones with higher or lower salinity. The low density in organism and simultaneous influence of marine and fluvial flows condition the low CaCO₃ content. Application of the methods of Sahu and Passega point to chiefly marine characteristics, with some continental river contribution, limited to the south of the lagoon. The sediment is transported by rolling and saltation.

Castro, C. 1978. Sediments of the Açú Formation (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Açú Formation, Facies study, Sedimentological analysis, Petrography, Depositional environment

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 566 1978 Date of presentation: 4/5/1978

Cláudio de Castro

Advisor(s): Mabeoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

In this thesis it is presented the results of a sedimentological study of the Açú Formation, a clastic sedimentary unit occurring at the base of the Apodí group in the Potiguar basin (Rio Grande do Norte State), with data obtained in field and laboratory.

The sediments of the formation have been studied chiefly by grain-size analysis, X-ray diffraction for clay mineral identification, and microscopic determination of petrographic microfacies.

The result of these studies lead to the conclusion that the Açú Formation is of continental origin, deposited under essentially semi-arid climatic circumstances.

Three different lithofacies types could be distinguished: a lower one represented by piedmont debris; a middle and thicker one

with alluvial plain deposits; and an upper facies represented by calciferous sandstones, marls and calcarenites with littoral characteristics.

Cavalcante, A.T. 1978. Groundwater Resources of the Maceió Coastal Area (State of Alagoas). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Groundwater resources, Alagoas coast, aquifers, Water disponibility

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 542

1978

Date of presentation: 22/9/1978

Abel Tenório Cavalcante

Advisor(s): Manoel Filho, J.

Committee:

Subject of thesis: Hydrogeology

State: AL

1/1,000,000 sheet:

SC25

Centroid of the area:

' -

'W

Abstract

In this thesis the groundwater resources of a 1600 km² area of the Alagoas coast, with center in Maceió, and comprised between Barra de São Miguel in the south and Barra de Santo Antônio in the north, has been dealt with. The chief data came from former papers and an inventory of 230 wells from the Maceió area. The climate and water balance have been presented, indicating medium yearly rainfall of 1417mm, true evapotranspiration of 1066mm, infiltrations of 313mm and surface runoff of 35mm. Emphasis was laid upon the hydrogeological study of the Barreiras /Marituba aquifer system, and secondly, upon the aquifers found in the Coqueiro Seco and Muribeca Formations. Lithology in these systems is rather variable ranging between coarse, medium and fine clastics and shales and limestones. With respect to the quality of the groundwaters, no restriction exists for human use in any of the described system. Quantitatively, for the Barreiras/Marituba system, total reserves have been estimated in 3.3 x 10⁹ m³, and exploitable resources of about 300 x 10⁶ m³, in an area of 1200 km². A study about population increase in Maceió and principal municipalities of the area, permitted an estimate of water demand for the year 2000. The confrontation of this demand with the available quantity, revealed these latter to surpass widely the need. Besides abundant groundwater reserves, there exist also abundant surface water resources, guaranteed by a basal flow of about 20 l/s/km², restored from the regional phreatic system.

Correa, I.C.S. 1978. Morphology and sedimentology of the continental shelf between São Paulo and Santa Catarina. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 440

1978

Date of presentation:

Iran Carlos Stalliviere Correa

Advisor(s): Martins, E.S.

Committee:

Subject of thesis: Marine Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The present dissertation investigated, by means of data obtained in several research projects, the Continental Shelf between São Paulo and Santa Catarina States, in order to study its morphologic and sedimentary features.

Reflection seismic records allowed to observe the presence of four units and two sub-units in the stratigraphic column of the Santos Basin. Their inner structures reveal the existence of foreset layers and slumps; they also show a wedging towards the slope and thus may characterize an ancient deltaic environment.

Bathymetric profiles, perpendicularly traced to the coast, evidenced the presence of four topographic levels, respectively at 20 to 25m, 32 to 45m, 50m and 60 to 75m. They are probably related to stabilization periods of the sea level during the Flandrian transgression.

As to the sedimentation, three facies are predominant: sandy, sandy-siltic-clayey and muddy facies.

The sandy facies predominates in the inner, and partially in the outer shelf; the sandy-siltic-clayey facies is distributed in sporadic areas of the inner and mid-shelf; the clayey facies, texturally made up of clayey silts, occurs over the mid-shelf.

Granulometric analyses, used to an attempt of environmental characterization, evidenced that the Folk & Ward (1957) and Passega & Byrhanjee (1969) methods are effectively useful for describing and interpreting sedimentary environments where the physical parameters are known.

Fernandes, A.C.S. 1978. Scleractinia from the Pirabas formation (lower Miocene) and its palaeoecologic implications (Coelenterata - Anthozoa). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 24.545/78

DataBase Ref.: 1457

1978

Date of presentation: 12/9/1978

Antonio Carlos Sequeira Fernandes

Advisor(s): Ferreira, C.S.

Committee:

Friedrich Wilhelm Sommer - DNPM

Ignacio Aureliano Machado Brito - DG/UFRJ

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Limestones of the Pirabas Formation contain external and internal moulds of hermatypic and ahermatypic corals whose ecological significance may be relevant in a tentative reconstitution of the environments responsible for the facies of the formation. This paper contains a systematic arrangement and a description of the already known forms besides others detected for the first time, in a first tentative reconstitution of the coral fauna of the early Pirabas Sea. The corals described and illustrated in the present paper are: *Stylophora* cf. *S. silicensis* Weisbord, 1973, *Discotrochus* sp, *Cladocora* (?) sp, *Flabellum waillesi* Conrad, 1855, *Balanophyllia* sp e *Dendrophyllia* sp. Corals *Incertae sedis* have their systematic position here discussed.

Ferreira, R.L. 1978. Paleobotanic contribution to the Brazilian Gondwana in the state of São Paulo, Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1588

1978

Date of presentation:

Rosalba Lima Ferreira

Advisor(s): Sommer, F.W.

Committee:

Subject of thesis: Palaeontology

State: SP

1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The present paper studies specifically megaspore constellations eventually found in shale and coal samples from the following localities of the State of São Paulo: Buri (Ribeirão da Enxovia), Cerquilho, Mato Seco e Monte Mor. The analysis of the megaspores constellations suggest Permian age for the localities of Buri (Ribeirão da Enxovia), and Mato Seco. Cerquilho did not render any megaspores; still, the plant remains found Permian age. The Monte Mor constellations point at Visean age, a working hypothesis which deserves, by all means, an investigation of the locality and another collection of material for analysis.

Figueiredo, A.N. 1978. Geology and mineralizations of the northern portion of the Barro Alto complex, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M004

DataBase Ref.: 64

1978

Date of presentation: 31/7/1978

Almir Neves de Figueiredo

Advisor(s): Hirson, J.R.

Committee: José Caruso Moresco Danni - IG/UnB

Bhaskara Rao Adusumilli - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: GO

1/1,000,000 sheet:

SD22

Centroid of the area: 14 48 's - 48 53 'W

Abstract

The mapped area is limited by 14°37'34" and 15°00'00" south latitude and meridians 48°42'28" and 49°05'49" west longitude, and comprises the Extreme north of Barro Alto Igneous-metamorphic Complex.

It is tectonically enclosed in eugeosynclinal metasediments of Medium Precambrian and chemical, textural, mineralogical and metamorphic aspects of its component Lower Precambrian rocks analyzed and discussed.

The most characteristic, petrological Zones, taken from East to West in Barro Alto Complex are here defines as: Easter Metagabbroic Zone; Ultrabasic Zone; Anorthositic Zone and Western Metagabbroic Zone.

Through the mineralogical and textual characteristics of the above mentioned rocks, it is assumed that tectonic evolution of Barro Alto Complex happened within three cycles; the first one of granulitic facies, represented by pyroxene gneisses and ortho amphibolites enclosed in the Basal Complex; the second one, with retrograde characteristic, represented by the greenschist and high amphibolite facies, and also observed in eugeosynclinal metasediments; the third one, with local characteristics and greenschist facie-g, always observed in fault zones.

Possible relationships in time and space between the above mentioned granulite and high amphibolite facies of metamorphism are shown taking also into consideration polymetamorphic evidences.

The plutonic nature of Barro Alto Complex metaanorthosites, anorthositic metaqabbros and marginal amphibolites, helped by the K/Ar geochronological method, revealed age of 4.000 m.y., for the amphibolites, suggesting the possibility of such rocks being part of the primitive earth's crust, in Brazilian territory.

The origin of the secondary nickel deposits of the Ultrabasic Zone is discussed, considering their alteration under tropical condition of serpentine mefaperidotites. The general characteristics of the chrysotile serpentine in the Western Metagabbroic Zone are mentioned.

The Barro Alto Complex is difficult to fit into either alpine-type or stratiform-type basic-ultrabasic Complexes, considering its evolutionary history and its unique petrological, petrochemical and structural characteristics, which finds no par in the world geological literature.

Garrido, I.A.A. 1978. Geophysical studies of the Sítio do Chicó area - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1568

1978

Date of presentation: 28/12/1978

Ives Antônio de A. Garrido

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA

1/1,000,000 sheet:

SC24

Centroid of the area:

' -

'W

Abstract

This thesis shows the results of geophysical survey carried out in Sítio do Chicó, Curaça District, Northern bahia, Brazil. In 1970, SUDENE with the cooperation of the Federal Republic of Germany carried out geological and geochemical surveys in this area. In the present work we looked for determinative of the most probable mineralized zones in Cu/Ni in the area. The Geophysical methods Electromagnetics (IREM), Magnetic, Electrical Induced Polarization and Resistivity were employed. The main body in this area was outlined by magnetometry and the Electromagnetic (IREM) data indicated that this body is rather homogeneous as far as conductivity is concerned. In addition to this a portion of the main basic body also shows Induced Polarization anomalies, suggesting the presence of mineralized zones. These anomalies have small lateral extension and probably are due to small mineralized bodies. Such anomalous zones do not match exactly those detected by the SUDENE geochemical survey. It was recommended three boreholes be drilled to check the aforementioned anomalies.

Gomes, F.V.M. 1978. Application of uranium isotopes as tracers of underground water of the Bambuí - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1571

1978

Date of presentation: 14/3/1978

Francisco Vilmar Moreira Gomes

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Analyses of ²³⁴U/²³⁸U activity ratios and the uranium concentration in 42 underground water samples have provided better information about the recharge area and the flow direction in the Bambuí limestone, Bahia (Brazil). In the main recharge area, the activity ratios were found to range from 3 to 6 and the uranium concentration averaged 1 mg/l. The activity ratio increases northward with the highest values close to 10. The ²³⁴U excess from a basic of ratio of activity (fundamental leaching ratio) also increases northward in agreement with the age of the water, an observation confirmed by C-14. This ²³⁴U excess is attributed to the alpha-recoil process. The system was calibrated and the age of the waters in the calcareous region was determined.

Gueiros, E.A.C. 1978. Geology of a submarine palaeo canyon in the Espírito Santo basin, Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1587

1978

Date of presentation:

Evaldo de Andrade Coelho Gueiros

Advisor(s): Fernandes, C.E.M.

Committee:

Subject of thesis: Geophysics

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The REGÊNCIA CANYON is a submarine feature, of Late Cretaceous age, located in the southern portion of the Rio Doce mouth, in Espírito Santo Basin. According to seismic reflection data and four dry holes drilled down to the crystalline basement, it was possible to set up the probable geologic history for the canyon. Sand turbidites were mapped and these show very good possibilities for hydrocarbon prospecting.

Guimarães, E.M. 1978. The manganese deposits of São João d'Aliança, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M007

DataBase Ref.: 67

1978

Date of presentation: 30/10/1978

Edi Mendes Guimarães

Advisor(s): Dardenne, M.A.

Committee:

Othon Henry Leonardos

- IG/UnB

José Caruso Moresco Danni

- IG/UnB

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The detailed study of Pedra Preta and Buritizinho's ores, combined with the observation of another deposits near São João d'Aliaça, showed these deposits resulted from weathering of the metasedimentary rocks of the Paranoá Group. Phasis of concentration and remobilization due to successive cycles of erosion and peneplattation could accumulate little amount of manganese scattered through the whole sedimentary sequence. Thus, the now existing deposits are related to sub-horizontal surfaces (possibly in restricted areas), which were formed during the ersive cycle Velhas.

Guimarães, M.M.M. 1978. Quaternary evolution of the Salvador Atlantic coast. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1283 1978 Date of presentation: 14/11/1978

Maria Margarida Magalhães Guimarães

Advisor(s): Martin, L.

Committee: Geraldo da Silva Vilas Boas - IG/UFBA
Kenitiro Suguio - IGc/USP

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

A study of grain shape has revealed the existence of various types of sands amongst the sand deposits northeast of Salvador. We show in this paper the formation of the various deposits is directly related to the major events that marked the Quaternary. An old line of coastal cliffs of the Barreiras Formation is the only evidence of an earlier transgression. At the of these cliffs, continental sands are present, the mode of occurrence of which indicate a semi-arid climate. These sands were deposited in the period between the one-but-last transgression and the previous one. Radiometric dating (carbon) and detailed mapping around Salvador-Ba Furnish evidence that sandy terraces, occurring above present sea level, were formed during the two last major transgressive events. Between the last and the one-but-last transgression, dunes were formed at the surface of the continental and marine sands, while fluvial sands were deposited. The latter indicate a climate slightly drier than the present one.

Iudice, J.H. 1978. Recent dinoflagelata and fossils from the continental south-brazilian shelf, correlation between teca and cists, and possible use in the petroleum prospection. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1433 1978 Date of presentation:

José Humberto Iudice

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

In the present work, we summarize the general aspects of phytoplankton and introduce the recent advances in dinoflagellate studies. The morphologic, physiologic and biochemistry aspects of the aforesaid group are reviewed as well as their involvement in systematics. We comment the taxonomic difficulties found in classification of cysts and thecae. We also present a new methodology for the study of microplanktonic material and discuss an attmpt on dinoflagellates cultures. We give record on dinoflagellates found in various geographical sites in Brazilian coast (Cabo Frio and Baía de Sepetiba) jointly with a register of cysts in twenty-six bottom samples, originated from the continental shelf of Rio de Janeiro. We have ascertained the qualitative distribution of meroplanktonic organisms in the studied areas and correlated when possible, with resting spores in bottom sediments. For the first time, we find out Brazilian recent meroplankton of dinoflagellate cysts, Spiniferites, Operculodinium, Caledonidium and of Prasinophyceae algae, Pachysphaera sp. with affinity to Tasmanites genera. We debate biogeographical, taxonomics implication and the ecology of such a discovery. Preliminarily, we make an interpretation on tanatocoenose dinocysts in bottom sediments of the Rio continental shelf and show that it is composed dominantly by Operculodinium centrocarpum - Spiniferites ramosus - Hemicyclodinium zoharyi. We have also started the study on core samples coming from the São Paulo continental shelf, with intents to identification of dinocysts assembly comprised in various strata and posterior elaboration of biostratigraphic zonation with exclusive use of dinoflagellates/intentioned in an eventual application to aid in petroleum research. We expect to have the proper occasion to present part of the above referred matter.

Klepzig, M.C. 1978. Study of the Morro Pelado member taphoflorule in its type locality. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 738 1978 Date of presentation:

Miriam Cazzulo Klepzig

Advisor(s): Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State: SC 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This dissertation presents a systematic study of the taphoflora from an outcrop of the Morro Pelado Member, Rio do Rasto Formation (Upper Permian), Santa Catarina State, Brazil.

This outcrop, from White's (1908) type-section for the "Santa Catarina System", presents 1-4m "finning-up" cyclothems, that were analyzed using the Markov chain matrices. The cycles start with a diastem followed by sandstone, siltstone and claystone.

The paleoflora association shows characteristics of a Glossopteris flora, poor in Gondwana elements, with many nordic forms. It is composed of Sphenophyta, Filicophyta, Pteridophylla, Glossopteridophyta and Cordaitophyta.

Two new species have been identified: Pecopteris opposita and Dizeugotheca bortoluzzii. The latter belongs to a not yet registered genus in Brazilian taphofloras.

Some forms, such as Schizoneura gondwanensis, Feismantel have also been identified.

The studied taphoflora is closely related to the Raniganj Flora (Upper Damuda Series, India) and to the flora associated with the Lower Beaufort Series, Africa. It is correlated with the paleofloristic assemblages deposited between the end or the Kazanian and the basal part of the Tatarian.

The taphoflora of the Morro Pelado Member, concerning the floristic sequence of the Paraná Basin, is situated in a biostratigraphic interval equivalent to the Taphoflora E interval (Rösler, 1975).

Based on the paleobotanic and paleoclimatic evidences and on the sedimentologic data, a fluvial palaeoenvironment, with flood plain deposits and meandering river channels, with the presence of a cyclic climate, probably temperate, is suggested.

Leipnitz, I.I. 1978. Nodosarids of the Brazilian continental shelf: Taxonomy - bathymetric distribution. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 737

1978

Date of presentation:

Itamar Ivo Leipnitz

Advisor(s): Tinoco, I.M.

Sanguinetti, Y.T.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This dissertation deals with the taxonomic study of recent nodo-sarideans (Foraminiferida) gathered out of six oceanographic campaigns on the Brazilian Continental Shelf, conducted by "Laboratório de Ciências do Mar" of Pernambuco Federal University. 48 species were classified, including a new species and a new form: Lingulinopsis tinocoi n. sp. and Dentalina communis (d'Orbigny), f. microestriolata n.f. Bathymetric data are also presented.

Milliotti, C.A. 1978. Distribution and controls of platinum mineralization in the "Morro Feio" region, Goiás state- Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M010

DataBase Ref.: 70

1978

Date of presentation: 30/11/1978

Cláudio Augusto Milliotti

Advisor(s): Adusumilli, B.R.

Committee:

Maria do Perpetuo Socorro - IG/UnB

Othon Henry Leonardos - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SE22

Centroid of the area: ' - 'W

Abstract

There is almost no research on the occurrence of noble metals associated with Brazilian mafic and ultramafic complexes, which are specially concentrated in Goiás State. In this work, such an attempt is done in the Morro Feio massif, in the central southern part of Goiás. The distribution and controls of platinum, as a preliminary research, is attempted using the available methods.

Further detailed studies are necessary to establish the real economic potentialities.

Four geological unites of serpentinites - A1, A2, B1, and B2 - are characterized specially on mineralogical aspects; a discontinuous unity of talc and chlorite schists -C- is identified in the margins of the massif. Eluvial concentrations of chromite are partially covering the serpentinites, they are originated by the weathering and erosion of lateritic concretions. These concretions represent possible zones of birinitization of serpentinites, similar to those of Yubdo Complex, in Ethiopia.

Petrochemical calculations contribute to interpretate the original rock as a peridotitic one. They also indicate a magmatic origin to the talc and chlorite schists.

Eight anomaly zones are identified through analytical methods in the serpentine massif: four are distributed and controlled within the unity A1, near the silicified areas and also in the contact of unity B1. The other anomalies are related to the lateritic concretions and chromite veins within the serpentinites.

It is suggested that the distribution and control of the metal are correlated with the process of silicification, that may have mobilized the platinum. The presence of chalcedony and milk quartz are the evidences of the silicification process.

The behavior of Pt discussed in the Morro Feio massif, may be suggested as a basis for investigation in areas of similar characteristics and controls where new mineralizations in Cr, Pt, Ni, Talc and asbestos might be located.

Nardi, L.V.S. 1978. Geochemical study of soils, applicable to the prospection of copper mineralizations in Bagé - Caçapava do Sul region, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 471

1978

Date of presentation:

Lauro Valentim Stoll Nardi

Advisor(s): Formoso, M.L.L.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

'

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'W

Abstract

The purpose of the present dissertation is the characterization of some geochemical parameters related to the dispersion of copper, lead, nickel, cobalt, vanadium, zirconium and gallium in soils and its applicability in the geochemical prospecting for copper and lead mineralizations.

The area presently studied is located in the municipality of Bagé, State of Rio Grande do Sul, and is constituted by sedimentary and migmatitic rocks cut by quartz veins with pyrite, chalcopyrite and locally galena and silver mineralizations.

With this purpose in mind, data related to the concentrations of copper, nickel, cobalt, lead, vanadium, gallium, zirconium, zinc, magnesium, manganese, free-iron, organic matter and cold extractable copper and zinc were interpreted.

Data processing involved application of basic statistical techniques such as: measures of central tendency, dispersion, tests of significance, correlation and moving average.

The most important conclusions are:

- geochemical prospecting in soils may be used reliably for detecting copper and lead mineralizations, under the conditions herein studied, even in the case of small low grade mineralizations;
- the occurrence of these mineralizations is indicated in soils through variations in the concentrations of copper or lead, or in Cu/Ni ratios;
- total metal determinations yield better results than partial extraction techniques;
- the hydrated oxides of iron and manganese, particularly of the latter element, are the main carriers of copper, nickel, cobalt and vanadium in soils;
- pH, organic matter, and clay minerals have only a secondary role in the geochemical mobility of the studied elements;
- the background of copper in soils corresponds to that determined in other areas in Brazil and shows values similar to those obtained for the parent rocks.

Novaes, A.B. 1978. Contribution to the study of the interpretation of minerals and rocks rate in the Paraguaçu river drainage basin -Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1567

1978

Date of presentation: 28/12/1978

Alberto B. Novaes

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA

1/1,000,000 sheet:

SD24

Centroid of the area:

'

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'W

Abstract

The concentrations of Na⁺, Mg⁺⁺, Ca⁺⁺, K⁺, SiO₂, SO₄, alkalinity and pH have been determined for twenty-nine surface water samples of the Paraguaçu River drainage basin, mainly in the Utinga River sub-basin. The stable isotope ratio of carbon ¹³C/¹²C as well as concentration of ¹⁴C was determined for some samples. The ion influence estimated local aerosol chemistry also has been subtracted from all samples. The analytical results were used to determine the current rate of weathering the rocks of this region and study the sources of dissolved carbon in this water. The analysis of the data shows that weathering processes are influenced by the local lithology. The data from them Utinga river suggests that dissolution of limestone contributes a large percentage of ions. The influence of groundwater in the river flow also brings high concentrations of Na⁺, Mg⁺⁺ and Ca⁺⁺ ions from aerosols, presumably concentrated by evapo-transpiration. The presence of aerosols in the samples used is remarkable, the contribution of salts from silicate weathering is rather small. It is proposed that the dissolution of limestone and decomposition of organic matter might explain the origin of carbon in some of the samples but others appear to have suffered equilibration with atmospheric CO₂.

Oliveira, M.I.M. 1978. The "Reefs" of Natal (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Sandstones reefs, Barreiras sandstones, Microfacies, Sedimentary structures

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 564 1978 Date of presentation: 22/3/1978

Maria Inez Mendonça de Oliveira Advisor(s): Tinoco, I.M.

Committee:

Subject of thesis: Sedimentary Geology

State: RN 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

Abstract

The present thesis gives the interpretation of the environmental circumstances under which the sandstones reefs of Natal have been deposited, taking into account sedimentological, structural and biological data.

Three composite microfacies have been determined: two with different percentages of calcitic cement (beach rock) and one with iron oxide cement (ferruginous sandstone).

The interpretation of the observed sedimentary structures suggest a deposition in the lower part of the beach for the beach rocks. The structural vectors point to SE-NW paleocurrents. Biological analysis, by means of fossils, suggest a recent age for these beach rocks. The ferruginous sandstones are part of the Guararapes Formation of the Barreiras Group, which underwent marine influence.

Oliveira, M.M.M.F. 1978. The Maria Farinha Formation Limestone Facies (State of Pernambuco and Paraíba). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Maria Farinha Formation, Detrital limestones, Microfacies, Mineralogy, Diagenesis

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 567 1978 Date of presentation: 4/9/1978

Martha Maria Maurício Fonseca de Oliveira Advisor(s): Tinoco, I.M.

Committee:

Subject of thesis: Sedimentary Geology

State: PE 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

PB

Abstract

The carbonate sediments of the Maria Farinha Formation appear in a number of small outcrops along the Pernambuco and Paraíba states coast as well as in subsurface occurrences (wells).

A petrographic analysis shows that the major part of the limestones is micritic, often recrystallized into microsparites and rarely into sparites. They stand out by the dominance of benthonic foraminifers over the planktonic ones and other fossils (mollusks, ostracods, algal structures, echinoderms and bryozoans). These organogenous components are mostly associated in variable proportions, to inorganic ones (clay, quartz, feldspar, pyrite, iron oxide, phosphate and glauconite).

Detailed microfacies have been determined after Folk, Carozzi and others, grouped into the following composite microfacies: biomicrites, biopelmecrites, biomicrites with fossil "ghosts" and dolomites with or without fossils.

Integration between chemical analysis and X-ray diffraction was used for determination of the chemical-mineralogical behaviour of this formation. In the Poty quarry section, the Paleocene sedimentation and the K/T boundary have been characterized by three geochemical-sedimentary zones.

The above studies revealed that the deposition of the sequence took place in a regressional marine environment. Diagenetic recrystallization processes masked additional evidence of the depositional realm of these limestones.

Oliveira, S.M. 1978. Foraminifera from the south-brazilian shelf. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1434 1978 Date of presentation:

Sônia Maria de Oliveira Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

Fifty nine samples of the ocean floor surface and twelve cores collected between Torres (30°00' S/047°51' W) and Rio Grande (33°30' S/049°28' W) were studied. The surface samples were subjected to qualitative and the cores to qualitative and quantitative analysis of the Foraminifera distribution. Typical faunal assemblages were found at different bathimetric levels. Surface samples from depths of 120 to 150m are characterized by Foraminifera of the Miliolidae and arenaceous groups normally

restricted to the internal shelf. This probably indicates a change of the sea level. Iron stained foraminifera found at stations G362, G388 and in the G362 core, in water depths of the 120 to 150m, may be interpreted as resulting by a temporary subaerial exposition. Mechanically damaged specimens associated with well preserved forms were found at 130m approximately, and suggest a transport through the continental shelf of the former ones. The relative frequency of variation of the benthonic and planctonic faunal in the cores point towards a change of sea level in the Holocene.

Orsatti, W. 1978. Columnar fractures and direction of lava flows. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2120

1978

Date of presentation:

Wanderley Orsatti

Advisor(s): Valarelli, J.V.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Pereira, V.F. 1978. Petrogenetic processes suffered by amphibolites in Alto Seridó, with emphasis in the plagioclases manifestations of orthoamphibolites. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2121

1978

Date of presentation: 19/6/1978

Verônica Fazanaro Pereira

Advisor(s): Valarelli, J.V.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Pires, F.R.M. 1978. Geology of the Conselheiro Lafaiete manganiferous district - Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1187

1978

Date of presentation:

Fernando Roberto Mendes Pires

Advisor(s): Costa, L.A.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Discontinuous belts of metavolcanic, metasedimentary and metaigneous rocks of Archaen age were folded and cut by synkinematic granodioritic bodies that represent the last geological activity in that period. The lithological assemblage constituted by the chlorite-actinolite-talc shists, amphibolites, epidiosites, serpentinites, gondite-queluzite, quartzitic cherts and graphitic shists of the Barbacena Series represents a typical Greenstone Belt similar to those found at South Africa, Canadian Shield and Western Australia. The Barbacena Greenstone Belt is distributed in the southern part of the Quadrilátero Ferrífero, in Minas Gerais. The irregular amoebic pattern of the distribution of the Barbacena Greenstone Belt strongly suggests a superimposition of folding in anisoclinal style. The sedimentary units of the Greenstone Belt represented by sericite schists, quartzites interbedded with layers of fine grained sericite quartzite (flisch quartzite) generally occupy the upper part of the sequence. The thickness of the sedimentary pile is situated between 1000 to 3000m and is usually associated with this concordant horizons of tuffs and metabasalts. Probably some of the sericite schist of the sedimentary pile represents ancient flows. Certain zones of the sedimentary sequence are characterized by the presence of abundant kyanite and chloritoid which could represent the Al₂O₃ - rich fractions present in the original composition. At the base of the sequence graphite-staurolite schists are usually found. Metaclasts of green riebeckite - 2 - 3cm long have encountered in the arenaceous zone. Gondites and Queluzites, the metamorphosed manganese protore, are regularly distributed in the Greenstone Belt, occupying narrow and elongated zones in the metabasaltic and metaultrabasic parts. These protore are strongly folded in isoclinal pattern, and they were cut by concordant and discordant granodioritic bodies, pegmatitic and aplitic veins and faults. Graphitic schists occur in the manganiferous horizon as well as in isolated lenses irregularly distributed in the metamorphites. Pure quartzitic cherts, in single layers, have thicknesses between 1 to 5m; close to the migmatized and granitized areas they reveal a coarse, sugary texture. Black tourmaline is a very common mineral present in the chert. Beryl, cassiterite and columbite also have been found. Gneissic granodiorites, and tonalites which usually constitute diapiric plutons, also form dikes, small batholiths and stocks tens of square kilometres in dimension; they are concordant to the regional foliation and frequently they present xenoliths, schlieren and roof pendant from the amphibolite and gondites of the surrounding areas. Probably the granodiorites represent the reworked, remelted, and homogenized basement rock of the Mantiqueira Series. Migmatites, nebulites and anatexites which were derived

from the strong migmatization of the Barbacena Group occupy a wide and concordant belt outcropping mainly at the central part of the map area. In most cases concordant, coarse grained aplites and pegmatites were injected along the foliation of shists and amphibolites. Chlorite, actinolite were transformed into hornblende, garnet and biotite, graphite was grouped in almost pure pockets, and tourmaline recrystallized and grew concordantly to the regional foliation. In the felsic fractions microcline has been formed at expenses of plagioclase, and muscovite can be found in certain typical zones of metamorphism. Muscovite has been generated into the lattice planes of plagioclase whereas the pH₂O was significantly higher; microcline on the other hand, has recrystallized in zones of lower pH₂O and orthoclase probably has been developed in deeper terrains, where higher hydrostatic pressures prevailed. It has not been decided whether the quartz-kfeldspar rich rock masses encountered nearby Alto do Xavier and Entre Rios de Minas represent old acid remnants of the reworked Archaean primordial basement or an end-product of the migmatization of the Barbacena Group. Fine-grained, gray leucogranodiorite dykes intrude discordantly into the whole granitized sequence and engulf xenoliths of gneissic tonalites at the proximities of the contact zone. Apparently this leucogranodiorite has been formed due to the reworking and partial remelting of the migmatized sequence. Fine-grained lamprophyre apophyses and dykes which probably represent the last magmatic activity in the area are seldom observed. A thin sequence of itabirite, sericite-quartzite and concordant talc-rich bodies which constitute a southwestern prolongation of the Minas rocks from the Quadrilátero Ferrífero are distributed in the Northwestern corner of the map area. As far as the queluzite-gondite manganese protore are concerned a profitable discussion of the several previous works has been presented and a genetic study of the different types of manganiferous rocks, their primary mineral assemblage, metamorphic transformations and nomenclature debate have been done. Besides the also two well known protore types, according to the relative SiO₂, Al₂O₃, MnO and carbonate concentrations under different pH₂O conditions, several Mn-mineral assemblages could be established. We proposed the following assemblages regarding the forementioned criteria and the corresponding mineral associations: 1) Rhodonite-gondite: quartz-rhodonite-spessartite; 2) Spessartite rock: spessartite; 3) Tephroite-queluzite: tephroite-rhodochrosite - rhodonite-spessartite; 4) Cumingtonite-gondite: spessartite - Mn-cumingtonite; and without special designation; 5) quartz - spessartite-Mn-cumingtonite-talc; 6) quartz - rhodonite-Mn-cumingtonite-spessartite-talc; 7) tephroite-rhodochrosite - rhodonite - spessartite-Mn-cumingtonite-talc; 8) spessartite-Mn-cumingtonite-rhodochrosite-tephroite-rhodonite. Kodurite has been recognized in the Morro da Mina acid veins and pegmatites, and pyroxmangite, spessartite and manganoan apatite are the only Mn-minerals present. Hydrothermal activity was responsible for the generation of the following assemblages: 1) Rhodonite-neotocite-bementite; 2) Manganoan chalcedony-pyrite; 3) Rhodonite-spessartite-asbestiform Mn-cumingtonite; 4) Rhodonite-spessartite; 5) Rhodonite-Mn-cumingtonite and; 6) Rhodonite, which exhibit both concordant and discordant relations to the foliation. Pyrite, chalcopyrite and pyrrhotite are the dominant sulphides and covellite and bornite probably represent alteration products of chalcopyrite; siegenite, alabandite although previously reported have not been found. Cryptomelane is the predominant oxide mineral found and pyrolusite and its varieties represent the last stage in the weathering process. Apparently lithiophorite, manganosite and todorokite constitute the first stage of the protore; manganite would be the following step before the definite formation of cryptomelane and pyrolusite. Probably K-rich solutions resultant from the weathering of the acid rocks have significantly participated in the cryptomelane generation. DTA, XRD and microscopic studies have supported the mineralogical identifications.

Ponzi, V.R.A. 1978. Sedimentary aspects of the inner continental shelf of Rio de Janeiro, between Saquarema and Ponta Negra. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 439

1978

Date of presentation:

Vera Regina Abelin Ponzi

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The main purpose of the present dissertation is to show the prominent aspects of the sedimentation dynamics, as well as the bottom morphology of the inner continental shelf off north littoral of Rio de Janeiro State, Brazil.

This paper presents a study of analytical data from 134 bottom samples, collected during hydrographic missions along the Brazilian continental shelf, carried out by the Diretoria de Hidrografia e Navegação (DHN) of the Brazilian Navy.

The sedimentary texture, dominated by sand facies, was determined through grain-size statistical parameters (mean diameter, standard deviation, skewness and kurtosis), furnished on IBM computer list.

The compositional characteristics of the sediments (quartzose and bioclastic sands) were based on the binocular examination of the sand fraction and estimates were made through the volume percentages of the significant constituents.

The quartz grains percentage is extremely high and some grains are covered by iron oxide.

The biotrititic sands, composed entirely of calcium carbonate, are rich in shell fragments, bryozoans and foraminifers.

The morphoscopic features of the quartz grains reveal good roundness and sphericity, and polished and frosted mamillated surface texture.

The very worn and degraded nature of carbonate fragments and oxidized surface of quartz grains suggest that these sediments are of a relict nature, deposited during lower stands of sea level.

The local continental shelf sediments and morphology were widely affected by sea level fluctuations during the Quaternary. These fluctuations sculptured important features on the bottom relief, with a series of constructive or erosive shapes (terraces).

Quadros, A.P. 1978. Provenance and economic significance of the conglomeratic sediments to the northwest of Diamantino, Mato Grosso state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M005

DataBase Ref.: 65

1978

Date of presentation: 1/8/1978

Álvaro Pizzato Quadros

Advisor(s): Hirson, J.R.

Committee:

Marcel Auguste Dardenne

- IG/UnB

Sebastião Maia de Andrade

- NUCLEBRÁS

Subject of thesis: Prospection and Economic Geology

State: MT

1/1,000,000 sheet:

SD21

Centroid of the area:

' -

'W

Abstract

It was found necessary to do a detailed geological work in the region of Diamantino, where occur diamond-bearing and goldbearing sedimentary packet, the objective of the work being lithological identification of this formation and its probable source area.

The area mapped is situated NW of city of Cuiabá, in the State of Mato Grosso. Specifically it includes the city of Diamantina and part of Federal Highway BR-364.

At the edge of the Chapada of Parecis, near the city of Diamantino, State of Mato Grosso, outcrop the diamond bearing sedimentary conglomerates of a new litho-stratigraphic Unit, denominated, by the author as Morro Vermelho Formation. This sedimentary sequence is characterized by partially consolidated paraconglomerates, by sands, tones and argillaceous sediments by the presence of old channels, channels that were cut off and filled up, by stratification indistinct by the overlapped pebble beds and by gradational lactation. These sediments were deposited in a fluvial environment, were sheet floods and stream floods predominated.

The Morro Vermelho Formation supplies of diamond and gold to the actual rivers, where these precious minerals appeared disseminated or concentrated in the gravels of recent and old alluvial deposits. Petrographic studies of sand pebbles of Morro Vermelho Formation and sandstones of Raizama Formation followed by their statistical treatment through x method were carried out with the objective of confirming their identification. Once their identity is proved, it is ensured that the Precambrian and Cambrian rocks of Paraguai-Araguaia Geosyncline are responsible for supplying the sediments that constitute the Morro Vermelho Formation.

In the area mapped, at the edge of Chapada of Parecis coincides with the boundary of sedimentary Paleo-Mesozoic Basin, overlying the Precambrian and Cambrian rocks of Paraguai-Araguaia Geosyncline.

The exploration of diamond and gold, that was done by the prospector since 1729, has had till today a considerable effect in the regional economy. Likewise the demarcation and indication of new areas to be prospected successfully open a vast perspective for mining of these minerals.

Thus determined, the characteristics of litho-stratigraphic sequence under consider, permit enhancement of our knowledge of potential zones within Morro Vermelho outside the mapped area, to the west and to the north, specifically those rivers that border with the escarpment of Chapada of Parecis. In addition to these areas, may be indicated potential zones in the entire Morro Vermelho Formation and the rocks of Paraguai-Araguaia Geosyncline.

Sathler, G. 1978. Geological-geotechnical aspects of the rocky massif of the Tucuruí dam concrete structures foundation. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1605

1978

Date of presentation:

Guaracy Sathler

Advisor(s): Cadman, J.D.

Committee:

Subject of thesis: Geotechnical Mapping

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The aim of this dissertation is to present geological and geotechnical aspects of the rock mass which constitutes the foundations for the Concrete Structures of the Usina Hidrelétrica de Tucuruí on the Tocantins River, State of Pará. Situated on the transition zone between the crystalline basement, Complexo Xingu, and the metamorphic rocks of the Grupo Tocantins, the rock foundations show today the marks of several tectonic events that affected it, mainly the faults. These faults, its characteristics, origins and its influence on the design are the main objective of this work.

Silveira, E.K.P. 1978. Neotropic primate (Ceboidea, Mammalia) - Origin and evolution. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1448

1978

Date of presentation:

Estanislau Kostka Pinto da Silveira

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

In this work of Thesis of Post-Graduation (M.Sc. level) in Geology (Sector Paleontology), the author give emphasis to the primates, their evolution untill the present conditions, as well as their emigrations to both South America and the Old Worl from North America in Early Tertiary times. He begin dealing the Mesozoic mamals, both placental and marsupial origins from an eupantotherian old stock, and eutherians evolution de per si; thus, he follows this paper drawing the origin of the primates from tupaoid ancestral in some place of Northern Hemisphere, and their "quickly"spread through those lands, as well as their evolution untill the Quaternary in the Old World. From a tarsioid family, the +Omomyidae, two great simian stems arose --- the Playtyrrhini or Ceboids (plus the aberrant +Branisella), the New World Monkeys, and the Catarrhini, which include the extinct parapithecoids, and the living cercopithecoids or Old World Monkeys, the gibons, pongids, and Man itself. The simian common ancestors to both groups of monkeys, the ancient omyoids, emigrated from North America to two directions: toward South America, and toward the Old World via Eurasia, for give rise to the two simian stems, respectively, the platyrrhins and the catarrhins. The ceboid's ancestors arrived in South America by rafting as the "Old Island Springers", and "quickly" radiated in the ceboid families and subfamilies, as well as in the still unknown and aberrant Early Oligocene +Branisella; in Pleistocene times, modern ceboids emigrated from South America to Central America, and Jamaica, which they still live in that main land, as well as in their native South America. Their evolutionary and populational climax was reached its peak in Pliocene and Quaternary times until the discovery of America by Christopher Columbs in 1492!

Siqueira, A.F. 1978. Use of isotopic and chemical data as tracers of water and dissolved salts origin in the Calcário Bambuí aquifer, Irecê - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1569 1978 Date of presentation: 26/10/1978

Antônio. F. Siqueira

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SC23 Centroid of the area: ' - 'W

Abstract SC24

Samples of 25 wells located in the Bambuí limestone aquifer in the region of Irecê-Bahia, have been analysed for the isotopic ratio $^{18}\text{O}/^{16}\text{O}$ and the major chemical species Ca, Mg, Na, K, C1, SO_4 and bicarbonate. The oxygen-18 data have been found to range between - 2,62‰ to - 6,66‰ relative to the universal Standard Mean Ocean Water (SMOW) and are compared with the values of the precipitation in the localities of Jacobina and Lençóis (meteorological stations nearby) and with the values of the groundwater in sedimentary basins in northeastern Brazil. The comparison suggests that aquifer system is recharged by precipitation originated in northeastern Brazil, instead of originating on coast of Bahia, east of the area. Furthermore, the waters in aquifer are not found homogenized, having widely varying ^{18}O and chemical composition and being of different ages. The strong correlation among the observations Ca, Mg, Na, C1 and TDS (total dissolved solids) suggests an aerosol origin of salts, not excluding the hypothesis of dissolution of rock, which concentrations. The comparison of characteristic ratios Mg/Ca, $\text{SO}_4/\text{C1}$ and $(\text{C1}-\text{Na})/\text{C1}$, a Piper diagram and a dendrogram established by cluster analysis, indicates that the wells may be separated in two groups according to the isotopic or geochemical environment to which they belong. These groups may represent the different sources of salt proposed, one being from the limestone, the other having come from aerosols.

Souza, M.S.P. 1978. Comparative study between various radiocrystallographic methods applied to Fe and Mn phosphates. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 25.370/78

DataBase Ref.: 982 1978 Date of presentation: 14/9/1978

Maria Suzana Pessoa de Souza

Advisor(s): Cassedanne, J.O.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This research was made aiming at the evaluation of comparatively several radiocrystallography methods under use and precision of data obtained. The X-Ray diffraction methods (Debye-Scherrer, Precession, Rotation, Weissenberg), the fluorescence analysis, the differential thermal analysis and the thermal gravimetric analysis, were applied to two phosphates of iron and manganese, Eosphorite and Hureaulite, found in pegmatites of the Rio Doce valley and of the Rio Jequitinhonha valley, State of Minas Gerais, Brazil. A very thorough study was made embracing from the unit cell dimensions up to the group of these phosphates, enabling the addition of new radiocrystallography data to the ones existing in the specialized literature.

Suslick, S.B. 1978. Methodological study of statistical techniques of geochemical data. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1902 1978 Date of presentation:

Saul Barisnik Suslick

Advisor(s): Amaral, G.

Committee:

Subject of thesis: Geochemistry

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Teixeira, N.A. 1978. Geology, petrology and geochemistry of the Morro do Verro volcano-sedimentary Sequence, Fortaleza de Minas, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M008

DataBase Ref.: 68

1978

Date of presentation: 27/11/1978

Noeivaldo Araújo Teixeira

Advisor(s): Danni, J.C.M.

Committee:

Othon Henry Leonardos - IG/UnB

Onildo João Marini - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: MG

1/1,000,000 sheet: SF23

Centroid of the area: ' - 'W

Abstract

This study attempts to define the geology of the Fortaleza de Minas region and to outline potential environments for mineralization.

The area is located on the Southern edge of the São Francisco Craton, 390 km (BR-056) from Belo Horizonte, with the town of Passos in the north-east corner.

The studied area is underlain by sialic basement consisting of a nucleus of granodioritic orthogneisses with some schlieren migmatitic zones. This grades into a fault zone, west of Itaú, represented by a cataclastic suite.

Within this fault zone there are small ultramafic bodies and the Vulcano-Sedimentary Sequence of Morro do Ferro, which from bottom to top consists of:

a) Morro do Niquel Unit consisting of ultramafic flows with local spinifex texture and intercalated aluminous tuffs, chert, ferruginous chert and wacke.

b) Córrego Salvador Unit containing basic lavas, reworked volcanic rocks, and ferruginous chert.

c) Morro do Ferro Unit consisting predominantly of sediments represented by sericitic phyllites, metalimestones, lenses of chloritoid schists and the thickest ferruginous chert of the sequence.

The original ultramafic and mafic lithologies of the Morro do Ferro Unit have been altered respectively to magnesian schists rich in chlorite, tremolite and serpentine and greenschist with epidote, chlorite and tremolite.

The allochthonous metamorphic Araxá belt unconformably overlies the basement and the vulcano-sedimentary belt. The contact is locally outlined by phyllonites and mylonites along the thrust plane. The Araxá Group is composed of:

a) Passos Basal Sequence, containing biotite-muscovite-garnet schists, feldspathic schists gneisses and rare greenschists. These lithologies represent initial flysch type deposits.

b) Canastra Formation (top) overlies the Passos Sequence with a transitional contact, and is composed of 2 sequences; the lower one consisting of muscovite schist with regular intercalations of sericitic quartzite and tuffaceous meta-arkose and the upper sequence (Itaú) containing phyllites- and metalimestones, representing the final transgressive phase of sedimentation.

In the basement the principal tectonic features are linear fault zones, striking N-W. The vulcano-sedimentary belt is intensely isoclinally folded along NE axes and vertical axial planes.

There is evidence of at least 3 superposed deformation events. The principal tectonic feature of the Araxá Group is a large recumbent anticline, which has been refolded in the synforms of Passos Serra do Chapadão and the antiform of Itaú.

The petrologic study of the Morro do Niquel and Córrego Salvador volcanic rocks showed a trend with peridotitic-pyroxenitic lavas of komatiitic affiliation, grading to komatiitic and tholeiitic basalts. The fractionation of the series is characterized by a decrease of MgO with a nearly constant CaO/Al₂O₃ ratio. This reflects the crystallization of olivine in the initial stages, followed by increasing crystallization of clinopyroxene and plagioclase.

A geochemical prospecting program was carried out over the vulcano-sedimentary belt revealing Cu and Zn anomalies. The Morro do Ferro Unit, which is composed of ultramafic flows, is theoretically the most promising environment for sulphide mineralization.

Teixeira, W. 1978. Tectonic meaning of the basic and alkaline anorogenic magmatism in the amazonian region. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 99 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1103

1978

Date of presentation:

Wilson Teixeira

Advisor(s): Cordani, U.G.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Assis, J.F.P. 1979. A bivalve mollusca faunule of the Mocambo limestone, Piauí formation, upper Carboniferous of the Maranhão basin - José de Freitas municipality, Piauí state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 34.420/79

DataBase Ref.: 1459 1979 Date of presentation: 6/12/1979

José Fernando Pina Assis Advisor(s): Ferreira, C.S.

Committee: Antonio Carlos Magalhães - DG/UFRJ
 Friedrich Wilhelm Sommer - DNPM
 Ignacio Aureliano Machado Brito - DG/UFRJ

Subject of thesis: Palaeontology and Stratigraphy

State: PI 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This thesis deals with description of the bivalve faunule occurring in the Calcário Mocambo of the Piauí formation, Pennsylvanian of the Maranhão Paleozoic basin, North Brazil. The faunule studied contains the most bivalve-genera of the Neo-carboniferous faunas and is comparable with the South-American Tethian assemblages that occur in the Amazon basin of Brazil and in Northwestern Peru. The following genera were identified: *Septimyalina* Newell, *Pteria* Scopoli, *Leptodesma* Hall, *Aviculopecten* M'Coy, *Streblopteria* M'Coy, *Posidonia* Bronn, *Schizodus* de Verneuil & Murchison, *Permophorus* Chavan, *Rimmyjimina* Chronic, *Cypriocardella* Hall, *Astartella* Hall, *Phestia* Chernyshev, *Edmondia* de Koninck, *Wilking* Wilson, and *Sanguinolites* M'Coy. Faunal correlations were made using the fossil record of the Itaituba of the Amazon basin, the Tarma and Copacabana a groups of the Northwestern Peru as well as the fossil records of the thirteen Neo-Paleozoic stratigraphic units of the USA. We did not generalize our conclusions because we worked with a small collection of bivalves referent to one single outcrop, which did not represent the global fossil content of the Piauí formation.

Bertini, R.J. 1979. Systematic study of the Notoungulates. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1449 1979 Date of presentation:

Reinaldo José Bertini Advisor(s): Price, L.I.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Updating of notoungulates classification, with some comments about Brazilian genera of the group. Information about beds which contain fossils of the Order Notoungulata, specially Cenozoic geologic stages of South America. Comments about origin, development and extinction of the Order Notoungulata, with some inferences abouts quantitative stratigraphic distribution of notoungulates in South American Cenozoic.

Cabral, S. 1979. Geological-geotechnical mapping of the Jacarepaguá low flat and neighbouring massifs. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1604 1979 Date of presentation:

Sérgio Cabral Advisor(s): Barroso, J.A.

Committee:

Subject of thesis: Geotechnical Mapping

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The increasing importance of urban planning shows the need for elaborating geotechnical maps. These maps group the geological formations into geotechnical complex that have features that can be considered either identical or similar. The present study is on Jacarepaguá Plain, in Rio de Janeiro, that is essentially formed by two kinds of sediments: sands and organic clays with peat. The sands are more widespread in area than the organic clays with peat and constitute the Jacarepaguá-Itapéba and Marapendi bars. They correspond to marine sands that depicts increasing compacity depth. The water-table is shallow (nearly 2m) and the sands overlie either clayey soils (with organic matter and having low strength and high plasticity) or residual soils of the basement complex. In spite of their lack of cohesion the sands do not present major geotechnical problems and show a good strength. The organic soils with peat present quite different geotechnical properties with respect to the sands. They constitute clayey and silty soils that are underlain by a peat layer (with an average thickness of 3m). It is common to have thin lenses of fine and medium sand medium sand interbedded with these soils, but even so they are not better in their geotechnical characteristics. Their thicknesses may reach 40m and in general decrease towards the base of the mountains which border the Jacarepaguá Plain. Under geotechnical point of view the organic clays with peat are the most problematic soils due to their poor drainage, their

low strength and their high settlement under loads. Besides the sands and organic-clays-with-peat type of soils in the Jacarepaguá Plain there are alluvial soils. These are sandy or sandy-clayey soil that are present close to rivers and in floodplain areas in the proximity of the border between the mountain and the plain. These soils are formed by materials eroded from adjoining mountain slopes. The mountains that surround the plain, Pedra Branca and Tijuca Massifs, are predominantly formed by granites and gnaisses respectively. The Pedra Branca Massif, because of its granitic composition, tends to morphologically rounded forms originated by exfoliation processes. Associated with these exfoliation processes there are residual clayey-sandy soils and local talus deposits with a great number of rock boulders. The Tijuca Massif exhibits at several places a well developed covering of residual soil due to the apparent more intense weathering. It is common also the presence of slabs in steep scarps that can be of large dimensions. The geotechnical problems associated with the mountain area are essentially rock falls (slabs and blocks). Besides the rock falls the abrupt erosion of "in situ" soils and talus deposits constitute others geotechnical difficulties. Accentuated erosion is accomplished by the rivers that come from mountains specially when the run-off is associated with heavy rains. In steep slopes there is the continuous removal of fines that are transported towards the lagoonal area of the Jacarepaguá Plain. The run-off also removes the fines of the talus deposits making the boulders rather unstable which are able to roll down the slopes with a highly destructive energy.

Cassab, R.C.T. 1979. Revision of the Cerithioidea superfamily of the Maria Farinha formation, Paleocene of Pernambuco state (Mollusca - Gastropoda). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 10.129/79

DataBase Ref.: 1460 1979 Date of presentation: 30/4/1979

Rita de Cássia Tardin Cassab Advisor(s): Ferreira, C.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This thesis deals with description of the bivalve faunule occurring in the Calcário Mocambo of the Piauí formation, Pennsylvanian of the Maranhão Paleozoic basin, North Brazil. The faunule studied contains the most bivalve-genera of the Neo-carboniferous faunas and is comparable with the South-American Tethian assemblages that occur in the Amazon basin of Brazil and in Northwestern Peru. The following genera were identified: Septimyalina Newell, Pteria Scopoli Leptodesma Hall, Aviculopecten M'Coy, Streptopteria M'Coy, Posidonia Bronn, Schizodus de Verneuil & Murchison, Permophorus Chavan, Rimmyjimina Chronic, Cypricardella Hall, Astartella Hall, Phestia Chernyshev, Edmondia de Koninck, Wilking Wilson, and Sanguinolites M'Coy. Faunal correlations were made using the fossil record of the Itaituba of the Amazon basin, the Tarma and Copacabana a groups of the Northwestern Peru as well as the fossil records of the thirteen Neo-Paleozoic stratigraphic units of the USA. We did not generalize our conclusions because we worked with a small collection of bivalves referent to one single outcrop, which did not represent the global fossil content of the Piauí formation.

Conter, M.R. 1979. Systematic revision of some recent genera of the subfamily Bairdiinae (Ostracoda) from the Brazilian coast. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 744 1979 Date of presentation:

Maria Rotraut Conter Advisor(s): Sanguinetti, Y.T.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

A systematic review of recent species of the Subfamily Bairdiinae Sars, 1888, is made, on the affinities and the validity of the genera Bairdia, Neonesidea, Paranesidea, Triebelina, Glyptobairdia and Bairdoppilata are discussed. Special attention is given to the genus Bairdia. The samples were collected by the Oceanographic Ship (Noc) "Almirante Saldanha", during the Geomar III, in the Amazonic Region, between Cape Orange and Salinópolis.

Costa, E.V. 1979. Cenozoic gastropods from the upper Amazon (Amazonas state), Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 741 1979 Date of presentation:

Elinalda Veríssimo Costa Advisor(s): Pinto, C.P. Ferreira, C.S.

Committee:

Subject of thesis: Palaeontology

State: AM 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This dissertation consists of a study of the Cenozoic gastropods found on and under the surface of the clay sediments of the Pebas Formation, Upper Amazon, Brazil.

The faunule consists of five genera, seven species with predominance of *Hydrobia orton* (GABB, 1868).

The association is similar to that of Pebas, Old Pebas and Iquitos at Oriental Peru, Panamá and Três Unidos, Upper Amazon, Brazil.

It has been recorded, for the first time, the occurrence of Pliocene gastropods at Atalaia do Norte, Poreré and Tamandua at the State of Amazon, establishing a larger geographic extension for the Pebas Formation over the Brazilian Territory.

Fensterseifer, H.C. 1979. Contribution to the stratigraphy of the Gravataí region - Rio Grande do Sul - Brazil. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 406

1979

Date of presentation:

Henrique Carlos Fensterseifer

Advisor(s): Figueiredo Filho, P.M.

Committee:

Subject of thesis: Stratigraphy

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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'W

Abstract

This dissertation deals with the study of the lithologic features, geological-structural aspects, and the relation among the different lithostratigraphic units of the Gravataí region, near Porto Alegre, Rio Grande do Sul State.

Pre-Cambrian units, related to the Sul-Riograndense Shield, Late Paleozoic to Late Mesozoic units, comprising the Paraná Basin sequences, as well as Cenozoic units, characterized by sediments of the Patos Group, and Recent sedimentary deposits were recognized.

The Pre-Cambrian units are represented by heterogeneous migmatites, gnaisses, and granites of the Cambaí Group (Middle to Pre-Cambrian). The contacts of these lithologies have not been observed.

The sedimentary sequences of the Paraná Basin - Late Paleozoic to Late Mesozoic - are represented by the Rio Bonito and Palermo Formations, Guatá Sub-Group, Tubarão Group; the Irati and Estrada Nova Formations, Passa Dois Group; and the Rosário do Sul and Botucatu Formations, São Bento Group. The Serra Geral Formation, São Bento Group, is represented by diabase intrusives. Some of the studied formations present lithological variations and stratigraphic changes have also been registered.

The Rio Bonito Formation presents two distinct depositional intervals: 1) a lower (basal) interval represented by fluvial, lacustrine or lagoonal, paludal, and deltaic facies; and 2) an upper interval characterized by a transgressive lagoonal facies. The Tiaraju (lower) and Valente (upper) facies as well as a sandy facies - atypical and stratigraphically situated between the other two facies, were determined for the Estrada Nova Formation.

The upper and lower contacts of the Rosário do Sul Formation are discussed and the possible occurrences of the Caturrita Member, Botucatu Formation, are analyzed.

Finally, a correlation between the Gravataí and Graxaim Formation was established, and some considerations on the paleo-environmental characteristics and on the stratigraphic relations of both formations concerning the Guaíba and Itapoá Formations were made.

Ferreira, E.M.D. 1979. The Quixóá Formation Sandstone Facies (Iguatu Group, State of Ceará). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Quixóá Formation, Iguatu basin, Microfacies, Deposition mode, Paleocurrents

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 569

1979

Date of presentation: 9/4/1979

Evanildes Maria Dias Ferreira

Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: CE

1/1,000,000 sheet:

SB24

Centroid of the area:

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'W

Abstract

A facies study has been made of the clastic sediments of the Quixóá Formation, basal unit of the Iguatu Group, in the basin of the same name in Ceará State.

The deposits have been studied by means of sedimentological and petrographical analyses, establishing various detailed and composite microfacies, according to the methods of Carozzi and of Mabesoone.

The Quixóá Formation is chiefly composed of coarse to fine sandstones, in beds with different thicknesses and with undistinct stratification. There occur a few intercalation of siltstones, claystones and shales, with iron oxides. The sandstone colours are generally bright (cream, yellow, white, grey), passing at some places into reddish. The composite microfacies of these sandstones show the following types: fine-medium protoquartz-sandstones, with clay and iron oxide matrix/cement, sometimes silicious or calcitic; conglomeratic protoquartz-sandstones; medium-sized to silty quartz-sandstones, clayey and ferruginous; ferruginous lithic sandstones.

Through analysis interpretation and according to the occurrences within the basin of the various sandstone types, the following conclusions about the depositional environment have been drawn: continuous sedimentation in a fluvial realm; partition of this environment in piedmont alluvial fans, passing through braided into low-sinuosity almost meandering channels in the basin center; sedimentation due to pulsating tectonic activity; deposition in a warm, not very humid to almost semi-arid climate; current direction towards the basin centre where probably a proto-Jaguaribe river flowed.

Fonseca, J.S. 1979. Taiassuyds from the pleistocene of calcareous caves in Minas Gerais. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 739

1979

Date of presentation:

José Sílvia Fonseca

Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Palaeontology

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

' -

'W

Abstract

This dissertation deals with a comparative and revisional description of the fossil and/or sub-fossil Tayassuidae from the caves of the karstic region of Lagoa Santa ("sensu lato"), Minas Gerais, already described by Reinhardt (1880) and Winge (1906), partially restudied by Rusconi (1930 and 1948) and Wetzel (1977b), and of new and important specimens from the same region, some of them already studied by the latter (op. cit.).

Rusconi's (1948) reclassification of *Platygonus* (*Brasiliochoerus*) *stenocephalus*, as *Brasiliochoerus* *stenocephalus*, is here ratified, and *Platygonus* (*Parachoerus*) *carlesi* Rusconi, 1930 (= *Catagonus carlesi*, Wetzel, 1977b) is considered as an absolute synonym of *Brasiliochoerus* *stenocephalus*. Three skulls of peccaries, previously included by Wetzel (op. cit.) in *Platygonus*, are reclassified; two of them are recognized as being from *Tayassu pecari*, and the third is included in *Brasiliochoerus* *stenocephalus*.

Guerra, C.C. 1979. On a Milodont Edentate of Pleistocene/Subrecent age from Bahia, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 740

1979

Date of presentation:

Cástor Cartelle Guerra

Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Palaeontology

State: BA

1/1,000,000 sheet:

SC24

Centroid of the area:

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Abstract

This dissertation is dedicated to the description and comparison of the radius, the bones of the hand and part of the foot of a *Glossotherium*, found in a cave near the town of Morro do Chapéu (Bahia). The osteological description is specially emphasized owing to a lack of papers in Portuguese on the subject.

After a detailed comparative study, it is suggested the revalidation of the subgenus *Ocnotherium* Lund, 1842, which is an intertropical form of the genus *Glossotherium* Owen, 1840. Our classification is based on that established by Hoffstetter in 1952. Concluding by the non-specific and subgeneric identity of the Lagoa Santa form with Argentinean ones, we prefer, for the time being, to identify specifically the form we describe here as the same one whose pieces Lund collected in Lagoa Santa, and Winge studied in 1915. The non-presence of similar skeletal elements in the Lagoa Santa collection similar to those here described does not permit us a direct comparison between our material and that known in Lagoa Santa. This, however, should not pose a problem to us to conclude that the elements above described can be considered as belonging to the same species of *milodontids*. This assumption is based on the fact that both materials come from the same geographical region, in similar ecological "habitat".

Guerra, S.M.S. 1979. Application of remote sensing in the study of the Rondônia tin province. MSc Thesis, National Institute of Spatial Research, INPE; pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1365

1979

Date of presentation: 18/5/1979

Sérgio Monthezuma Santoianni Guerra

Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: RO

1/1,000,000 sheet:

SC20

Centroid of the area:

' -

'W

Abstract

Jabur, I.C. 1979. Paleocurrents of the Botucatu formation between the Jaguari and São Francisco de Assis

degrees and some stratigraphical considerations on the São Bento group, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 405

1979

Date of presentation:

Issa Chaiben Jabur

Advisor(s): Andreis,R.R.

Committee:

Subject of thesis: Stratigraphy

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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'W

Abstract

The research that has been carried out in the southwestern sector of the State of Rio Grande do Sul represents, first of all, an attempt to collect by means of statistical presentations, information about the preferential course of the winds responsible for the sedimentation of sand dunes in the Botucatu desert.

Similarly, the compilation of data, necessary for the interpretation of azimuthal values and useful in determining the dominant currents in the geographical area under analysis, has resulted, in stratigraphic terms, in defining the progression underlying the Aeolian deposits.

This study has been extended in order to comprise to the relationships of subjacent lithologies, foreseeing greater unity among different groups engaged in field work.

Based upon the observations in the field, the denomination "Caturrita" Formation has been applied to the sediments with fluvial characteristics underlying the aeolian sandstones of the Botucatu Formation.

This research is also related to the study of the geological sections drawn in the States of São Paulo and Paraná, making it possible to appreciate to a fuller extent the extension of the adopted stratigraphic divisions and the possible correlations between the units under study and their image farther north of the basin.

Kishida, A. 1979. Geological and geochemical characterization of the volcano-sedimentary sequences of medium Itapicuru river, Bahia state. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 501

1979

Date of presentation: 5/3/1979

Augusto Kishida

Advisor(s): Riccio,L.

Committee:

José Caruso Moresco Danni - IG/UnB

Raimundo Netuno Nobre Villas -

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA

1/1,000,000 sheet:

SC24

Centroid of the area:

' -

'W

Abstract

The granite-greenstone terrains of northeastern Bahia consist of supracrustal rocks surrounded by domes of acid plutonic and gneissic rocks. In the Rio Itapicuru region the supracrustal sequences are similar to those of typical Archean greenstone belts. They have been grouped into a basal mafic volcanic, an intermediate felsic volcanic and upper sedimentary units. All have been metamorphosed to greenschist facies and marginally to amphibolite. In spite of the metamorphism, primary structures such as pillows, varioles, amygdulites, phenocrysts and flow planes in volcanic rocks and cross bedding and slump structures in sediment are recognizable in places.

The mafic volcanic unit consists of basalts, geochemically similar to modern ocean-floor basalts, and minor intercalations of predominantly chemical sediments. The felsic volcanic unit contains flows and pyroclastic rocks, with geochemical features comparable to those of continental-margin calcalkaline rocks, intercalated with clastic sedimentary rocks. The lavas and pyroclastic rocks of this unit are present in the form of discontinuous volcanic centers which grade vertically and laterally into the immature, flyschoid sediments, which make up the upper sedimentary unit. Plutonic rocks in the area geochemically comparable to the felsic extrusives.

The lithostratigraphic and chemical variations within lavas of the Rio Itapicuru greenstone are comparable to those described from the Western Australia greenstone belts, a geochemical gap separates the tholeiitic basalts from the overlying calcalkaline high-Si andesites and dacites. In other greenstone belts, such as the Abitibi province of Canada, thick calc-alkaline sequences containing abundant basaltic andesites overlie conformably and transitionally the underlying tholeiitic basalts.

The main economic potential in the area is for Cr and Au. In contrast, the potential for volcanogenic Cu-Zn massive sulfides and magmatic Ni-Cu deposits appears to be low due to a lack of Abitibi-type calc alkaline sequences, which host the Cu-Zn types, and scarcity of extrusive komatiitic suites which could contain Ni-Cu mineralizations.

Lima,A.G.M. 1979. Cenozoic History of the Sousa Basin (State of Paraíba). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Sousa basin, Geomorphology, Semi-arid climate, Cenozoic, Sediments

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 570

1979

Date of presentation: 6/12/1979

Ana Glória Marinho de Lima

Advisor(s): Mabesoone,J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: PB 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

The morphological basin of Sousa actually forms part of a Cretaceous sedimentary basin situated in the semi-arid inland of the Paraíba State. The characteristics of the relief forms depend upon various influences such as: lithology and structure, type of climate and vegetation, besides factors related to the action of tectonics.

During the Cenozoic the basin of Sousa suffered processes of leveling under the influence of semi-arid climates which, however, did not always act with the same severity over the region.

The more rigorous periods of drought are likely to be related to the phenomena of Quaternary glaciations which reached the higher latitudes.

The morphogenetic processes characteristic of this area thus changed in intensity, according to the climatic fluctuations. Evidences of accentuated semi-arid climates are found in the terraces with gravel, in the colluvia and in the glacia observed within the basin. On the contrary, in the periods in which this tendency diminished, a dissection of the pediments and laterization processes occurred.

Sedimentological and geomorphological methods were used for analysis of the present physical landscape on which base could be inferred the main events of the Cenozoic history of the basin.

Lima, P.J. 1979. The Antenor Navarro Sandstone Facies (Rio do Peixe Basin, State of Paraíba). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Rio do Peixe basin, Antenor Navarro Formation, Clastic microfacies, Depositional environment

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 571 1979 Date of presentation: 6/12/1979

Paulo José de Lima

Advisor(s): Mabeoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: PB 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

The sedimentary basin of Rio do Peixe is one of the intracratonic basins of the Brazilian Northeast, imbedded in the crystalline basement through a system of faults. It is located almost entirely in Paraíba State far inland, with an age attributed to the Early Cretaceous.

The stratigraphic sequence of this basin, named Rio do Peixe Group is made up of three lithostratigraphic units being: Antenor Navarro Formation, base of the sequence, with dominantly macro and mesoclastic and occasionally microclastic sediments; Sousa Formation, chiefly microclastic, with rare intercalations of fine sandstones, corresponding to the middle part of the group; Piranhas Formation, with a macroclastic base, grading upwards into medium and fine, forming the top of the mentioned group.

The accomplished studies lead to significant results about the Antenor Navarro Formation, deducing it to be typically continental, deposited in an environment of variable energy in alluvial cones, with torrential rivers, rapid erosion and burial near an elevated relief, for the coarser sequences, and with a gradual reduction of the competence of the rivers and consequent deposition of finer particles, under warm climatic conditions, with clearly alternating humid and dry seasons.

Macedo, A.B. 1979. Statistic study of the relationships between major and trace elements in basaltic rocks of the Paraná basin. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2122 1979 Date of presentation:

Arlei Benedito Macedo

Advisor(s): Ruegg, N.R.

Committee:

Subject of thesis: Petrology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Maranhão, C.M.L. 1979. The uranium-bearing conglomerates of the Moeda formation, Quadrilátero Ferrífero, Minas Gerais state - Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M012

DataBase Ref.: 72 1979 Date of presentation: 29/11/1979

Carlos Marcelo Lôbo Maranhão Advisor(s): Dardenne, M.A.

Committee: Reinhardt Adolfo Fuck - IG/UnB
José Nilson Villaça - NUCLEBRÁS

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

This work has been carried out in "Serra do Ouro Fino", which is located in central zone of the Quadrilátero Ferrífero, comprising an area of 47,5 km². It presents the lithostratigraphic characterization of the conglomerates of Moeda Formation as a means to get additional information for uranium prospection held in this area.

The Rio das Velhas Series and Minas Series (Caraça and Itabira groups) form the stratigraphical framework of the area. Three lithologic units composed by phillites, quartzites form the Rio das Velhas Series, with an apparent gradational and concordant contact relationship or a tectonic contact which the lower units of the Minas Series (Moeda Formation).

The Moeda Formation shows a typical sedimentation of a braided fluvial system displayed in a SE direction. This formation was divided into two units of sedimentation separated by a guide level which occurs throughout the Quadrilátero Ferrífero.

The Batatal Formation has a monotonous lithology represented by phillites chloritic and sericitic intercalated by silicified dolomite lens, found just in sub-surface.

The Itabira Group is here represented by the massive hematites and itabirites of the Cauê Formation.

The metamorphism is in green schists facies, sub-facies muscovite-chlorite, under the minimum conditions of temperature about 400-410°C and 2,7-3,4 Kbar of pressure.

The Ouro Fino Syncline was subjected to E- W compressional forces which have inverted its oriental flank. The present map of the structure resulted from the movements associated to the Fundão Fault.

The iron ore is of the itabirite type and shows supergenic enrichment related to weathering processes.

The uranium occurrence is of Witwatersrand kind and the basal part of its Upper Unit seems to be paleocanal. This point leads us to conclude that the best possibilities for uranium prospection should be found in this Upper Unit.

Monteiro, S.M. 1979. Contribution to the paleoecological study of the Irati formation in Rio Grande do Sul. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 745 1979 Date of presentation:

Sheila Mattos Monteiro Advisor(s): Barberena, M.C. Guerra-Sommer, M.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This dissertation deals with the description of the anatomic structure of four species of Gondwanic fossil gymnosperm woods from the Irati Formation (Permian of the Paraná Basin), collected in São Gabriel (Rio Grande do Sul State) and Rio Claro (São Paulo State).

The fossil material includes remains of permineralized trunks with excellent conditions of preservation.

The new genera and species are based on the observation of anatomic features not yet related to Gondwanic specimens. The analysis of these features and their comparison with fossil and recent plants supplies subsidies for inference of paleoecologic and paleoclimatic data. At the same time, suggests the establishment of phylogenetic and evolutionary inter-relationships.

For this reason four more form- -genera are associated with the assembly already described, what provides indicative data on the diversity of gymnosperm plants in the Brazilian Gondwanic flora.

Quadros, R. 1979. Devonian brachiopods from the Tope de Fita outcrop - Chapada dos Guimarães - Mato Grosso - Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 742 1979 Date of presentation:

Raquel Quadros Advisor(s): Pinto, I.D. Purper, I.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The present dissertation deals with the Devonian brachiopod fauna of the Tope de Fita outcrop, in the municipality of Chapada dos Guimarães, Mato Grosso State, Brazil.

The fauna has inarticulate and articulate brachiopods: *Orbiculoidea baini*, *Australocoelia tourteleti*, *Plicoplasia planoconvexa* (?); some specimens of indeterminate spheriferids, *Derbyina* sp., *Paranaia* sp., and some indeterminate specimens of *Te-rebratulina* and *Australostrophia* sp. (?). It also records the presence of a new genus for the Family *Mutationelina* - *Chapadella mendesi*.

The presence of *P. planoconvexa* (?) is recorded here for the first time for the Chapada dos Guimarães region.

Some reference has also been made to the various types of preservation of the material.

Salim, J. 1979. Geology and controls of scheelite mineralizations from the Serra do Feiticeiro and Bonfim regions - Rio Grande do Norte state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M011

DataBase Ref.: 71 1979 Date of presentation: 3/7/1979

José Salim Advisor(s): Dardenne, M.A.

Committee: Bhaskara Rao Adusumilli - IG/UnB
 Othon Henry Leonardos - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

The main objective of this work is the definition of the litho- stratigraphic, structural and metamorphic aspects of a Precambrian metasedimentary sequence and their implications for the controls and evolution of the associated scheelite mineralization. The mapped area, of about 200 km² is situated SE of the town of Lages, State of Rio Grande do Norte, between the ridges of Feiticeiro, to the West, and Bonfim, to the East.

The metasedimentary sequence has mainly micaschist at the top, quartzites in the middle and gneisses at the base. Marbles and calc-silicate rocks are intercalated in all three units. This sequence has undergone a complex tectonometamorphic evolution. The oldest recognized event deformed the, metasediments through tight to isoclinal folding with gently dipping axial planes, and axes oriented N15-20E. Generalized transposition effects are associated. The metamorphism is in the amphibolite facies, which reaches the sillimanite isograd. The basal levels this sequence are granitized by metamorphic feldspathization and anatexis. The granitoids of the area are augen and porphyroblastic orthogneisses, and texturally more homogeneous orthogneisses, that have been formed during this event.

The second event imposed the present macrostructure, obliterating the earlier. The metasediments were refolded in syn- and antiforms with steeply-dipping axial planes at 80° SSE whose axes are oriented N10-15E. The mapped macrostructure is affected by crenulations, kinks, smooth undulations and flexures with steep to vertical axial planes having the same direction. These are subordinate effects, probably related to this event.

Evidence for a third event involving crossed folds in the metasediments are, a transverse fracture cleavage (N70E) and chequerboard pattern of type B lineations with orthogonally refolded axes. Chlorite and sericite are aligned with the cleavage fracture.

Scheelite is hosted mainly by calc-silicates and occasionally in amphibolites, and quartz or quartz-feldspar veins. The calc-silicate host is concordant with the metasedimentary sequence, principally with the lower unit gneisses.

The scheelite contents are very variable, and the most important reconcentrations have been encountered in favorable structures, whose controls are fold crests and terminations, foliation planes and lithological contacts, concordant and discordant fractures in the structural elements identified, shear planes and cataclastic and breccia zones.

Two main aspects are presented by the e-, evolution of mineralization:

- 1) Stratiform type: Scheelite and sulphides, at least in the primary, state within the original sediments, recrystallised during the first tectonometamorphic event;
- 2) Stratabound type; Scheelite and sulphides, remobilised and reconcentrated in favorable structures during subsequent events. These are the most important from the economic point of view.

Scheibe, L.F. 1979. Petrological and geochemical study of the carbonatites from fazenda Varela, Lages, Santa Catarina, Brazil. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 472 1979 Date of presentation:

Luiz Fernando Scheibe Advisor(s): Formoso, M.L.L.

Committee:

Subject of thesis: Geochemistry

State: SC 1/1,000,000 sheet: SH22 Centroid of the area: 29 39 's - 50 17 'W

Abstract

The Fazenda Varela carbonatites are the first described occurrence in association with the alkaline rocks of the Lages Dome, Santa Catarina State, Southern Brazil. They are located near the center of the alkaline complex, with approximate geographic coordinates 29°39'S and 50°17' W.G.

These carbonatites are brecciated and heterogeneous, and the main constituents are ankerite, barite, orthoclase, synchisite and pyrite; pyrochlore and monazite are present in some cases. Quartz and apatite are secondary minerals and magnetite in blocks is also present. The carbonatites are white, turning to brown when weathered. Final weathering products are ferrallitic crusts and soils rich in barium, iron, manganese, and thorium.

The carbonatites intruded the sandstones and siltstones of the Rio Bonito Formation, producing extensive feldspathization with potassic character.

The mineral composition, the high Ba/Sr, Nb/Ta and Th/U ratios, and the high total and relative concentration of the light lanthanides indicate that the Fazenda Varela carbonatites are representatives of the last phases of a fractionation process.

Carbon and oxygen isotopic ratios as well as the geologic setting indicate sub-volcanic emplacement, but the value of the Sr87/Sr86 ratio is compatible with a mantle origin, perhaps affected by little crustal contamination or by the high potassium concentration of the fenitizing fluids.

The indications obtained by the present study suggest the possible occurrence of a larger body of carbonatitic rock, at a level below the present erosion surface, representing the early phases of crystallization of the carbonatitic magma.

Sigolo, J.B. 1979. Geology of bauxitic residual deposits in the Lavrinhas region, SP state and its economic feasibility. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2124 1979 Date of presentation:

Joel Barbujiari Sigolo Advisor(s): Ribeiro Filho, E.

Committee:

Subject of thesis: Economic Geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Teixeira, A.M.S. 1979. A new carnivorous Cynodont (Probelesodon kitchingi, n.sp.) from the Triassic of Rio Grande do Sul, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 746 1979 Date of presentation:

Ana Maria Sá Teixeira Advisor(s): Barberena, M.C.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The present dissertation deals with the osteological description of the skull of *Probelesodon kitchingi* n.sp., a new cynodont from the Santa Maria Formation, Triassic of southern Brazil.

The new species presents significant differential features in relation to *P. lewisi* and *P. minor*, from the Chañares Formation of Argentina, such as: a) a longer skull, with less flaring zygomatic arches and longer temporal region; b) different proportions of the maxillae and palatines in the secondary palate and c) 10 instead of 9 (or 8) maxillary postcanines.

Additional differences are to be found in the comparison of individual bones; the main differences have been incorporated in the specific diagnosis.

Probelesodon kitchingi fits adequately the fossil content of the Therapsida Assemblage zone, and occupies the lower levels of the Santa Maria Formation, of Upper Chañarensis age.

Ayala, L. 1980. Contribution to the study of the Graxaim formation of the Cenozoic of the coastal plain of Rio Grande do Sul. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 476

1980

Date of presentation:

Lúcia Ayala

Advisor(s): Formoso, M.L.L.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

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Abstract

The Graxaim Formation, chiefly composed of arkosic sandstones, occurs along the coastal plain of the Rio Grande do Sul State, Brazil, cropping out as a broad NE-SW - trending strip, which covers about 9,945km² and is located immediately west of the State's lagoonal system. It extends from surroundings of the town of Jaguarão, in the south, to the neighbourhoods of Gualiba, in the North.

The Graxaim Formation is the oldest Cenozoic formation in Rio Grande do Sul State. It crops out immediately west of the cited lagoonal system and dips east below the younger units, towards the centre of the Pelotas Basin.

The outcropping portion of the Formation lies directly on its source-area, the Pre-Cambrian igneous and metamorphic rocks that constitute the "Sul Rio-grandense - Uruguai" Shield.

Mainly composed of sandstones, the unit presents subordinated silty-argillaceous and areno- -conglomeratic facies, the first slightly predominating in relation to the latter.

During the Graxaim deposition times, there has been an alternation of dry and humid climates, which imprinted their characters in the development of the unit.

Composed of clastic material deposited by streamfloods and sheetfloods, that run eastward from the uplands of the shield to nearby lowlands, the Graxaim Formation is made up of a series of alluvial fans that, interfingering in space and superposing themselves in time, gave origin to the constant and repetitive vertical and horizontal faciological changes of this stratigraphic unit.

Azevedo, H.C.A. 1980. Geology and gold mineralizations of Silvina, Rio de Contas - Bahia. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 949

1980

Date of presentation: 4/7/1980

Hélio Carvalho Antunes Azevedo

Advisor(s): Brown, A.

Committee:

Alcides Nóbrega Sial

- DG/UFPE

Reinholt Ellert

- IGc/USP

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA

1/1,000,000 sheet:

SD24

Centroid of the area:

' -

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Abstract

The present study was undertaken in a mineralized area of about 30 square kilometres, near Pico das Almas, in the western part of the Chapada Diamantina, State of Bahia, which is well known for its gold mineralizations. The area is underlain by metavolcanic and volcanoclastic rocks of the Rio dos Remédios Group, and a sequence of metaconglomerates and quartzites of the Paraguaçu Group, both intruded by gabbro dykes. The metavolcanic rocks are largely coarse pyroclastic and tuffs, though flows have been recognized. Their volcanic and explosive nature is clearly detected in thin section, even though many textures are strongly obliterated by alteration and deformation the rocks have undergone. The acidic natures, widely regarded as predominant in the Chapada Diamantina, has not been confirmed by the major elements compositions, which shows impoverishment in silica and alkalis, and enrichment in iron, magnesid and alumina. These results are interpreted as a result of the intense metasomatic process these rocks underwent since their formation. There is some evidence for erosion of the volcanic rocks. Four stratigraphic units were mapped in the meta-sedimentary Paraguaçu Group, which lies discordantly above the volcanic rocks. These are: upper quartzite (Pepq1), upper metaconglomerate (Pepcg2), second quartzite band (Pepq2), and basal metaconglomerate (Pepcg2). The poorly sorted petromictic conglomerates of both units contain pebbles of white quartz, quartzite, meta-arenite, and volcanic rocks. The pebble lithologies match those of the Rio dos Remédios Group. Paleocurrent directions established in this study indicated the source area to lie to the west or southwest of the study area. The high degree of immaturity of the conglomerates suggest a rapid transportation and deposition. All the mapped unit lie on the western flank of a large syncline trending NW-SE, exhibit, chevron-style minor folds, and are strongly fractured. The fold axial planes are vertical or dip steeply to the SW or NE. The study indicates at least 6 phases of deformation and a complete structural concordance of the igneous, volcanic and sedimentary domains. Thus the basic dykes were intruded early, and, other than a spatial coincidence, have no important relation with the quartz veins. Though alluvial gold concentrations are known in the area, the principal occurrences are in fractures and cavities in quartz veins. A clear structural control of the vein mineralization was established in the existence of at least 2 generations of veins. One, striking NW-SE, and related to the general folding of the area, is mineralized. The other unmineralized sets are associated with post-folding fracturing. The metaconglomerates show no economic concentrations of gold: although the metal has been detected in the matrix and pebbles. This is attributed to the immaturity of the conglomerates. Anomalous contents in relation to reference values in the world literature, were encountered in some rock types. The largest anomalies were measured both in the larger-size fractions of the sandstones or in the those with conspicuous sedimentary structures in the metasedimentary sequence and in the tuffs and coarser metasediments in the volcanic sequence. This reflects a primary lithologic control and suggest remobilization of gold into quartz veins during the main deformation phase, when there probably was a strong circulation of hydrothermal fluid through rock pores and extension zones. The lack of a clear connection with granite plutons or other

external magmatic sources, points to a syndimentary origin for the ore in the area of Silvina.

Barbosa, L.S.S. 1980. The Apodí Group Limestone Facies, W of Açu River (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Limestones, Facies study, Depositional environment, Diagenesis

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 574 1980 Date of presentation: 10/9/1980

Lúcia Seve de Sant'ana Barbosa Advisor(s): Tinoco, I.M.

Committee:

Subject of thesis: Sedimentary Geology

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

A facies analysis based upon petrographic laboratory and field data, together with consulted bibliography, permitted the determination of the scale properties as well as the litho- and biostratigraphic attributes necessary for the working out of a sedimentary model of the carbonate-clastic sequence of the Sebastianópolis Formation (Turonian-Santonian, Potiguar basin, Rio Grande do Norte State).

The composite microfacies showed that the lithostratigraphic unit was deposited in laterally changing environments from littoral to tidal flat and lagoon, as a shallow and restricted carbonate platform, with slow subsidence.

Diagenetic changes in the carbonates resulted in a secondary dolomitization, whereas primary dolomite occurs only in the tidal flat deposits.

Barreira, C.F. 1980. Geology, geochemical and geophysical prospecting of Rio do Coco area, Paraíso do Norte, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M014

DataBase Ref.: 74 1980 Date of presentation: 28/11/1980

Célio Freitas Barreira Advisor(s): Dardenne, M.A.

Committee:

Subject of thesis: Prospection and Economic Geology

State: TO 1/1,000,000 sheet: SC22 Centroid of the area: ' - 'W

Abstract

Geological mapping aided by airborne geophysical and stream sediments geochemical, surveys, lead to the reconnaissance of a volcanic-sedimentary sequence ("Rio do Coco" Sequence) lying unconformably over the "Complexo Basal Goiano".

The "Complexo Basal" includes here migmatites, gneisses, calc-silicated rocks, amphibolites and meta-conglomerates while the "Rio do Coco" Sequence comprises komatiitic volcanics interstratified with chemical and pelitic sediments. The sequence is metamorphosed within low grade and has been intruded by alkali-feldspar granite. Unconformably over both the "Complexo Basal" and the "Rio do Coco" sequence are graphitic phyllites interlayered with conglomeratic quartzites.

The indirect exploration methods have revealed themselves most effective tools in the mineral prospection and as auxiliary to geological mapping in the dominant conditions of widespread lateritic cover.

Statistical treatment through log-probability curves made possible the identification of three populations of analytical values, whose distribution clearly shows a lithological control.

The qualitative interpretation of the Input and aeromagnetic surveys data had a relevant auxiliary role in the geological mapping.

The classification of the Input anomalies were based on the values of the decay rates and their relationship with magnetic and geological data.

The characterization of the geological environment, the study of the sulfide occurrences and the geophysical and geochemical exploration surveys point out the base of the "Rio do Coco" Sequence, at the rim of the alkali-feldspar granite body, as the most important target for gold and nickel in the iron formation and ultramafics rocks, respectively.

Barros, I.M.T. 1980. Sediments of the Camboeiro Well (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Camboeiro well, Sedimentological analysis, Açu river

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 575 1980 Date of presentation: 15/12/1980

Iêda do Monte Teixeira Barros Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

A detailed sedimentological investigation of the well P-13 (Camboeiro, Rio Grande do Norte State) was made, analysing lithology, grain-size composition of the sediments, sphericity and roundness of the grains, and a mineralogical analysis of limestones and clays.

The data have been plotted on the diagram appropriate for presentation of small sample data, proposed by Faber as modified by Mabesoone. After that a comparison was made with the facies diagram of the same method, for the interpretation of the depositional environments. A comparison with various other wells drilled in the area, has also been made.

With the obtained data it was possible to sketch a chrono-geological history of the Piranhas/Açu river, concluding that she established during the graben formation, fact justifying the great thickness of the fluvial clastics, with estuarine influence. The limestone deposition was interpreted as due to reworking of the Jandaíra Formation limestone debris.

Calliari, L.J. 1980. Sedimentological and environmental aspects in the estuarine region of the Patos lagoon. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 441

1980

Date of presentation:

Lauro Júlio Calliari

Advisor(s): Martins, L.R.S.

Urien, C.M.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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Abstract

The geomorphological evolution, sedimentological characteristics and environmental conditions of the estuarine region of the Patos Lagoon in southern Brazil are discussed in this dissertation.

Environmental (temperature and salinity) and analytical data of 310 bottom samples were collected as part of the Lagoon Project of the BOA (Base Oceanográfica Atlântica), Rio Grande University.

The samples demonstrate that the estuary bottom is covered with sand, silty sand, clayey sand, clayey silt, silty clay and a mixed bottom (sand-silt-clay). Water depth determines the bottom type.

Spacial distribution of heavy minerals was determined qualitatively and quantitatively by gravitative separation and, subsequently, the minerals were identified with a petrographic microscope. The quantitative values obtained in this study showed very low indexes for the analyzed fractions (3 to 4). In most areas values between 0.5 and 1% were found. The qualitative distribution was very significant and allowed to verify the São Gonçalo channel present contribution.

The Ansed system was applied to calculate statistic parameters of different sedimentary patterns. The statistic parameter distribution patterns and relationship coincide and reflect the energy level of each zone.

Based on environmental data alone it was difficult to establish the behavior pattern of the estuary since estuarine dynamics are closely related to the meteorological phenomena. In a general way, it is possible to define seasonal behavior patterns.

The estuarine benthic macrofauna, composed of molluscs, crustaceans and polychaets, presents a low specific diversity but high density, mainly in the mixohaline zone and in the bays where detritus can affect the sediment type, indicating preferential selection for certain bottom types.

Carvalho, C.N. 1980. Hydrochemistry of Rio Sarapuí river - RJ. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 33.292/80

DataBase Ref.: 983

1980

Date of presentation: 12/12/1980

Cacilda Nascimento de Carvalho

Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

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Abstract

Analysis of the complete course of the Rio Sarapuí-RJ, a NW affluent of Copacabana Bay were made and data are here presented. The analysis were made "in situ", by colorimetry and titration. They indicate Deficiency of Dissolved Oxygen and characterize Chloride, Sulfide, Ammonia, Nitrite, Cyanide, Total Hardness, pH, Total Iron, Chromium VI and Copper, giving nine hundred and eighty data. The atomic absorption spectroscopy analysis of the soluble fraction (0,45m) characterize Magnesium, Calcium, Chromium, Manganese, Iron, Copper, Zinc, Cobalt, Nickel, Cadmium, Mercury and Lead. Sodium and Potassium were analysed by flame photometry. The instrumental analysis totalize one hundred and forty data. The results obtained permit to classify the river into domiciliar, intermediary and industrial zones, according to the emissions that it receives. All the zones are contaminated by chemical species in different concentrations.

Fabrizio, M.E.D. 1980. Palynology of the Rio Bonito formation in the area of Gravataí Morungava, Rio Grande do Sul. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 749

1980

Date of presentation:

Maria Elise Dias Fabrício

Advisor(s): Marques-Toigo,M.M.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The study of four boreholes (5CA-80-RS, 5CA-99-RS, 5CA-91-RS, 5CA-98-RS) from Gravataí-Morungava coalfield, Rio Grande do Sul, Southern Brazil, reveals a palynological association of 45 genera and 74 species of spores and pollen grains. The frequency of the main morphographic groups and the classification of the species of each borehole are presented. Besides the systematic descriptions, the paleobotanical affinities and the range of each species are also given. It is made an attempt to reconstruct the palaeoenvironment.

A great deal of the studied specimens are related to previously described types. A new genus and species (*Elosporites conjugatus*), four new species (*Cristatisporites morungavensis*, *Cristatisporites solaris*, *Cristatisporites variornatus*, *Cristatisporites microvacuolatus*) and four new combinations are proposed.

Funchal,P.R.C. 1980. Palaeoenvironmental analysis of the Itararé group in the Gravataí - Morungava area, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 410

1980

Date of presentation:

Paulo Roberto Corrêa Funchal

Advisor(s): Corrêa da Silva,Z.C.

Committee:

Subject of thesis: Stratigraphy

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

'W

Abstract

The study of sedimentary structures and cyclicity of six well-cores from the Itararé Group evidenced the more significant palaeoenvironmental features at Gravataí-Morungava area.

The results, comprising several sub-environments, reflect the complexity of the lithologic variations found along the profiles. The depositional system is variable and intercommunicative, characteristic of periglacial areas, with the development of lakes (varve rocks), small rivers (ortoconglomerates and sandstones) and clastic fans (diamictites), followed vertically by marsh deposits (siltstones) in flatter areas, with a generalized growth of vegetation and local peats (beds of coal, discontinuous and of little thickness).

Furtado,S.M.A. 1980. Contribution to the petrologic, geochemical and metalogenetic studies on the copper mineralization in de Cerro dos Andradas, Caçapava do Sul, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 473

1980

Date of presentation:

Sandra Maria de Arruda Furtado

Advisor(s): Formoso,M.L.L.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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Abstract

The results of the study on the copper mineralization of Cerro dos Andradas, Rio Grande do Sul, Southern Brazil, are presented and discussed. Sulphides occur in schists of the Vacacai Formation of Precambrian age.

The lithologies of the area comprise: (1) a sequence of parametamorphic rocks constituted mainly by chlorite and/or phengite; (2) partially to completely metamorphosed andesitic lava flows, and (3) ultramafic rocks composed of talc, serpentine, chlorite, and dolomite.

Mineral assemblages indicate a relatively high $p\text{CO}_2$ during metamorphism and metamorphic conditions of the greenschists facies (chlorite zone).

Two intersecting schistositys and a cataclastic foliation have been observed.

The copper mineralization is distributed over three irregular bodies with disseminated ore minerals. The ore is dominantly constituted by chalcocite, subordinately bornite, pyrite, and chalcopyrite, and rarely digenite, covellite and native copper. A maximum of 15 ppm of silver has been detected.

The oxidation of the ore is observed to a depth of 30 meters through the occurrence of malachite and brochantite.

The primary ore minerals show evidence of some metamorphic conditions as the enclosing schists. The origin of the ore is discussed.

Garcia,M.A.M. 1980. Petrology of the Palma complex, Rio Grande do Sul. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 474

1980

Date of presentation:

Marco Antônio Maurer Garcia

Advisor(s): Formoso, M.L.L.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH21

Centroid of the area:

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Abstract

SH22

The purpose of the present dissertation is to study a geologically controverted region, with respect to its geotectonic significance and age.

The area is located in São Gabriel, State of Rio Grande do Sul, and comprises folded, faulted and metamorphosed sedimentary and igneous rocks. These are metasediments of the flysch facies, granite, metadacites, metabasalts, metagabbros, metaperidotites, metapiroenites and serpentinites, with a possible spinifex texture. The name Palma Complex is proposed for this association.

Petrographic, structural and geochemical studies led to the following important conclusions:

1. The petrographic data showed both a cumingtonite + talc paragenesis and the presence of ferri-chromite, which characterizes, at least, an epidote-amphibolite metamorphic facies for the Complex;
2. The existence of 3 events of deformation;
3. The affiliation of the metavolcanic sequence, where metadacites are included, is calc-alkaline;
4. The possibility that the Palma Complex may represent a greenstone belt is suggested by petrographic association and chemical parameters.

Gayer, S.M.P. 1980. Osteology of the skull and lower jaw of Ceratophrys aurita (Raddi, 1823), (Anura, Acosmanura, Leptodactylidae, Ceratophryinae). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 747

1980

Date of presentation:

Stela Máris Pires Gayer

Advisor(s): Barberena, M.C.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The present dissertation deals with the osteological description of the skull and lower jaw of Ceratophrys aurita (Raddi, 1823) (Anura, Acosmanura, Leptodactylidae, Ceratophryinae).

Three specimens were studied. A male and a female collected at Linhares, State of Espírito Santo, and a female collected at Parelheiros, State of São Paulo, were put to death and sent to us by Prof. Werner C.A. Bockermann. The skull of the female of Linhares was chosen as the main material for descriptive purposes.

Godoy, R.C. 1980. Secular variation of the intensity of geomagnetic field in Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 36.237/80

DataBase Ref.: 1586

1980

Date of presentation: 29/12/1980

Rogério Carvalho de Godoy

Advisor(s): Lotze, W.F.

Committee:

Carlos Eduardo de Moraes

- DG/UFRJ

Subject of thesis: Geophysics

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

A survey of available data, useful for computations of geomagnetic models in Brazil was done. Site descriptions as well as observed values in repeat stations and annual mean values of geomagnetic observatories were revised, corrected, coded and organized in digital files. Two models of the total intensity of geomagnetic field and four models of its secular variation were computed using the data files. The models are evaluated according to geomagnetic observatory data and compared with other models. Conclusions on changes in field work methodology and about future work flow are derived.

Gomes, B.S. 1980. Geology of the São João do Paraíba quadrangle (RJ state). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 27.829/80

DataBase Ref.: 1186

1980

Date of presentation: 30/12/1980

Benedito Souza Gomes

Advisor(s): Costa, L.A.M.

Committee: José Raymundo de Andrade -
 Rudolph Allard Johannes Trouw - DG/UFRJ
 Hélio Monteiro Penha - DG/UFRJ

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Not taking into account recent sedimentary cover and intrusive bodies of unknown ages, the identified lithologic associations in the area of study make up expositions of a cratonic basement of pre-Cambrian age. These associations were grouped into three major Assemblages, each one represented by two or more Formations(*). Five distinct domains were recognized: 1st) T. Holland's "Charnokitic Series", where tonalitic (enderbitic) composition dominates over granitic and others; here three formations(*) are distinguished: fm. Bela Joana (igneous looking and gneissic types), fm. Monte Verde (cataclastic types - mylonites, cataclases and mylonite-gneisses) and fm. São José de Ubá (granulites); 2nd) Kinzigites (always associated with the first domain), making up the bulk of fm. Catalunha which also includes leptinites and bands of amphibolite, of calc-silicate rocks and of dolomitic marble; 3rd) Gneisses and migmatites of tonalitic composition (fms. Itava and Santo Eduardo); 4th) Migmatites and gneisses of granitic, granodioritic and tonalitic composition (fm. São João do Paraíso); 5th) Migmatites and gneisses of complex and variable composition, associated with leptinites and with charnockitic and calc-silicate rocks; these lithologies define fm. Vista Alegre. The paragenetic associations observed and studied in these rock types put the metamorphic field between amphibolite facies (Assemblage II) and granulite facies (Assemblage I) of Regional Metamorphism and between hornblende-hornfels facies and pyroxene-hornfels facies of Thermal Metamorphism. Petrographic evidences indicate a former migmatitic/magmatic process followed by a dynamic-regional metamorphism where post-tectonic recrystallization dominated over cataclasis. A final metamorphic process, mainly dynamic, was then set where intense cataclasis has been followed by partial recrystallization. Under a regional structural point of view, the lithologies here considered are structured according to a model of slip (shear) folding, with plunging axes and southeastern overturned limbs. (*) Here not considered in the stratigraphic sense. The main penetrative structural element is foliation and the non-penetrative is represented by two fracture systems, one being parallel and the other oblique to normal to the regional foliation strike. Linear structural elements are also associated with these planar ones, as fold axes, striae, mineral elongation, etc. Slip (shear) folds are easily identified and sometimes interference patterns (refolding) are revealed. The mineral resources in the studied area are restricted to the known dolomitic marble occurrences.

Gresele, C.T.G. 1980. Cranial osteology of Lama guanicoe (Müller, 1776) in comparison to Camelops hesternus (Leidy, 1873). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 748 1980 Date of presentation:

Christina Teixeira Guimarães Gresele Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This paper deals with the osteological description of the synsacrum of Lama FRISCH, 1775, particularly Lama guanicoe MÜLLER, 1776, in comparison to the extinct genus Camelops LEIDY, 1854, and the respective type species, C. hesternus (LEIDY, 1873), as described by Webb (1965).

Jardim, L.F.A. 1980. Synsacral osteology of the species of Menticirrhus Gill, 1861 from the southern coast of Brazil (Perciformes, Sciaenidae). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 750 1980 Date of presentation:

Leda Francisca Armani Jardim Advisor(s): Barberena, M.C.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The present dissertation deals with the osteology of the cranium of two species of the genus Menticirrhus GILL, 1861 found in Southern Brazil. It is based on the detailed observation of eight specimens belonging to M. littoralis and ten to M. americanus. The material was fixed, preserved and subsequently disarticulated and submitted to the usual processes for whitening, digestion and staining.

From the osteologic point of view, diagnostic differences are not outstanding since the species are very much alike. But these differences do offer good parameters for taxonomic separation. Some of these differences are the following: the lacrimal bone that shows a reasonably complex morphology offers distinctive features in the two species of Menticirrhus, as it is discussed in the text. The long, narrow nasal with the furrow of the lateral line more closed in M. littoralis, allows another point of differentiation

from *M. americanus*, whose bone has distinct features.

The premaxillary dentition in both species is also distinct in form, number and distribution of villiform and conical teeth. The suture area between frontal and supraoccipital is elevated in *M. littoralis*, but not in the other species.

The crenulations of the preopercular and topography of the frontal is distinct in both species.

The "lower pharyngeals" teeth of the fifth ceratobranquial, which is wider in *M. littoralis*, are usually molariform; in *M. americanus* we can see predominantly developed conical teeth, indicating a higher predatoriness in this species.

Some significant osteologic differences are also found in the pharyngobranchials, branchial arches and in the neurocranium of both species.

Conspicuous differences in the external morphology are also present, but restricted to the kind of teeth of the premaxillary, a lower and longer head in *M. littoralis* and breast scales distinctly smaller than those of the rest of the body, which do not occur in *M. americanus*.

Finally, *M. littoralis* presents back and sides in silvery grey color, a white toned belly and generally clear fins.

M. americanus shows back and sides in a darker grey with five or six dark colored oblique strips, a white colored belly and generally dark fins.

Jochimek, M.R. 1980. Diagenetic evolution of the sandstones of Campo de Dom João field (Bahia state) and its consequences in the trapping proprieties of these reservoirs. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 39.775/81

DataBase Ref.: 1183 1980 Date of presentation: 15/12/1980

Mirian Rosenthal Jochimek Advisor(s): Bandeira Jr, A.N.

Committee: Antonio Thomaz Filho - DG/UFRJ
 Jeannine Odette Cassedanne -
 Johann Hans Daniel Schorscher -

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The present work was carried out on hydrocarbon carrying sandstone from a well localized in the Dom João Field (Bahia) using X-ray diffraction and scanning electron microscopy to study the variables responsible for the behaviour of the well in the stages of completion and production. The techniques employed permitted the gathering of data geometry of the porous, diagenetic zoning, habits and the occurrence of clays, etc.) useful in the programming of well treatment and in the development of recovery techniques. The results obtained can be applied to the measurement of the well profile, development of methods used in reservoir engineering, in the determination of the potential production of the well and in the possible elevation of the recovery rate. The evolution of the clay minerals used as a base for the diagnostic zoning was registered by what can be called the "SEM profile", similar to a radiography of the sequences in the reservoir, and made up of a photographic sequence. This profile presents a record of the variations in the geometry of the porous system as well as the morphology of the authigenic clay minerals throughout the length of the part under study, thus enabling the production engineer to gain a wider and more clearer view of the reservoir rock.

Limaverde, J.A. 1980. Geological analysis model applied to road construction technique. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 1.700/78

DataBase Ref.: 1603 1980 Date of presentation: 19/12/1980

João de Aquino Limaverde Advisor(s): Cadman, J.D.

Committee:

Subject of thesis: Geotechnical Mapping

State: CE 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The field area of this work lies south of the state of Ceará, along the roadway connecting Nova Olinda do Potengi (40km). It was surveyed according to the following sequence: available data, physiographic and geologic regional aspects, and, in a third phase, field mapping and sampling in order to establish a geological model for geotechnical use. As a matter of fact, two models were defined: - a litologic model, where the petrological rock characteristics are associated to the geotechnical properties of the derived from them. - a structural model, where the formation of earthly deposits are interrelated with mechanical and paleomorphological processes. Finally, as consistency test of the proposed method, the results of the geotechnical tests are presented in correlation with its corresponding rock matrix. We hope that, through this work we have complied to the school requirements for a Master of Sciences degree, and, in a certain way, contributed to highway project technology, as far as the research for "in natura" materials for pavement construction, and, the subgrade characterization for pavement design purpose, are concerned.

Mayal Filho, Z. 1980. The Crato Member Sedimentary Facies (Santana, Formation, Araripe Group, State of Ceará). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Araripe basin, Crato Member, Laminated limestones, Microfacies, Depositional environment

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 572

1980

Date of presentation: 7/2/1980

Zacarias Mayal Filho

Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: CE

1/1,000,000 sheet:

SB24

Centroid of the area:

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'W

Abstract

The present thesis was made in the eastern region of the Araripe tableland, in the NE Brazilian inland (Ceará State). A facies study of the Crato Member (Santana Formation, Araripe Group) was elaborated, using the microfacies method applied to the samples collected in the place indicated on the geologic map, on surface and in subsurface (well samples). The employed technics supplied percentile data of the orthochemical, allochemical, organic and detrital parameters for the distinction of 39 detailed microfacies taken together into seven composite microfacies. In these latter a great similarity and monotony has been observed, the distinction and classification having been based only on details presented by the allochemical, detrital and or orthochemical components.

In the analysed samples four types of sedimentary structures have been identified: parallel lamination, convolute lamination, clay balls and micro-stylolites. Perturbations in the depositional regime are evident, chiefly seen in the subsurface sample, resulting from proper overloading or overcharge associated to slow currents. Paleocurrents were supposed to have been unidirectional because no variations in the orientation of organic remains and inexistence of cross-lamination was observed.

The genesis of the Crato Member sediments is silty-clayey material with addition of local organic element or suspension transported onse, deposited together with fine carbonate matter captured by algal mats under alkaline pH conditions. The faciologic character of the studied member showed small variations, with but a general tendency to have been formed in a lake to swamp freshwater environment with a local debris supply. The facies behaviour in the environmental evolution has been interpreted as shallow and oxidizing, passing progressively into in a deeper and reduction realm, with anaerobic bacterial activity, responsible for the chemical reactions with the appearance of sulphide minerals. The diagenetic effects until the present stage, have been chiefly weak to medium in the basin, enabling the preservation of most of the organic matter.

Medeiros, E.R. 1980. Stratigraphy of the São Bento group in the region of Santa Maria and paleocurrents of the Botucatu formation. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 407

1980

Date of presentation:

Edgardo Ramos Medeiros

Advisor(s): Andreis, R.R.

Bossi, G.E.

Committee:

Subject of thesis: Stratigraphy

State: RS

1/1,000,000 sheet:

SH21

Centroid of the area:

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Abstract

A stratigraphic review was made in Santa Maria region, Rio Grande do Sul State, Brazil, where the Rosario do Sul, Santa Maria, Botucatu and Serra Geral Formations were studied in some detail.

The Alemoa and Passo das Tropas facies of the Santa Maria Formation (Bortoluzzi 1974) were considered as members. On the other hand the Caturrita Member of the Botucatu Formation was individualized as Caturrita Formation.

The statistic methods were used in the study of paleocurrents of the Botucatu Formation. The Agterberg & Briggs (1963) permitted to obtain a mean of N24° E for the main direction of the wind.

The statistic data showed that the dunes of the Botucatu desert in Santa Maria region were Barchans.

Melo, J.G. 1980. Hydrogeology of the Jatobá Sedimentary Basin (State of Pernambuco): Exploitable Resources and Capture Devices. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 545

1980

Date of presentation: 3/12/1980

José Geraldo de Melo

Advisor(s): Brito Neves, B.B.

Committee:

Subject of thesis: Hydrogeology

State: PE

1/1,000,000 sheet:

SC24

Centroid of the area:

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'W

Abstract

Mendes, J.M.B. 1980. Prospection of limestones using geophysical methods in Matosinhos, Minas Gerais state: geology-electrorresistivity. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2123 1980 Date of presentation: 24/4/1980

José Milton Benetti Mendes Advisor(s): Davino, A.

Committee:

Subject of thesis: Geophysics

State: MG 1/1,000,000 sheet: se23 Centroid of the area: ' - 'W

Abstract

Menezes, M.O.A. 1980. Radioactive Tracer Application to the Study of Groundwater Flow in the Apodí Alluvial Plain (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Hydrodynamic alluvium, Apodí plain, Radioactive tracers

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 546 1980 Date of presentation: 29/12/1980

Marco Otávio Alencar Menezes Advisor(s): Manoel Filho, J.

Committee:

Subject of thesis: Hydrogeology

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

The objective of this investigation was the study of certain hydrodynamic characteristics of the alluvial and Açú aquifers in the alluvial plain of the Apodí river in Rio Grande do Norte State, by means of radioactive tracers.

The technique employed is similar to "dilution through labelling of piezometric column of wells". Ammonium bromide (NH₄Br), labelled with Bromine-82 (half life-35.34h) was used as a tracer in our study.

The transmissibility and permeability measured in the alluvial plain are $T = 3.92 \times 10^{-2} \text{ m}^2/\text{s}$ and $K = 1.42 \times 10^{-3} \text{ m/s}$, which are in the range of values obtained previously by other authors, using the conventional pumping method. Furthermore the vertical flow patterns have demonstrated intercommunicability of water between the alluvial and Açú aquifers, as was previously suggested by other authors.

Moura, P.L. 1980. Material in suspension in Baía de Todos os Santos bay. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1284 1980 Date of presentation: 9/5/1980

Paulo Laranjeira de Moura Advisor(s): Bittencourt, A.C.S.P.

Committee: Geraldo da Silva Vilas Boas - IG/UFBA

Jáder Onofre de Moraes -

Subject of thesis: Coastal and Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Todos os Santos Bay comprises an area of about 800 km². The various streams and streamlets that flow the bay transport a considerable load of material in suspension.

The measured distribution of the salinity shows that the bay is dominated by marine conditions. The salinity increases progressively with increasing distance from the mouth of the Paraguaçu River toward the interior of the bay. The temperature of the surface waters in these localities normally vary between 27 and 30°C.

The quantity of suspended material in the surface waters diminishes perceptibly with increasing salinity, so that the suspended load is larger close to the mouth of the Paraguaçu river, where the dilution with fresh water is greatest.

Measured profiles often show an increasing concentration of suspended material with depth which is due, primarily, to the resuspension of the bottom sediments by tidal currents.

The dominant clay mineral in all localities studied is Kaolinite, that is ascribed, primarily, to the predominantly humid climate of the source areas and, secondarily, to the lithology of these areas.

Paciullo, F.V.P. 1980. Geologic-structural mapping of Minduri area - Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 36.235/80

DataBase Ref.: 1184

1980

Date of presentation: 30/12/1980

Fábio Vito Pentagna Paciullo

Advisor(s): Trouw, R.A.J.

Committee:

Joel Gomes Valença

- DG/UFRJ

Fernando Roberto Mendes Pires

- DG/UFRJ

Luís Alfredo Moutinho da Costa

-

Subject of thesis: Regional Geology and Economic Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

In the Minduri area, a sequence of metasedimentary rocks mainly composed of greenish muscovite-quartzites and garnet-staurolite shists with quartzite levels, overlies a basement composed of tonalitic gneisses with minor ultramafic bodies and amphibolites. The metasedimentary sequence, denominated Carrancas Group (Trouw, Ribeiro e Paciullo, 1980), integrates the São Tomé das Letras Formation and Campestre Formation. Three deformation phases affected these rocks. The last one is represented by open anti - and sinforms with SW axes. Crenulation, locally accompanied by a crenulation cleavage, developed in this phase with a crenulation lineation of attitude 230/10. The second deformation phase caused a huge recumbent fold with its axis, E-W in the mapped area, N-S in the Serra das Bacias and E-W in the Serra de Carrancas. During this phase a schistosity was produced leaving vestiges of a crenulation cleavage S2. Mineral lineation and crenulation lineation with attitudes 264/10 have also been formed in this phase. Thrusts of metasediments over the basement, evidenced by tectonic lenses and the wedging of the São Tomé das Letras Formation, are thought to be related to first deformation phase. Metamorphism of intermediate pressure-type and of amphibolite facies occurs, the corresponding rock assemblages carrying staurolite, garnet and kyanite. Had its peak contemporaneously with the second deformation phase. Chloritoid post-tectonic to the third deformation phase suggest retrograde metamorphism.

Pilatti, F. 1980. The Rio Bonito formation in southeastern Paraná state - Stratigraphy and palaeoenvironments. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 409

1980

Date of presentation:

Fernando Pilatti

Advisor(s): Andreis, R.R.

Committee:

Subject of thesis: Stratigraphy

State: RS

1/1,000,000 sheet:

SG22

Centroid of the area:

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'W

Abstract

This dissertation presents a study which focuses upon the Rio Bonito Formation, located in the southern part of the State of Paraná, through the geologic examination of cores obtained in drilling for the prospection of coal deposits. In the Rio Bonito Formation two sedimentary sequences can be distinguished. In the lower sequence predominate sandstones, which range from fine to medium-grained, locally coarse-grained, and conglomeratic, feldspathic, immature sandstones presenting mainly massive layers, medium and small size cross lamination, and cut-and-fill structures associated with small coal seams. Secondly, there are siltstones and diamictites. The upper sequence consists of greenish gray siltstones and shales as well as calciferous levels with algal structures. On the top of the sequence predominate greenish gray, well-selected finer sandstones with small size ripple and cross lamination and flat parallel lamination levels; bioturbation also occurs. A detailed description of cores and a working up of several lithofacies and sand/shale percentage graphs, associated with the study of the lithology, the texture and the sedimentary structures, have made it possible to make a paleoenvironmental interpretation. The lower sequence of the area in question was deposited under continental influence in a typical alluvial flat environment, while the upper sequence was deposited in a transitional environment, presenting lagoonal facies, tidal flats, beaches and barriers. Contact relations have been established with the Itararé Group and Palermo Formation. The tectonic influences of the Ponta Grossa Arc were also observed and registered.

Rêgo, I.T.S.F. 1980. Basicultrabasic complex of Pedras Pretas, Rio Grande do Sul - Petrological and geochemical aspects. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 475

1980

Date of presentation:

Inês Terezinha Soares Fernandes do Rêgo

Advisor(s): Formoso, M.L.L.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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'W

Abstract

The Basic-Ultrabasic Pedras Pretas Complex is tectonically situated, with the aspect of a mega- xenolith, in the southern part of the São Sepé Granitic Complex, located in São Sepé, Rio Grande do Sul State. It comprises a small area (2.55km²) and is composed of basic and ultrabasic rocks metamorphosed to medium- and low-grade, with largely preserved original structures, textures and mineralogy. Based on petrographical and geochemical features, basic and ultrabasic units can be individualized. Within these units, lithologic types moderately differentiated are observed, although they cannot be mapped. The basic unit comprises gabbros, leuco- gabbros and anorthosites, and the ultrabasic unit comprises rocks with approximately dunitic, peridotitic, pyroxenitic, gabbroic and anorthositic composition, with serpentinites and serpentinized equivalents. Layering, stratifications and igneous laminations are noticeable. The petrological and geochemical features of the Pedras Pretas Complex are compatible with the classic model of formation of magmatic lithologies by cumulative processes in stratiform complexes. The chemical characteristics of the basic unit indicate tholeiitic affinities, similar to the differentiation trend of the typical stratiform complexes, with moderate iron enrichment. Radiometric dating has not yet furnished conclusive data. Nevertheless, K/Ar 800-1000 m.y. values indicate that the Pedras Pretas Complex is of Pre-Brazilian age.

Ribeiro, A. 1980. Geologic-structural mapping of Itumirim area - Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 36.236/80

DataBase Ref.: 1185 1980 Date of presentation: 30/12/1980

André Ribeiro Advisor(s): Trouw, R.A.J.

Committee: Joel Gomes Valença - DG/UFRJ
Fernando Roberto Mendes Pires - DG/UFRJ
Luís Alfredo Moutinho da Costa -

Subject of thesis: Regional Geology and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Geological and structural mapping have been carried out in the Itumirim area near Lavras, Southern Minas Gerais. The rock units of Pre-Cambrian age in this area were grouped in two sequences: the inferior sequence is mainly composed of tonalitic and granodioritic gneisses with minor phyllites and metamorphosed ultramafics and mafic rocks pertaining to the Mantiqueira and Barbacena Groups. This rock assemblage, being invaded by pegmatite veins, constitutes the basement of the superior sequence, which is free of the latter veins. The superior sequence, part of which is denominated Carrancas Group is composed of quartzites, phyllites and schists. Folded and refolded cleavages in the rocks of this group are considered as evidence of three deformation phases. The first phase is interpreted as a thrusting phase with few associated folds. The second deformation phase tight to isoclinal folds. During the third phase intense open to tight folding has been generated. Metamorphism of high greenschist-low amphibolitic facies, with assemblages rich in chloritoid and locally, garnet, staurolite and kyanite, had its peak contemporaneously with the second folding phase.

Rodrigues, J.E. 1980. Remote sensing application on the photogeologic mapping in the Itatiaia alkaline complex region. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1364 1980 Date of presentation: 21/11/1980

José Eduardo Rodrigues Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W
SP
MG

Abstract

Savi, C.N. 1980. Genesis and controls of the fluorite mineralizations of Criciúma region, Santa Catarina state - Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M013

DataBase Ref.: 73 1980 Date of presentation: 15/9/1980

Clóvis Norberto Savi Advisor(s): Dardenne, M.A.

Committee: Othon Henry Leonardos - IG/UnB
Onildo João Marini - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: SC 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

This work aims to study genesis and structural control of tlic fluorite mineralizations of the Criciúma region, Southern Santa Catarina. This region is characterized by a belt (100 km long by 40 km wide) of Upper Proterozoic granitic rocks, covered by sediments of the Paraná Basin.

The lodes are filling open faults, in the western part of the paleogeographic high, which limits the eastern edge of this basin. These faults, with NS to N30oE trend, cut the quartz-monzonite, the quartz- porphyry and diabase dykes, and the detritic sediments of the Itararé Subgroup (Upper Carboniferous).

The studies and observations of the lode of the "Segunda Linha Torrens" situated at 15 km NE of the town of Criciúma, in the township of Morro da Fumaça, allowed to characterize various structures presentes in the lode-bearing rock. The lode shows a symmetrical zonation, with the presence of presence of banded fluorite in the narrow parts, and/or an asymmetrical zonation with the presence of banded fluorite, fine breccias and coarse, "cocardes", stringers and veins of chalcedony and fluorite, and geodes. The paragenesis is characterized by its mineralogical simplicity, with dark green, light green, pink, yellow and white fluorite, chalcedony, quartz, pyrite and kaolinite.

At the contact with the wall rock occurs an intense hydrothermal alteration of medium to low temperature in the quartz-monzonite with formation of chlorite, albite and epidote.

The origin of these zones of breccias and "cocardes" is related to successive transcurrent motions of the eastern block towards tlic south, provoking breakage of the banded fluorite in zones of local compression, and desegregation of the banded fluorite and quartz-monzonite, with filling of the cracks originating during such movements of the fault, and consequent formation of "cocardes". These movements are accompanied by introduction of mineralizing fluids, allowing chemical precipitation of new generations of fluorite and chalcedony.

The chemical precipitation of fluorite occurs in the zone of "melange" (mixing of descending and ascending fluids), and is reelected to the circulation of hydrothermal fluids generated during Cretaceous rifting when African and American continent were pulled apart.

Schevciw, F.G.P. 1980. Weathering alteration of ultramafic terms of the Pien complex (PR state) : Mineralogic-geochemical study. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2128 1980 Date of presentation:

Flavia Goulart Pucci Schevciw Advisor(s): Trescases, J.J.

Committee:

Subject of thesis: Geochemistry and Petrology

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Silva, A.C.G.A. 1980. Mineralogy, amorphous material, genetic evolution of chromium and nickel in the alteration profile of the Santa Fé ultramafic massif, Goiás state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1935 1980 Date of presentation: 3/11/1980

Antonio Carlos Gondim de Andrade e Silva Advisor(s): Barbour, A.P.

Committee:

Subject of thesis: Mineralogy and Petrology

State: GO 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

Thomaz, S.L. 1980. The Rio do Sul and Rio Bonito formations in southeastern Paraná state - Palynology, ages and palaeoecological subsidies. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 408 1980 Date of presentation:

Sérgio Luiz Thomaz Advisor(s): Andreis, R.R.

Committee:

Subject of thesis: Stratigraphy

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

This dissertation refers to palynological studies of some samples from the boreholes 1-PP-12-PR, 1-PP-16-PR, 1-IV-03-PR and 1-PP-17-PR, located in the southeastern part of the State of Paraná; this region includes the areas of São Mateus do Sul and Ipiranga.

A synthesis of the lithostratigraphy is presented in order to understand the palaeoenvironment of sedimentary rocks under investigation.

An informal subdivision of the Rio Bonito Formation in lower sequence and upper sequence, owing to the interfingering of the sedimentary bodies of rocks is used, according to Pilatti (1980), who studied the sedimentary structures of the same sequence. The vertical distribution of twenty four guide palynomorphs allows the setting up of the biostratigraphic table. The occurrence of a *Scolecodont* is registered.

The sedimentary sequence studied corresponds to the biostratigraphic intervals H3 and K (Daemon & Quadros, 1970), and geochronologically, from Artinskian to Kungurian age.

Vasconcelos, E.C. 1980. The Souza Formation Sedimentary Facies (Rio do Peixe Group, State of Paraíba). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Rio do Peixe basin, Souza Formation microclastics, Microfacies, Geochemistry, Depositional environments

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 573

1980

Date of presentation: 18/8/1980

Eliane Campelo Vasconcelos

Advisor(s): Mabeoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: PB

1/1,000,000 sheet:

SB24

Centroid of the area:

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Abstract

The result of a facies study of the Souza Formation, middle microclastic unit of the Rio do Peixe Group in the Rio do Peixe basin (Paraíba State) have been presented based on field and laboratory analyses.

The sediments of this formation were studied as follows:

- 1 - geochemicastry of total elements and certain trace elements;
- 2 - X-ray and differential thermal analysis of the clay fractions;
- 3 - detailed and composite petrographic microfacies.

The presentation of every above topic included an analysis of the inferred model for the purpose of sketching the geologic history, depositional environment, and characteristic facies and microfacies.

As a result it was concluded that the Souza Formation is typically of continental origin, deposited in a lake to swamp environment with periodic river incursions, under warm and fairly dry climatic circumstances, and a tectonic calmness.

Zaine, M.F. 1980. Geographic barrier in the Upper Palaeozoic in the Fartura region, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2129

1980

Date of presentation: 30/12/1980

Mariselma Ferreira Zaine

Advisor(s): Fúlfaro, V.J.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: SP

1/1,000,000 sheet:

SF22

Centroid of the area:

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'W

Abstract

Altamirano, J.A.F. 1981. Contribution to the genesis of the stratabounded copper occurrences in Cerro dos Martins, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 477

1981

Date of presentation:

Juan Antonio Flores Altamirano

Advisor(s): Formoso, M.L.L.

Ribeiro, M.J.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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Abstract

This dissertation describes strata-bounded copper outcrops associated to gray siltstones and sandstones, that occur in the Northern part of the Cerro dos Martins area, Caçapava do Sul (RS), Brazil.

The Companhia Brasileira do Cobre obtained the legal rights to develop a prospection project in the studied area.

The geology consists of beds of siltstones, sandstones and conglomerates, alternated with andesites, in a vulcano-sedimentary environment. Andesites to rhyolites also occur as hypabissal bodies that cut discordantly the layered sequence.

The results show, in the mineralized interval, an epigenetic character for the copper ore, related to the diagenetic evolution of the sequence, fairly close to the reducing levels of framboidal pyrite, responsible for the trapping environment.

The andesite fragments in the clastic rocks cause the element zonation, determined by copper in the bottom position, lead and zinc in the top of the sedimentary sequence.

The X-Ray studies show the predominance of illite and chlorite in the clay fraction, indicating diagenesis and anchimetamorphism in the illite - chlorite facies.

The geostatistic results demonstrate a low correlation between copper and the other trace elements, what enforces the epigenetic nature of the strata-bounded copper mineralization.

Costa, R.H.C. 1981. Gymnospermic woods of the Irati formation in Rio Grande do Sul - A contribution to the anatomical and palaeoecological study. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 754

1981

Date of presentation:

Regina Helena Castello Costa

Advisor(s): Guerra-Sommer, M.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The anatomic, systematic, palaeoecological, and chemical composition aspects of fossil woods from Irati Formation, São Gabriel region, Rio Grande do Sul State, have been studied.

Polysolenoxylon bortoluzzii GUERRA, 1975, corresponds to the most frequent morphogenus in the Irati Formation, thus characterizing a biostratigraphic stage unconventionally called "Polysolenoxylon Zone" Rosler (1978); secretory canals in the pith, associated with a secondary xylem of "mixed" type (Australoxylon MARGUERIER, 1971) are characteristics of the woody plane aspects. Myelontordoxylon glandulifera n. sp. is related to the "Vertebrarian Complex" (sensu Mussa, 1978b), which includes an association of stems and roots, connected to swamp environments. Aracnomedulloxylon gabrielensis n.g., n. sp. has new characteristics at generic and specific levels.

Fossilization is by permineralization (sensu Buurman, 1972). The structures of the plant tissues are mainly preserved by minerals of the silica group, with predominance of the microcrystalline quartz (calcedony). The silica content is very high (84% a 92%). Based on these data, inferences about the Irati depositional environments in the São Gabriel-Batovi region are made, which seem to indicate an environment of shallow, calm water, periodically inundated by saline water.

Damasceno, J.M. 1981. The Apodí Group Limestone Facies, E of Açu River (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Apodí Group, Dolomites, Facies study, Sedimentation environment

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 576

1981

Date of presentation: 21/5/1981

José Maria Damasceno

Advisor(s): Mabeoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: RN

1/1,000,000 sheet:

SB24

Centroid of the area:

' -

'W

Abstract

The study of Apodí Group carbonate rocks. E of the Açu river, State of Rio Grande do Norte, was based on field and laboratory work. Petrographically, these limestones have been separated in by detailed and composite microfacies, aiming the establishing

of an environmental model.

By means of chemical analyses and stoichiometric calculations, it was possible to determine the chemical-mineralogical behaviour of these carbonates, showing an interesting division with in the west of the area dominance of limestones and the east of dolostones.

Integration of all available data and the present results converged to the environmental interpretation of the Jandaíra Formation as follows: deposition on a shallow, semi-confined, carbonate shelf, in a typical tidal realm.

Duarte, G.M. 1981. Stratigraphy and evolution of the Quaternary of the north coastal plain of the Santa Catarina Island. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 411

1981

Date of presentation:

Gerusa Maria Duarte

Advisor(s): Andreis, R.R.

Committee:

Subject of thesis: Stratigraphy

State: SC

1/1,000,000 sheet:

SG22

Centroid of the area:

27

27 's

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48

29 'W

Abstract

The coastal plain of the Northern part of the Island of Santa Catarina between 27°23' and 27°31' S, and 48°25' and 48°32'50" W, registers a series of transgressive and regressive events in the deposits that delineate its area. From a geological and geomorphic point of view these phenomena marked the area through erosive and depositional processes. Seven Geologic Units that overthrust themselves over the time were characterized. The older four Units overthrust themselves vertically and are Pleistocene. The following three develop laterally in distinct time and are Holocene. With their stratigraphic, sedimentologic, morphologic and altitudinal characteristics these Units make evident the environments and the processes which formed them and the recurrence of both. These characteristics registered four transgressive and three regressive processes. Of the two transgressive episodes related to three sea levels higher than the present, one is Pleistocene and the two others are Holocene in age, and the last one has a very short amplitude. The regressive episodes go back one to the Pleistocene and two to the Holocene.

Egydio-Silva, M. 1981. Structural analysis of the ecinitic belts associated to the Cubatão Fault between the Juquiá and Pedro Barros regions - São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1830

1981

Date of presentation: 20/5/1981

Marcos Egydio da Silva

Advisor(s): Sadowski, G.R.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP

1/1,000,000 sheet:

SE23

Centroid of the area:

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'W

Abstract

Ferigolo, J. 1981. Syn cranial osteology and odontology of Euphractus sexcinctus. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 756

1981

Date of presentation:

Jorge Ferigolo

Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

This dissertation deals with the description of the syn cranium and the odontological study of Euphractus sexcinctus, a representative species of the most primitive group of the Order Edentata, the Dasypodidae. The syn cranium is described in general views and bone by bone. Nervous and vascular foramina, grooves and canals, and the nasal, sinus and the independently cranial (properly said) cavities are also studied. The mandibular mechanics is analyzed based on the morphological features from the cranium, dentary and teeth. A radiologic study of the syn cranium of Euphractus sexcinctus and a comparative study between this species and Dasypus novemcinctus are also made. The plesiomorphic and apomorphic characters are considered and discussed in view of the most recent knowledge concerning this order.

This group is considered to have had its origin and evolution in South America or at least in Gondwana.

Fittipaldi, F.C. 1981. Cuticular characterization of *Glossopteris communis* Feistmantel, 1876, Rio Bonito formation (lower permian), of the Paraná basin, Brazil. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2134 1981 Date of presentation:

Fernando Cilento Fittipaldi Advisor(s): Rösler, O.

Committee:

Subject of thesis: Stratigraphy

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Haddad, R.C. 1981. Uranium mineralization in the Taperuaba ring complex - Ceará state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M016

DataBase Ref.: 76 1981 Date of presentation: 30/11/1981

Regina Clélia Haddad Advisor(s): Leonardos, O.H.

Committee: Onildo João Marini - IG/UnB
Reginaldo L.V. Leal - NUCLEBRÁS

Subject of thesis: Prospection and Economic Geology

State: CE 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

The Taperuaba Ring Complex is identified in the north central part of the Ceará State. It is formed by a circular structure 9 km in diameter, which is emplaced in the gneissic-migmatitic basement. The Precambrian basement is formed by migmatites and biotites gneisses with lenses of calcossilicated rocks, marbles and quartzites cut by pegmatitic veins and basic dykes. In the complex quartz monzodiorite, hornblende granodiorite and biotite granite ring dykes are associated to biotite microgranite cone sheets, aplitic granites and minor pegmatite and late quartz veins. The ring complex has a post-tectonic nature being passively emplaced during the Earlyer-Paleozoic following concentric fracturing developed during the magma ascension. The similarity of the Taperuaba Ring Complex with those ring structure of west Africa suggest they are all contemporaneous and belong to the same magmatic province. Phosphate uraniferous mineralization lies in the center of the ring structure imprinted on quartz monzodiorites and hornblende granodiorites rocks and associated with low temperature sodium metassomatism. The sodium metassomatism is concomitant to leaching of the original quartz being exemplified by widespread albitization of the primary plagioclase and formation of riebeckite from hornblende. Subsequent pulsations of the solution lead to widespread deposition of apatite, calcite and iron oxide and hydroxides besides the mobilization of titanium, zirconium and uranium that characterizes the mineralized rocks. The mineralization process is related to the percolation of CaCl₂, rich pervasive descending solution which migrate in a convective pattern related to the ring geometry of the cooling pluton.

Kuyumjian, R.M. 1981. Geology and gold mineralization in the Crixás greenstone belt, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M017

DataBase Ref.: 77 1981 Date of presentation: 2/12/1981

Raul Minas Kuyumjian Advisor(s): Dardenne, M.A.

Committee: Othon Henry Leonardos - IG/UnB
José Caruso Moresco Danni - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The Greenstone Belt of Crixás region is located in the central western part of the state of Goiás, and it is engulfed by two predominantly tonalitic and granodioritic sialic domes. The basal portion of the Greenstone Belt is made up of peridotitic lava flows, showing spinifex texture, serpentinites and magnesium schists (Lower Ultramafic Unit), overlain by metabasalts with associated pillow lavas and metamorphosed to actinolite-tremolite schists (Mafic Unit). After the main volcanic phase, followed a predominantly pelitic and chemical sedimentation, represented by graphite and chlorite schists, iron formation and metacherts (Lower Metasedimentary Unit). The top

of the sequence is made up of predominantly talc and chlorite ultramafic rocks (Upper Ultramafic Unit), which are unconformably overlain by schists and quartzites considered as belonging to the Araxá Group (Upper Metasedimentary Unit). The main tectonic feature in the sequence is an overturned sinclinalor made up of isoclinal folds, of N10E; 25 NW trend average axial surface. The superimposed phases of deformation developed axial plane foliation with N30E and N40- 60W strike. The identified metamorphic parageneses are of the greenschist facies and locally of the amphibolite facies. The chemical composition of the ultramafic flows, displaying spinifex texture, as well as that of the pillow-lava structured meta basalts of Crixás, indicate a komatiitic nature. The granitic archaean rocks show a potassium enrichment during their potassium enrichment during their evolutionary history.

The main gold mineralizations presently known in Crixás Greenstone Belt are observed in the rock sequence belonging to the Lower Metasedimentary Unit and made up, from base to top, of chlorite-chloritoid schists, iron formation of the carbonate facies, graphite schists, acid tuffs and chloritoid-quartz-magnetite- garnet- biotite- clorite schists and also of talc-chlorite schists, interbedded with metasediments at the base of the Upper Ultramafic Unit. In both occurrences, the gold concentrations of highest tenors are located in the hinge line region of folds, where gold is locally remobilized. These folds are generally isoclinal anticline showing a N60W and N30E axial trend, which correspond to the main phases of deformation superimposed upon the volcano-sedimentary sequence.

Leipnitz, B. 1981. Palynological study of the Palermo formation, Santa Catarina state, Permiano, Bacia do Paraná, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 753

1981

Date of presentation:

Beatriz Leipnitz

Advisor(s): Marques-Toigo, M.M.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

A palynological study of the Palermo Formation (Santa Catarina, Brazil) based on boreholes 1-AR-46-SC, 1-CR-13-SC-01 and 1-LM-102-SC has shown the presence of a microfloristic assemblage composed of 35 genera and 63 species. Two new species are described: *Thymospora palermensis* n.sp. and *Thymospora catarinensis* n.sp. Palaeomicroplankton represented by the genera *Mycrhystridium* and *Verychadium* was detected.

The frequency of the main morphological groups as well as a description of the occurring species, their vertical distribution and botanical affinities are presented. Besides, a palaeoecological interpretation for the occurring microflora was attempted.

A Kungurian age was assigned to the Palermo Formation based on the comparison of the studied palynological assemblage with published material on similar Gondwana assemblages.

Lemos, E.E. 1981. Geological evolution of the Rodrigo de Freitas lagoon, RJ state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 30.821/81

DataBase Ref.: 1436

1981

Date of presentation: 19/4/1981

Edna Espinha de Lemos

Advisor(s): Brito, I.A.M.

Committee: Friedrich Wilhelm Sommer - DNPM

Marcus Aguiar Gorini - DG/UFRJ

Subject of thesis: Palaeontology and Stratigraphy

State: RJ 1/1,000,000 sheet: SF23

Centroid of the area: ' - 'W

Abstract

La Lagoa Rodrigo de Freitas, aujourd'hui séparée de l'Océan par la langue Ipanema-Leblon a été, jusqu'à une époque géologiquement très récente, une petite baie en communication direct avec la mer. L'abondante faune marine, objet de la présente note, qui existe juste sous les sédiments actuels est la meilleure preuve de cette communication. Les restes de foraminifères benthiques, gastéropodes, lamellibranches, schaphopodes, amphineures, ostracodes, cirripèdes, bryozoaires, coraux et échinodermes sont très communs, formant une thanatocenose marine sub-récente très typique. Un aperçu est donné de la géographie, de la géologie et de la pollution ainsi qu'un historique des études et observations relatives à la dite lagune. Celle-ci, qui formait d'abord une baie ouverte a été progressivement isolée par une langue de sédiments, phénomène, courante dans les autres lagunes du littoral brésilien. Seules les techniques modernes seront capables d'éviter le comblement et la conséquente destruction de la lagune qui forme un des plus jolis sites de la ville de Rio de Janeiro.

Lima, M.S. 1981. Geomorphology of the Middle Potengi River (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Geomorphology study, Sediment analysis, Climate

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 579

1981

Date of presentation: 17/6/1981

Maria do Socorro Lima

Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: RN 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

Abstract

During the elaboration of the present thesis, geomorphological, sedimentological and photo interpretation methods have been applied. These permitted to distinguish in the middle Potengi river valley (Rio Grande do Norte State), the following geomorphic units: (1) mountainous areas, (2) peneplaining surface, (3) river valley. These units correspond to the Sertaneja Surface, formed from the Early Pleistocene onward. In the Potengi river valley two terrace levels have been found, embedded in the regional surface. These levels correspond to development phases of the polyphasic Paraguaçu Cycle.

The middle Potengi valley is situated upon crystalline basement rocks. It comprises an area with quite typical semi-arid climatic conditions and characteristic morphogenetic processes. Grain-size analysis data and heavy mineral identification suggest the dominance of the semi-arid climate with intercalation of more humid phases during the valley evolution

Maciel, S.M.S.R. 1981. Interfingered Carbonate Facies within the Beberibe Formation (States of Pernambuco and Paraíba). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Beberibe Formation, Well samples, Carbonate facies, Sedimentology, Mineralogy

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 577 1981 Date of presentation: 26/5/1981

Sílvia Maria Santos do Rêgo Maciel

Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: PE 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W
PB**Abstract**

Having been marked the presence of carbonate levels within the basal clastic sequence of the Beberibe Formation, a study of these based on well section samples from the Pernambuco-Paraíba coastal strip, has been made. Petrographically, the studied material shows a texture varying from sparite to microsparite, with a dominance of carbonate matter (dolomite detected through X-ray analysis). Fossils are almost absent, sometimes appearing "ghosts" of maybe algae, associated to quartz and feldspar.

Four detailed microfacies were determined and, due to the monotony of the material, were grouped into only two composite microfacies: dolomitic microsparites and dolomitic micrites.

According to the behaviour of the lithic sequence, the mineralogical and petrological characteristics of the carbonate sediments (intense dolomitization and marked presence of terrigenous matter), the depositional environment was marine of inner shelf, lagoonal, characterized by shallow and fairly quiet waters.

From the stratigraphical point of view, the existence of a sandy dolomitic unit within the Beberibe Formation has been defined.

Moco, M.F. 1981. Prospection of cut stone marble in Quixaba, Pio IX municipality, PI state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2130 1981 Date of presentation:

Moacyr Francisco Moco

Advisor(s): Ellert, R.

Committee:

Subject of thesis: Prospection and Economic Geology

State: PI 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Nogueira, A.M.B. 1981. Continental Cenozoic of Natal (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Cenozoic Formations, Sedimentological study, Stratigraphy

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 580 1981 Date of presentation: 25/12/1981

Ângela Maria Borges Nogueira

Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: RN 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

Abstract

The Cenozoic deposition of the region of Natal (Rio Grande do Norte State) has been defined through field and laboratory studies. In the sense of grain size, the sediments are sandy with variable percentages of granules, silt and clay-size material, showing poor sorting and positive asymmetry. The sand grains are subrounded, glossy and frosted in the upper stratigraphical units, and subangular, glossy and non-used in the lower ones. The heavy mineral association shows a mixture of chemically stable and unstable minerals, suggesting for these sediments a short transport and a mixed source area. X-ray diffraction reveal kaolinite as the dominant clay mineral, with a high degree of crystallinity. The Passega and Sahu diagrams point to a mixed transport by rolling, saltation and suspension for most samples, prevailing the saltation transport for those from the upper units. The depositional environment was dry-climate fluvial, with debris flows in the lower unit, and an evident eolian contribution in the upper ones.

Stratigraphically, the Guararapes and Macaiba Formations have been identified as well as the soil-stratigraphic units Riacho Morno and Potengi weathering, part of the Barreiras Group. On top of this Group, another unit of red sands has been identified, resulting from the dissipation of dunes, mixed with reworked material of the underlying unit, proposing for it the informal term Natal Formation.

Ohara, T. 1981. Analysis of the characteristics seen in LANDSAT satellite multispectral images in the geological structural mapping of the central-western portion of the Sull- Riograndense shield. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1363 1981 Date of presentation: 22/12/1981

Tomoyuki Ohara

Advisor(s): Amaral, G.

Bettencourt, J.S.

Committee:

Subject of thesis: Remote Sensing

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

Oliveira, L.D.D. 1981. Macropaleontology and Sedimentology of the Governador Dix-Sept Rosado Limestones (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Formação Jandaíra limestones, Fossil content, Sedimentation environment, Facies study

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 578 1981 Date of presentation: 28/5/1981

Leon Diniz Dantas de Oliveira

Advisor(s): Muniz, G.C.B.

Committee:

Subject of thesis: Sedimentary Geology

State: RN 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The study of macrofossils and carbonate sediments of the Jandaíra Formation, in the region of Governador Dix-sept Rosado (Rio Grande do Norte State) has been made aiming a paleoenvironmental interpretation. The sediments are composed of different petrographical types, dominating micrites over microsparites, sparites and dolomites. Twelve detailed microfacies types have been determined, grouped into seven composite microfacies. The genera *Ostrea*, *Trachycardium*, *Tylostoma*, *Turritella*, *Catopugus* and *Phyllobrissus* are the more representative macrofossils. Paleontological and sedimentological data evidence a fauna association more indicative for environment than for age. Thus, the area was characterized by lagoons, shallow shelf and sabkhas. Generally, this environment showed shallow and calm waters.

Oliveira, M.T.G. 1981. Petrology of the maficultramafic Passo do Ivo massif, São Gabriel, Rio Grande do Sul. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 478 1981 Date of presentation:

Marisa Terezinha Garcia de Oliveira

Advisor(s): Formoso, M.L.L.

Hartmann, L.A.

Committee:

Subject of thesis: Geochemistry

State: RS 1/1,000,000 sheet: SH21 Centroid of the area: ' - 'W

Abstract

The Mafic-Ultramafic Passo do Ivo Massif, which is located to the south of São Gabriel (RS), is an elongate body associated with Vacacaí Group, metamorphites and fault- -bounded by granitic rocks.

The following zones of preferential concentration of minerals were identified: olivine cumulates, clinopyroxene-olivine cumulates, clinopyroxene-ortho-pyroxene-olivine cumulates and gabros.

The mineralogy and textures are well preserved in the core of the body. On the outer portions, metamorphic minerals predominate, including actinolite, chlorite, tremolite, and cummingtonite. Petrographic studies showed cumulate textures, typical of stratiform complexes. Chemical analyses indicated that MgO and Fe₂O₃ have negative correlation with SiO₂, whereas FeO, TiO₂, Na₂O, CaO, and Al₂O₃ have positive correlation with SiO₂. Cr, Ni and Co contents average 4288 ppm, 656 ppm and 175 ppm, respectively, in the ultramafites. It is inferred that the body was formed through fractional crystallization of mafic minerals from a tholeiitic magnesian magma of komatiite affinity. After the emplacement of the mafic-ultramafic body into the metamorphites, the surrounding granites were intruded. Contact metamorphism in the massif attained the greenschist and locally amphibolite-facies. The magnesian schists, present in a few locations within the massif, were probably formed during the strong NE-trending faulting that affected the area.

Paim, P.S.G. 1981. Geological and technological characteristics of the coal from Reserva region (PR). MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 479

1981

Date of presentation:

Paulo Sérgio Gomes Paim

Advisor(s): Corrêa da Silva, Z.C.

Committee:

Subject of thesis: Geochemistry

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

' -

'W

Abstract

The macro and microscopic characteristics and chemical composition of coals from Paraná State showed that they differ from humic coals.

Thinly banded coal with abundant to predominant vitrain predominate northward in the area (Marins-Marçal). Vitrinite (colinite) predominates, followed by exinite (mainly sporinite and alginite), clay-minerals and pyrite.

Data from ultimate analyses showed H/C and O/C atomic ratios, which characterize the material between kerogen types II and III. Results from organic geochemistry analysis present peaks in both high-carbon numbered (C₂₃-C₂₇) and low-carbon numbered (C₁₄-C₁₇) n-alkanes.

Petrographic and chemical characteristics, associated with palynological studies, suggest that the peat-forming plant association developed between forest-swamp and subaquatic facies, in Teichmüller's concept, or was formed in a shrub-swamp in a limnotelmatic environment, according to Hacquebard and Donaldson.

Thinly banded coal with moderate to sparse vitrain predominate southward in the area (Remanso-Morro Chato). Clay minerals are dominant and microscopically associated with decreasing amounts of alginite, colinite, inertodetrinite and vitrodetrinite, accordingly.

Petrographic and palynological data suggest either a subaquatic facies, according to Teichmüller, or a limnic open-moor facies, according to Hacquebard and Donaldson.

High contents of pyrite, predominantly framboidal-shaped, presented by coal seams from both studied areas, pointed out to a possible influence of sea water.

The close association of organic and inorganic material is due to palaeoenvironmental characteristics: near-shore conditions and organic facies.

The degree of coalification was estimated by Randon reflectance of vitrinite, volatile matter of vitrite, carbon content and calorific value of total coal. Therefore, the coal seams were classified as High-Volatile Bituminous Coal C to B (ASTM) or as 'Braunkohle' / 'Steinkohle', according to the German classification.

The high sulfur content unables the coals to be used in the industry without a previous systematic cleaning process.

Although the sulfur can be reduced to 50% of the initial content, as showed by densimetric process, the final amounts are still high. The separation of inorganic constituents from organic matter is very difficult because of the close association of both components. There are three main possible industrial uses that should be analyzed: direct combustion, gasification and pyrolysis, which are dependent upon the amount of available coal and the cleaning of sulfur.

Pereira, R.M. 1981. Systematic alluvionar prospection applied to Divino das Laranjeiras region - MG. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 40.395/81

DataBase Ref.: 986

1981

Date of presentation: 1/12/1981

Ronaldo Mello Pereira

Advisor(s): Cassedanne, J.P.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This research aimed to evaluate the method of systematic alluvium prospecting applied to pegmatitic areas. An area of 350 square kilometers approximately, in the central part of the Eastern Brazil Pegmatitic Province was selected; for the studies, and the town of Divino de Lanranjeiras, MG was selected as a field base. Geologically the terrain is covered by the Formação São

Tomé, Rio Doce Group, which contains intrusive granitoid rocks, like the Galilea Tonalite and the Palmital Granodiorite, all Precambrian in age. The research was developed into two phases: - field work where all creeks were systematically sampled; when never possible a minimum of 1000 meters spacing between sampling sites was kept. A total of 82 samples were collected. - a laboratory study, where the samples were physically splitted and sirved; factor fracting coas made using heavy liquits and eletromagnetic methods, followed by mineral identification. 36 minerals were described and 17 maps showing the mineral distribution were prepared. Whenever possible provenance and mineral associations were commented. The research presented results, detecting most the previously known occurrences like cassiterite, columbite-tentalite, spodumene, ambligonite, monazite, etc. and also detecting two minerals not yet described (scheelite and anatase) as well as some labile minerals like "gumite" and Fe-Mn phosphate. Some considerations about the sampling and the role of the alluvium were made.

Quadros, L.P. 1981. Biostratigraphic distribution of Chitinozoa and Acritarchae from the Parnaíba basin. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1435 1981 Date of presentation:

Luiz Padilha de Quadros Advisor(s): Brito, I.A.M.

Committee: Friedrich Wilhelm Sommer - DNPM
- DG/UFRJ
Diógenes de Almeida Campos - DNPM

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This study gives the results of an investigation on the presence of acritarchs and chitinozoans of the presence of acritarchs and chitinozoans of the Devonian and Carboniferous formations of the Parnaíba Basin in northern Brazil. Fourteen species of Chitinozoa and twenty-three species of Acritarchae, from samples of exploratory oil wells drilled by PETROBRÁS, are figured and described. The vertical distribution of the most common acritarchs and chitinozoans in the investigated area are given in sections of the Tianguá, Jaicós, Itaim, Pimenteira, Cabeças, Longá and Poti formations. Nine acritarchs and chitinozoans assemblage zones have been proposed for the section as follows in descending order: Maranhites brasiliensis Assemblage Zone, Umbellaspheeridium saharicum Assemblage Zone, Pseudolunulidia imperatrizensis Assemblage Zone, Sphaerochitina lucianoi Assemblage Zone, Alpenachitina eisenacki Assemblage Zone, Ramochitina ramosi Assemblage Zone, Triangulina alargada Assemblage Zone, Leiofusa bernesa Assemblage Zone and Dactylofusa marangensis Assemblages Zone. This study indicates a continuous sedimentation cycle during the Devonian period in Parnaíba Basin. The entire Parnaíba Basin sequence seems to be correlatable to the Paleozoic formations in the Province of León (NW - Spain) and Devonian of Sahara (North Africa).

Rancy, A. 1981. Cenozoic fossil mammals from Alto Juruá - Acre. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 755 1981 Date of presentation:

Alceu Rancy Advisor(s): Couto, C.P.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The present dissertation deals with the study of a collection of fossil remains of mammals from the region of the upper Juruá River, State of Acre, Brazil. It includes a synoptic consideration on the regional climatic conditions, geographic localization and local ways of communication.

A summarized report on the paleontological researches already presented by several authors on material proceeding from the same region is also considered here, together with a rather general view on the respective geology and physiography, on the basis of data published by several authors (see bibliographical references).

The aim of this dissertation is the systematic descriptive study of the fossil remains of mammals from the Cenozoic of Acre, which belong to the collection of the Universidade Federal do Acre, Rio Branco. Six orders, eleven families and fifteen genera were identified.

Ribeiro, J.A. 1981. Pan prospection in the Tanguá alkaline massif and neighbourhood, Itaboraí and Rio Bonito municipalities - RJ. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 29.537/81

DataBase Ref.: 985 1981 Date of presentation: 8/10/1981

Jeanete Alves Ribeiro Advisor(s): Cassedanne, J.P.

Committee: Fernando Roberto Mendes Pires -

Joel Gomes Valença -

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The aim of this work was to check panning prospecting method in a Precambrian basement complex area intruded by a sienitic massif partially surrounded by associated intrusives magmatic breccia (Tanguá Massif). In a first field phase, eluvional and/or aluvional samaples were systematically collected according to a 1Km2 grid. These sample were than submitted to a routine laboratory work (heavy liquid and isodynamic sepration, etc). Heavy minerals were determined by optical examination under a binocular microscope and a polarizing microscope, and chemical methods. When necessary X-Ray diffraction was used. The results obtained from the work above were plotted in 23 mineral distribution maps and they allowed to examine the source and mineralogical association of each of the these minerals and to establish preliminary hypotheses. In a second field phases, a sampling control was carried out in order to check the previous conclusions. This study permitted us to find the following mineralogical associations: 1 - Magnetite - Titanite - Leucocoxene: Related to syenitic rocks; 2 - Zircon - Monasite - Ilmenite: Related to gneisses and migmatites; 3 - Sillimanite - Almandine Garnet: Related to gneissic rocks derived from pelitic sediments; 4 - Epidote - Grossularite - Andradite: Related to calc - silicate rocks; 5 - Kyanite - Andalusite: Related to gneissic rocks. The presence of kyanite would be taken as the indicator of the transition from the metamorphism between the low to the medium pressure types. Finally, the provenance of numerous others minerals some of wich were heretofore unknown in the area, was determined. These however did not show the strong association cited above.

Richter, M. 1981. Morphological and biostratigraphical study of scales from the paleoichthyofauna of the Passa Dois group (Permian), Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 757

1981

Date of presentation:

Martha Richter

Advisor(s): Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

In this dissertation ten morphological types of paleoniscid and one of coelacanthid scales are described. They come from outcrops and cores of the Irati Formation of Paraná and Rio Grande do Sul States and of the Estrada Nova Formation of the latter.

The classification of these exo- -skeletal elements is artificial, elaborated principally with strati-graphical purposes.

It is discussed the importance of fish scales to the ichthyological Taxonomy and to Geology.

A normative chapter about the criteria of describying scales is presented, together with a general glossary of terms refering to this study.

Some conclusions of strati-graphical character are introduced, supported by the morphological affinities and bio-stratonomy of the scales, allied to information derived from the geological literature.

Sá, E.P. 1981. Integrated geophysical survey of the Terra do Sal area, Curaçá, Bahia state; Application in the geological re-evaluation aiming copper prospection. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1566

1981

Date of presentation: 1/10/1981

Eduardo P. Sá

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA

1/1,000,000 sheet:

SC24

Centroid of the area: ' - 'W

Abstract

The geophysical survey together with geological reevaluation of Terra do Sal, Curaçá-Ba, aimed at determining favorable zones for the occurrence of sulphide mineralization in the area. Interpretation of INPUT data showed the presence of a conductor axis in the north-south direction, with a conductance of 10 mhos. The gravity method along with density measurements and two-and three dimensional interpretations defined fault zones and the shapes of mafic bodies, as well as the orth-south and east-west axes of their folding structure. The magnetic method mapped granites and the fault zones. Its interpretation based on susceptibility measurements showed the association of a mineralized zone with magnetic material, establishing therefore an important guide for sulphide prospection. The induced polarization and resistivity methods indicated a conductor zone in the central part of the area, with an extension of 1.4 km and direction N25o E. This zone relates to the occurrence of graphite lineations in the main mafic body. It presents a minimum resistivity value of 8 ohm.m and a maximum P.F.E. value of 15%. Those two methods also indicated another anomaly located on the east border of the area and characterized by a P.F.E. of 5%, for a background of 1%. Because of its association with a known mineralized zone, that is the most important anomaly for prospection. The development of theoretical curves for interpretation of resistivity profiling, by curve matching, led to the visualization of the

central mafic body as a dike model 180m thick with 0,015 mho/m of conductivity. The integration of the geophysical methods points to the magnetic zones on the flanks of the folds, wich include the east border anomaly, as the most promising places for drilling. Based on these criteria six drill holes were proposed in the area.

Tassinari, C.C.G. 1981. Geotectonic evolution of the Rio Negro-Jurena Province - Amazonian region. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1846

1981

Date of presentation:

Colombo Celso Gaeta Tassinari

Advisor(s): Kawashita, K.

Committee:

Subject of thesis: Mineralogy and Petrology

State:

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

Toledo, M.C.M. 1981. Geochemical, mineralogic and micromorphologic evolution in the bauxitization process: Comparative study of the Mogi das Cruzes, Curucutu and Lavrinhas deposits, SP state, associated to different lithologic types. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2131

1981

Date of presentation:

Maria Cristina Toledo Motta de Toledo

Advisor(s): Melfi, A.J.

Committee:

Subject of thesis: Geochemistry

State: SP

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

Travassos, J.M. 1981. Distortion of the primary gamma field in a superficial atmospheric layer caused by the aerian biomass of a forest. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 39.772/81

DataBase Ref.: 1585

1981

Date of presentation: 25/11/1981

Jandir de Meneses Travassos

Advisor(s): Pires, A.C.B.

Committee:

Wendelin Franz Lotze

- DG/UFRJ

Subject of thesis: Geophysics

State: AM

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

The screening effect of a forest cover is determined for local and extended gamma-field sources in the soil. We choose a tropical rain forest on the "terra firme" near Manaus with a biomass of 10g/cm². The screening is estimated assuming a layered structure of the aerial phytomass. This has shown that can be considered independent of survey altitude in the range 100 - 200m, with less than 10% errors. The anisotropy on trunks of trees is estimated using Monte Carlo method. It has shown that anisotropy can lead to errors in the estimated screening effect reaching 20%. Radioactive properties of the stand were analysed. This has shown to reach 10% of the radiation from gamma-field sources in the soil.

Vieira, H.M. 1981. Mineralogy, petrography and geochemistry of the ultramafic Serrinha complex, São Gabriel, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 480

1981

Date of presentation:

Helem Maria Vieira

Advisor(s): Formoso, M.L.L.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH21

Centroid of the area:

' - 'W

Abstract

This dissertation comprises the detailed study of the Serrinha Ultramafic Complex, located in São Gabriel, RS. Forty samples

were studied, comprising thirty serpentinites and ten magnesian schists; the latter constitute the borders of the complex. Several techniques were used for mineralogical determinations, particularly petrography, X-ray diffraction and scanning electron microscopy. Three serpentine varieties were identified, namely chrysotile, lizardite and antigorite, presenting several textural patterns, both pseudomorph (mesh, curtain and bastite) and non-pseudomorph (interlocking and interpenetrating). Chlorite was determined as clinocllore. The border schists are constituted by talc and tremolite in different proportions, chlorite, carbonate, and very small amounts of opaque minerals. Slightly different mineralogy was observed in one small outcrop in the southern portion of the serpentine body, corresponding to tremolite, partly serpentinized olivine, carbonate and chlorite. Ten samples were analyzed for major elements, using conventional chemical techniques, and about fifty samples for minor elements using emission spectrography. Major- element contents agree with the values expected for the types of rocks involved. Nevertheless, SiO₂, Al₂O₃ and CaO were probably remobilized during serpentinization, concentrating in the border schists. The minor elements Cr, Co, Ni, Cu, V, and Mn have contents typical of ultramafic rocks. The results suggest that the serpentinite was formed from an olivine + diopside peridotite, submitted to progressive metamorphism in the greenschist or amphibolite facies and later to retrometamorphism in the greenschist facies.

Winge, M. 1981. The Grupo Capim volcano-sedimentary sequence, Bahia state - Brazil: Geological setting and metallogenetic model. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Capim Group - Brazil; volcano-sedimentary sequence; syngenetic sulfide mineralization

Instituto de Geociências - Universidade de Brasília

Reference: M015

DataBase Ref.: 75 1981 Date of presentation: 3/7/1981

Manfredo Winge Advisor(s): Danni, J.C.M.

Committee: Onildo João Marini - IG/UnB
 Reinhardt Adolfo Fuck - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The Capim Group is a volcano-sedimentary sequence lying in the Serrinha Tectonic Block of granite-greenstone terranes on the north-eastern border of the São Francisco Craton, in the State of Bahia, Northeastern Brazil. It was studied in this survey through a 1:25.000 scale geological mapping followed up by petrological, petrochemical and structural analysis.

The Capim Group occurs as a NNW-SSE oriented small sigmoidal belt, more than 20 km long by 4 km wide. It is structured as a complex synclinalorium limited by transcurrent to inverse faults. Its rocks were polymetamorphosed reaching the high amphibolite facies of the low pressure type.

West of this sequence occurs a Gnaissic-migmatitic Basement displaying areas of tonalite to granite-gneisses and areas of heterogeneous migmatites with ubiquitous amphibolite restites. Gabbro-pyroxenitic intrusions and an important swarm of mafic dyke-sills cut the Basement.

East of the volcano-sedimentary terranes occurs a Granulitic-migmatized Complex in which metabasitic rocks, mainly metagabbros, locally predominate. Some supracrustal rocks correlated to the Capim Group are also found in this Complex. Retrometamorphism, mainly to the amphibolite facies, and migmatization are widely prominent, masking totally the original granulitic facies in some places.

East of the granulitic terranes occur the Canudos Group that comprises phyllites, intruded by gabbro-dioritic stocks, and a marginal dolomitic limestone formation from a folded belt of upper proterozoic age.

The basal levels of the Capim Group are characterized by an association of mafic flows or tuffs (actually amphibolites) and iron-siliceous to carbonatic siliceous sediments (actually metachert, magnetite and amphibolite itabirites). Recurrent metabasites are also found at the top of the sequence where, however, predominate leptytes, fine grained plagioclastic gneisses, amphibolites, amphibole/biotite schists and calcsilicate rocks. The later rock types derive from volcanicalstic (agglomerates, lapilli, tuffs, ignimbrites) and epiclastic to volcanochemical deposits related to a stage of intermediate to acid explosive volcanism.

The Capim Group has been folded during two main tectonic events developing a coaxial interference pattern. The Basement transcurrent faulting and its relation to the Capim Group folding is discussed.

Petrochemical graphs show that the metabasites and the dykes were originated from a tholeitic magma. The geotectonic environment for such a magma generation is briefly discussed.

A level of highly concentrated sulfides (pyrite and pyrrhotite) in volcanoclastic to volcanochemical host rocks extends for more than 10 km, always near meta-ignimbritic formation. The metallogenetic model that best fits these concentrations is the volcano-sedimentary-exhalative syngenetic type what means that the Capim Group is a promising prospect area for massive Cu-Zn sulfides and Au.

Winters, A.A.M. 1981. Geology of the Pedra Branca syenitic massif, Caldas - MG. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2133 1981 Date of presentation:

Andreas Antonius Maria Winters Advisor(s): Coutinho, J.M.V.

Committee:

Subject of thesis:

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Almeida, T.I.R. 1982. The Ponta Grossa arc: A proposal for its shape and evolution based on interpretation of remote sensing data. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1360 1982 Date of presentation: 24/6/1982

Teodoro Isnard Ribeiro de Almeida Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Araújo, J.S. 1982. Circular structures of Água Vermelha. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1919 1982 Date of presentation:

Jesus Sebastião Araújo Advisor(s): Hasui, Y.

Committee:

Subject of thesis: Engineering geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Assis, L.C. 1982. Stratigraphy, tectonic and mineral potential of the precambrian units of the Serro region, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M018

DataBase Ref.: 78 1982 Date of presentation: 3/12/1982

Luís Carlos de Assis Advisor(s): Marini, O.J.

Committee: Marcel Auguste Dardenne - IG/UnB
Ariplínio Antonio Nilson - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Geological and stratigraphic elements of the Proterozoic units of the Serro region, Mato Grosso Quadrangle, show the absence of the faciological transition between the Espinhaço Group and the Minas Supergroup. Occurs in this region is a lithostratigraphical sequence of four distinct units: the Crystalline Basement, formed mainly of gneisses; the Volcano-Sedimentary Sequence of Serro, represented by a lower unit formed by magnesian schists and an upper unit formed of chemical and detrital metasediments with meta-volcanic intercalations; the Minas Supergroup, represented by the Moeda (quartzites and conglomerates) and Cauê (itabirites) formations; and the Espinhaço Group, represented by the Sopa-Brumadinho (mainly coarse clastics) and Galho do Miguel (orthoquartzite) formations and sills and dykes of metabasic rock.

As an alternative to the proposition of the Espinhaço Minas faciological transition it is demonstrated an abrupt contact between distinct units through important reverse faultings. This tectonic model explains the contact relationships between the different outcropping units that occur as tectonic scales.

The ore potential of the region includes: quartz veins, within the Galho do Miguel Formation; diamond, within the Sopa conglomerates; gold, in alluvial deposits and remobilized in quartz veins of the Sopa-Brumadinho Formation; bauxite, in the metabasics; uranium in the metaconglomerates of Moeda Formation; iron, in Cauê Formation; chromium, gold and base metals in the Volcano-Sedimentary Sequence of Serro.

Emphasis is given to the characterization of the Volcano-Sedimentary Sequence of Serro and its mineralization that is characterized as a stratiform massif with important volcano-sedimentary contribution, possibly, a Greenstone Belt, with high gold-bearing potential.

Azevedo, S.A.K. 1982. Scaphonyx sulcognathus (n.Sp.), a new rhynchosaurid from the late Triassic of Rio Grande do Sul, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 759 1982 Date of presentation:

Sérgio Alex Kugland de Azevedo Advisor(s): Barberena, M.C.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This study deals with the osteological description of the skull and lower jaw of *Scaphonyx sulcognathus*, n.sp., a new species of rhynchosaur from the Caturrita Formation, Upper Triassic of Rio Grande do Sul State, southern Brazil.

The new species presents clear morphologic differences from *Scaphonyx fischeri* SMITH WOODWARD 1907 (Santa Maria Formation, Middle to Upper Triassic of Rio Grande do Sul) and *Scaphonyx sanjuanensis* SILL 1970 (Ischigualasto Formation, Upper Triassic of Argentina). These differences are particularly seen in the masticatory apparatus. Two sulci in the maxilla and two corresponding ridges in the lower jaw of the new species clearly differentiate it from *S. fischeri* and *S. sanjuanensis*, which exhibits only one of these structures. Accordingly, variation in the number and arrangement of the teeth is detectable in the new species. Skull proportions are also different in *Scaphonyx sulcognathus*.

The dental characteristics suggest that its diet included softer elements in comparison to the hard seeds probably ingested by the other two species.

Scaphonyx sulcognathus occurs associated with *Jachaleria*, *Exaeretodon* and *Proterochampsia* in the Caturrita Formation. This paleofaunal assemblage suggests an Upper Ischigualastian to Coloradian age for these beds.

Barbosa, J.S.F. 1982. Manganese of western Bahia state. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 952 1982 Date of presentation: 25/8/1982

Johildo Salomão Figueiredo Barbosa Advisor(s): Souto, P.G.

Committee: Shiguemi Fujimori - IG/UFBA
José Vicente Valarelli -

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA 1/1,000,000 sheet: SC23 Centroid of the area: ' - 'W

Abstract

Over fifty manganese deposits are known in an area of about 127.000 km² on the western part of Bahia State in rocks ranging in age from Archean and/or Early Proterozoic to Quaternary. The Archean and/or Early Proterozoic terrains consist of migmatites, gneisses and granites. The Upper Proterozoic is represented by (i) a miogeosynclinal zone constituted of schists, graphitic phyllites, quartzites, siltstones, conglomerates and goudites that make up the Rio Preto Group; (ii) a pericratonic zone with manganese bearing slates and siltstone, and (iii) a cratonic zone also with manganese bearing siltstone and shales, limestone and dolomite, the latter two zones constituting the Bambuí Group. These rocks are of Brasiliano age (± 700 My) and were deposited over above mentioned Archean and/or Early Proterozoic rocks. Most of these lithologic units are overlain by sandy and argillaceous sediments of the Urucua Formation (Cretaceous) and arenaceous cover of tertiary and quaternary ages. The manganese deposits are associated with rocks of the Rio Preto and Bambuí Groups. They were formed by the action of supergenic processes over manganese Proto-ores (goudites, slates, metasiltsstones) possibly during the geomorphologic cycles Velhas (Upper Tertiary), Paraguaçu (Quaternary) or during more modern climatic events. Two types of manganese ores were identified: the ore formed 'in situ' and the eluvial-colluvial/manganese crust ore. By means of petrographic and X-ray diphratometric analyses have revealed the presence of the following Mn-oxides in the ores: lithioforite, pyrolusite and cryptomelane. Spessartite, quartz, clays and micas are the gangue minerals. It has been trace elements in the ores, protores and country rocks, that concentration of Ba, Co, Cu, Ti, V and Ni bear a positive correlation with manganese in those materials. On the other side, the levels with high concentrations of manganese are depleted in iron, aluminum and silica. The Barium, cobalt and vanadium contents of the manganese ores of the region are notably higher than those found in other manganese deposits of the world, including the submarine manganese nodules. Six of these manganese deposits add up to 200.000t of recoverable reserves with medium grade above the specifications of the steel industry.

Bastos Neto, A.C. 1982. Geology of the Dom Joaquim quadrangle and southern part of Ribeirão da Barra quadrangle - Eastern border of Serra do Espinhaço meridional range - MG state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 34.249/82

DataBase Ref.: 1182 1982 Date of presentation: 26/11/1982

Artur Cezar Bastos Neto Advisor(s): Schorscher, J.H.D.

Committee: Hélio Monteiro Penha - DG/UF RJ
Rudolph Allard Johannes Trouw - DG/UF RJ
Oscar Paulo Gross Braun -

Subject of thesis: Regional Geology and Economic Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

The studied area has about 220Km² and was mapped in 1:25.000 scale. The Basement Complex is highly predominant in the area and "primarily" constituted by gneisses and migmatites with granodioritic to tonalitic compositions, correlated to grey gneisses of the so-called Archen High-Grade Regions. This complex was affected by the Tectonic/Metamorphic/Metasomatic

Espinhaço Event, whose effects in the area allow its subdivision in three rock domains: the Gneissic-Migmatitic Rocks Domain (less modified by the event), the Cataclastic Gneisses Domain, and the Feldspathized Mylonite-Gneisses Domain (rocks which suffered potassium metassomatism related to the cataclastic deformation. In the mapped area also occur, very subordinately, rocks grouped as Low-Grade Archean Metasediments (mafic schists and magnetite-bearing itabirite). Tectonically emplaced bodies of quartzites and meta-ultramafic rocks may be found within the Basement Complex. The thickest of these quartzitic bodies contains an intraformational conglomerate lense with itabirite pebbles, which allows the correlation of all these quartzitic rocks to the Sopa-Brumadinho Formation. The meta-ultramafic rocks are interpreted as of the Alpine-type and related to the Espinhaço Tectonic Event. Late to post-tectonic metabasic bodies are very abundant in the mapped area. Small bodies of mesozoic-terciary basalts occur in a few places. The general foliation is mainly due to cataclasis and follows an extremely uniform N20W 40NE direction. This foliation was caused by strong shearing stress. Several thrusting faults with fault planes concordant to this cataclastic foliation are considered as being contemporaneous with the shearing stress. The Espinhaço metamorphism was of the regional-type, the metamorphic grade increasing from west to east. In the studied area this metamorphism reached medium to high greenschist facies.

Bistrichi, C.A. 1982. Geology of the Pirapora synclinorium, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2137

1982

Date of presentation:

Carlos Alberto Bistrichi

Advisor(s): Hasui, Y.

Committee:

Subject of thesis:

State: SP

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Carvalho, A.S. 1982. Geology and genesis of the quartz mineralization in the southern Espinhaço, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M021

DataBase Ref.: 81

1982

Date of presentation: 3/12/1982

Albertino de Souza Carvalho

Advisor(s): Fuck, R.A.

Committee:

José Caruso Moresco Danni - IG/UnB

Othon Henry Leonardos - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

' -

'W

Abstract

The present work was developed in an area located at the central part of Minas Gerais State and is characterized by precambrian geological units of Southern Espinhaço region.

The oldest unit, the "Complexo Granítico de Gouveia", consists of granitic and migmatitic rocks of the Archean basement. They are overlain by acid, basic and ultra basic metavolcanic rocks and chemical sediments (BIFs) called "Seqüência Vulcano-sedimentar de Pedro Pereira". This stratigraphic sequence is thought to be an Archean Greenstone Belt. The third unit is characterized by sedimentary metabreccias of the lower unit rocks; the youngest succession that composes the "Serra do Espinhaço" is the Middle Precambrian "Grupo Espinhaço", which is represented by the "Sopa Brumadinho" and "Galho do Miguel" formations. The first comprises diamond-bearing polimictic metaconglomerates, phyllites and quartzites; the second is represented only by quartzites with mega-cross-bedding. Several intrusive metabasic rocks are found cutting the later units, as a result of one post-tectonic fissural magmatism event.

Excluding the granit-migmatitic basement unit, the regional metamorphism belongs to the green-schists facies of the biotite zone and simultaneously indicates retrometamorphism to chlorite zone. Tectonically, the "Seqüência Vulcano-sedimentar de Pedro Pereira" has an isoclinal folding stile. Two later folding phases are distinguished and both have been also identified in the "Grupo Espinhaço" rocks. The ruptural tectonic events are responsible for NS thrusting faults; mine realizations of milky quartz veins are associated to them and represent an important economic aspect concerning their wide extensions. These veins are of a hydrothermal origin and are related to the "Ciclo Brasileiro" event. Therefore, quartz is the main ore extracted and it is largely used as raw material for the metallic silicium obtention. Gold and diamonds are also prospected in "catas" and "garimpos"

Chemale Jr, F. 1982. Geology of the Palma region, São Gabriel, Rio Grande do Sul. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 481

1982

Date of presentation:

Farid Chemale Jr

Advisor(s): Hartmann, L.A.

Committee:

Subject of thesis: Geochemistry

State: RS 1/1,000,000 sheet: SH21 Centroid of the area: ' - 'W

Abstract

The geology of the Palma Region is rather complex, with several lithostratigraphic units. The Palma Complex is one of these, containing closely related meta-sedimentary, acid to basic meta-igneous and ultramafic rocks. The Lageado meta-granite has a quartz-dioritic to sienogranitic composition and presents concordant foliation and metamorphism with respect to the Palma Complex. Both units were affected by greenschist to lower amphibolite-facies metamorphism. The stratiform Passo do Ivo Mafic-ultramafic Massif is closely related to the Palma Complex. The Lagoa da Meia Lua Granite has a dioritic to granodioritic composition and a pre-Brasiliano Cycle age.

Brasiliano Cycle granitoids are present, intruded into cratonized older rocks. Eo-paleozoic dykes can also be found, together with Paraná Basin sedimentary rocks and diabases.

Petrochemical studies show that the Palma Complex meta-ultramafites and the Passo do Ivo mafic-ultra-mafic rocks have komatiitic affinity. The acid to basic rocks show calco-alkaline trends. These rock types in addition to the meta- -sediments, show characteristics similar to low-grade greenstone- -granite terrains.

Crósta, A.P. 1982. Geological mapping of Araguinha dome using remote sensing techniques. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1359 1982 Date of presentation: 7/5/1982

Alvaro Penteado Crósta

Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: GO 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W
MT

Abstract

Cunha, E.M.S. 1982. Characterization and environmental planning of the Potengi estuary. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 442 1982 Date of presentation:

Eugênio Marcos Soares Cunha

Advisor(s): Martins, L.R.S.

Coutinho, P.N.

Committee:

Subject of thesis: Marine Geology

State: RN 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

Abstract

This dissertation deals with a preliminary diagnosis of the environmental conditions of the Potengi Estuary. Geological, geomorphological and hydrodynamic aspects were emphasized, in order to establish a qualitative model of environmental impacts.

The Potengi Estuary is located in the eastern part of the State of Rio Grande do Norte, being 18 km long and looking like a big tidal inlet, where three intermittent rivers discharge.

Following an appropriate methodology for such complex environments, analytical data of the environmental factors were obtained, such as bathymetry, currents, salinity, temperature, transparency and solid material in suspension, besides the collection of one hundred samples of bottom sediments.

This piece of information points to the sedimentation of suspension matter in an estuarine bottom floor made up of sand, silty sand, clayey sand, sandy silt, silty clay and mixed facies. The tidal effects are the main control on the type of sedimentary cover.

The tidal influence, which governs the environmental behaviour, decreases towards the amount of the estuary, where its dimensions are smaller because of the lack of important fluvial contributions. The hydrodynamic pattern established indicates the absence of thermo-saline stratifications, characterizing the estuary as an homogeneous type.

The qualitative analysis of the environmental impact shows that the disordered development of the city of Natal, located on the banks of the Potengi Estuary, is devastating the region.

Finally, a better environmental planning is suggested, concerning the natural resources of this region.

Fagundes, P.R. 1982. Genesis and controls of the fluorite orebody of Sete Barras, Adrianópolis, Paraná state - Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M020

DataBase Ref.: 80 1982 Date of presentation: 3/12/1982

Paulo Roberto Fagundes

Advisor(s): Dardenne, M.A.

Committee: Othon Henry Leonardos - IG/UnB

Onildo João Marini - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

This work aims the study of the origin and the controls of the fluorite mineralization of Sete Barras area, Adrianópolis, Paraná. The area is characterized by volcano-sedimentary and sedimentary sequences of Middle and Upper Proterozoic ages, intruded by the Late Proterozoic Itaoca granitic pluton and by Cretaceous diabase dykes. The mineralization is conformably contained in limestones and chalcophyllites at the base of the Acunguí Group near the Ribeira Lineament. Orientation is approximately N80°E. The ore body averages 5 m in width stretching 1800 m along the strike. The fluorite forms a stratiform body folded and metamorphosed during the Late Proterozoic Brazilian Cycle. Partial recrystallization took place again during the Itaoca granite intrusion. Brecciation and silicification as well as changes in the geometry of the fluorite ore body are associated to strike-slip and normal faults. The ore paragenesis is characterized by fluorite, silica, pyrite and calcite. The various stage of recrystallization are the following:

- cryptocrystalline silica and fluorite;
- microcrystalline silica and fluorite;
- macrocrystalline fluorite, quartz, pyrite and calcite
- later silicification.

The ore is older than the regional folding and the granitic intrusion. It has resulted from the replacement of limestone by fluor and silica rich fluids during an early diagenetic stage.

Ferreira, F.J.F. 1982. Integration of aeromagnetic and geologic data: Configuration and tectonic evolution of the Ponta Grossa arc. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2026 1982 Date of presentation:

Francisco José Fonseca Ferreira Advisor(s): Davino, A.

Committee:

Subject of thesis: Geotectonics

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Galindo, A.C. 1982. Petrology of the Monte das Gameleiras Granite Body (States of Rio Grande do Norte and Paraíba). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Granite body, Petrology, Geochemistry, Geochronology

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 616 1982 Date of presentation: 17/12/1982

Antônio Carlos Galindo Advisor(s): McReath, I. Sial, A.N.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The granite body of Monte das Gameleira, at the Rio Grande do Norte-Paraíba state boundary, constitutes a batholith of approximately 300 km². This batholith pierced a gneiss-migmatitic basement regarded as belonging to the Caicó group (2.7 Ga). In the field work, two main petrographic types of granitic rocks were identified, and a variety of intermediate to basic xenoliths. The predominating type is an extremely porphyritic monzogranite according to Streckeisen's classification (1976), with essentially euhedral and zoned microcline phenocrysts. Typically igneous textures and structures, such as K-feldspar cumulates, igneous layering, mantled K-feldspar and zoning of K-feldspar. A second petrographic type is represented by a finegrained gneissic-granodiorite, which intrudes the monzogranite. This unit is well-exposed in the central area of the pluton and its contacts with the porphyritic monzogranite are not well defined. A variety of xenoliths is found in these two lithotypes, predominating the quartz-diorite ones. Fragments of banded-gneisses from the basement are also found. A foliation trending N30°-60°E is systematically observed, being better recorded in the granodiorite and basic xenoliths. This foliation is correlatable with the F3 deformational phase, regional in the Seridó, with an accompanying metamorphism of the amphibolite facies according to Miyashiro (1975). The major element chemistry and several petrochemical parameters evidence a same source rock for these granitic rocks, being the original liquid more mafic and water-undersaturated. The Rb-Sr isochron points to an age of 500 Ma (late Brasiliano). This age represents an average minimum age, since the isochron was obtained with analyses of the granodiorite and porphyritic granite (monzogranite), and as the body underwent at least one deformation, it is more likely that it represents a minimum age and not the emplacement age. This batholith is probably a mesozonal one being a syn to late-orogenic body in relation to the Brasiliano cycle. Field and petrochemical data point this body as of the I-type. According to the Jardim de Sá et al. (1981) classification, this is a G3 type of granite body, and synorogenic pluton according to the Santos & Melo (1978) classification.

Garcia, A.J.V. 1982. Geology and stratigraphy of the Triunfo member (Rio Bonito formation) in the region between Reserva and Ipiranga - Paraná state. MSc Thesis, Institute of Geosciences, University of Rio

Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 412

1982

Date of presentation:

Antônio Jorge Vasconcellos Garcia

Advisor(s): Corrêa da Silva, Z.C.

Committee:

Subject of thesis: Stratigraphy

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

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Abstract

The dissertation presents the results of the semi-detailed geological mapping of the Marins, Fazenda Marçal, Remanso, Morro Chato, Serra do Caixão, Tuneiras, Cerro Azul, and Irara regions between Reserva and Ipiranga, Paraná State.

374 outcrops, including 56 stratigraphic profiles and 8 boreholes (CPRM/MINEROPAR and NUCLAM) were described; and 2 stratigraphic sections, 13 geological sections and 2 stratigraphic diagrams were made.

Based on the sedimentological, petrographical, physico-chemical, palynological and paleobotanical data, a composed stratigraphic column was elaborated to the sedimentary carbonaceous and/or fossiliferous rocks.

The Triunfo Member of the Rio Bonito Formation, Guatá Group, was divided in two different sequences, according to the distinctive characteristics of the unities to the south and north of the studied area. Some of these sequences represent paleoenvironmental particularities, probably restricted, but the complete characterization of the sequences allowed the understanding of the sedimentary dynamics predominating in the area during the deposition.

In order to represent the probable geological evolution during the sedimentation, 5 paleostratigraphic profiles were drawn. A geological map, in scale 1:25,000, and a lithological map of the Triunfo Member showed the areal distribution of the outcropping sequences.

The region presents two main areas for coal exploitation: Marins- -Fazenda Marçal and Remanso-Morro Chato-Serra do Caixão. The coal seam is 50cm thick in Marins-Marçal and the estimated reserves reach 2,5 million tons ROM. In the Remanso area the coal seam is thinner and of lower quality than in Marins-Marçal area.

Godoy, A.M. 1982. Geological mapping of Bauru group in the São Paulo state through LANDSAT images. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1361

1982

Date of presentation: 31/8/1982

Antonio Misson Godoy

Advisor(s): Hermann, J.H.B.

Kux, H.J.H.

Committee:

Subject of thesis: Remote Sensing

State: SP

1/1,000,000 sheet:

SF22

Centroid of the area:

' -

'W

Abstract
Guimarães, I.P. 1982. Petrology and Geochemistry of the Fortaleza Tertiary Alkaline Province (State of Ceará). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.
Alkaline province, Petrology, Geochemistry

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 617

1982

Date of presentation: 22/12/1982

Igneis de Pinho Guimarães

Advisor(s): Sial, A.N.

Committee:

Subject of thesis: Mineralogy and Petrology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The Tertiary volcanic suite near Fortaleza, Ceará State, is composed predominantly of phonolites, trachytes and nepheline-syenites which form necks (Pão de Açúcar, Salgadinho, Japarara, Ancori, Poção, Cururu e Preto), conic structures (Gangorra) and dikes of alkali-trachytes, basalts, ankaramite and gabbro. Flow, glomeroporphyritic and microporphyritic textures are common in phonolites and trachytes. Inclusions of nepheline-sienite, fourchite and layered rocks with groundmass of sienitic composition and inclusions of fourchite as well as discrete inclusions of albite and ilmenite are common in the Caruru plug. Zoned aegirine, soda-augite and aegirine-augite, along aersutite, natrossanidine ± sodalite, sphene and opaque minerals, are the main component phases of the phonolites and trachytes.

Thirty three whole chemical analyses indicate that in the phenolites and trachytes, SiO₂ varies from 54% to 60.7% and that these rocks are notably enriched in alkalis, Cl and F. In the phonolites and trachytes, natro-sanidine varies from Ab₅₈,69 An₃,27 Or₃₈,04 to Ab₄₂,46,86 An₇,14 Or₅₀,0, whereas plagioclase ranges in composition from Ab₆₂,27 An₃₁,13 Or₆,60 to Ab₅₂,13 An₄₂,55 Or₅,32. Nepheline shows Na/K ratios from 5.0 to 6.1 and Si/Al ratios from 1.1 to 1.5. Pyroxenes are of the diopside-hedenbergite-acmite series, with a fraction trend from soda-augite to aegirine-augite to aegirine. Normal and reverse zoning has been recorded, optically and chemically, Soda-augite is very Fe and Mn enriched. This probably reflects low fugacity

during its crystallization. Ferro-haersutite is present at Japarara and haersutite at Caruru. They are zoned with respect to FeO which increases from core to margin, and to MgO which behaves in the opposite way. The high amount of Fe and Ti in these amphiboles attests a low oxygen fugacity during crystallization. The high Ti and AlIV support a high crystallization temperature. Kaersutite phenocrysts 1cm long, exhibiting reaction rims are common, suggesting that their fractionation, may have played an important role in the genesis of phonolite magma. This magma derives from a fourthitic one as shows the trend in the Qz-Ne-Ks diagram. Ankaramites and basalts crystallized from a magma derived by a very low degree of partial melting in the mantle.

Junho, M.C.B. 1982. Geology, petrology and preliminary geochemistry of the Teresópolis granite, RJ. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 3.260/82

DataBase Ref.: 987 1982 Date of presentation: 17/6/1982

Maria do Carmo Bustamante Junho Advisor(s): Penha, H.M.

Committee: Joel Gomes Valença -
Fernando Roberto Mendes Pires -
Johann Hans Daniel Schorsch -
Rudolph Allard Johannes Trouw -

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The mapping here presented was held in a pre-Cambrian area comprising migmatitic gneisses, cut by orthogneisses and post-tectonic granites, as well as basaltic dykes of mesozoic age. The migmatitic gneisses are related to the Santo Aleixo Unit (Penha et alii, 1979). They are acid gneisses with an amphibolitic-tonalitic melanosome and a granitic leucosome. The main structures present are of the stromatic type with minor structures such as nebulitic, agmatic and porphyroblastic types. This unit is cut by orthogneisses of the Serra dos Órgãos Batholith, (Grossi Sad et alii, 1980), represented by a (gr)-(hn)-bi gneissic granite and by a gneissic leucogranite, which portrays an early phase from this magmatism. In the area of the Batholith itself there are some other kinds of intrusive rocks of a latter age and unknown origin. The migmatitic gneisses and orthogneisses show two phases of deformation with NS (Fn-1) and NE-SW (fn) as the main directions. Their mineralogical assemblages are from the high grade amphibolitic facies, superposed by medium grade greenschist facies. An acid to intermediate post-tectonic magmatism cut the gneisses into tabular shaped bodies of various thickness distributed along a NE-SW regional trend. The larger bodies show mainly subhorizontal dips and are sectioned by high angles faults related to a rigid post-Cambrian tectonism. The main fault directions are also coincident with those directions of Fn and Fn-1. We conclude that these granites are allochthonous and post-tectonic. They are (hn)-bi monzogranites with allanite and sphene, and show granodiorite and monzodiorite differentiates. They are referred to this paper as the Teresópolis Granite. In the south of the studied area the granites are gray colored, medium grained, with porphyritic texture. The granites in the north are also gray, but fine-grained, with flow structures and abundant "basic inclusions". These fine-grained granites form also narrow dykes that cut the medium grained granite and the gneisses. They are cut by pegmatites and by dykes of a pink leucogranite, which is the last intrusive phase of this magmatism. The inclusions show the same mineralogy as that of the granites and are of two different types. The "surmicaceous" type is composed basically of mafic minerals and the "microgranular" type is composed of andesite to quartz-andesite igneous rock, with igneous textures. They most probably are autoliths or restites. The chemical analyses of these granites indicate a magma of trondhjemitic (soda rapakivitic) composition, with a relative potassium enrichment. The pattern of magmatic evolution suggests a trend calc-alkaline. Correlations and comparisons between the Teresópolis Granite and the Andorinha (Penha et alii, 1979a), (Zorita, 1978), Ipiranga (Puget, 1979), Nova Friburgo e Sana (Grossi Sad et alii, 1978 e 1981) granites reveal structural, petrographic and geochemical similarities. These features show that the Teresópolis Granite and the other granites above have some affinities with granites of the I-type (Pitcher, in Atherton e Tarney, 1979) derived by anatexis from basic continental crust.

Lavina, E.L.C. 1982. Paleontology, stratigraphy and biostratigraphy of the Sanga do Cabral formation, early Triassic (Rosário do Sul group) in the Catuçaba quadrangle, Rio Grande do Sul. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 760 1982 Date of presentation:

Ernesto Luiz Correa Lavina Advisor(s): Barberena, M.C.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This dissertation deals with the osteological description of procolophonid remains, associated with rhytidosteid amphibians. They occur in intraformational conglomerates of the Sanga do Cabral Formation (Rosário do Sul Group, Triassic), in the region of Catuçaba, Rio Grande do Sul State, Southern Brazil.

Though fragmentary, the remains allowed the identification of Procolophon sp., represented by cranial and postcranial materials. The presence of Procolophon indicates an equivalent of the Lystrosaurus zone (Upper Beaufort Series of South Africa) for the basal sequence of the Rosário do Sul Group, and thus assigns to the Sanga do Cabral Formation a Scythian (Lower Triassic) age.

The occurrence of this paleofauna shows that the Permo-Triassic limit in Rio Grande do Sul, as interpreted by paleofaunal succession, should not register any major hiatus. In fact, the topmost levels of the Upper Permian, underlying the Estrada Nova Formation (Armada Facies), have displayed *Pareiasaurus* remains; this is in agreement with the paleofaunistic succession between the Lower and Upper Beaufort Series in South Africa.

The area corresponding to the Catuçaba Quadrangle was mapped to the scale of 1:50000 in order to describe the stratigraphic, lithologic and sedimentary features of Sanga do Cabral Formation.

This formation is here interpreted as deposited under the influence of a fluvial meandering systems. Channel and flood plain deposits were recognized.

Intraformational conglomerates are interpreted as the reworking of upper point bar and flood plain pelitic sediments as currents during floods.

Licht, O.A.B. 1982. Geochemical prospection applied to the research of nonoutcropping sulphides associated with Early Paleozoic sedimentary rocks of the Fazenda Santa Maria region, Caçapava do Sul, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 482

1982

Date of presentation:

Otávio Augusto Boni Licht

Advisor(s): Ribeiro, M.J.

Melfi, A.J.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

'W

Abstract

The geochemical prospecting work presented here was carried out on the Sul-rio-grandense Shield, Southern Brazil, near the copper Mines of Camaquã, in a place called Santa Maria Farm, by following a sedimentogenic model for the mineralization, over a sedimentary clastic sequence ("Bom Jardim" Group) of Late Pre-Cambrian age.

The sampling was performed by using stream sediments (146 samples on the reconnaissance phase and 135 samples on the detail phase), soils (3,299 samples), outcropping rocks (1,735 samples) and core samples (about 2,000 samples).

The analytical procedure used atomic absorption spectrometry for the determination of Cu, Pb, Zn, Fe and Mn, and X-ray diffraction for determination of clay minerals.

The statistical procedure for the analytical data was developed by using probability graphs which were interpreted following Lepeltier (1969).

The results pointed out stratiform and sub-horizontal deposits of Pb-Zn ores, at 60 meters below surface, hosted by clastic sedimentary rocks, with a play of colours grading from white to gray.

The ore reserves on the Area 2 deposit reaches at 13,500,000 tonnes with a grade of 0.92% Pb and 1.24% Zn; and the Area 3 ore deposit amounts 30,000,000 tonnes with a grade of 1.53% Pb and 0.76% Zn.

Lima, E.S. 1982. Geology and Petrology of the Bonfim Scheelite Mineral Deposit (Lages, State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Scheelite mine, Geologic mapping, Petrologic aspects, Origin scheelite

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 612

1982

Date of presentation: 14/4/1982

Edmilson Santos de Lima

Advisor(s): Beurlen, H.

Committee:

Subject of thesis: Mineralogy and Petrology

State:

1/1,000,000 sheet:

Centroid of the area:

05

35 's

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36

10 'W

Abstract

The Bonfim scheelite Mine is situated at the Seridó area, (coordinates: 36010' W and 5035' S) in the domain of the metamorphic rocks of the Seridó Group. Lithostratigraphically this mineral deposit is related to calc-silicate rocks associated to marbles of the Jucurutu Formation.

Detailed mapping in surface and subsurface of the area of the Bonfim I Mine allowed one to confirm two phases of folding. The first one was responsible for the isoclinal folding in the axial plane schistosity and axes according to a NNE direction, while the subsequent phase gave rise to open folds slightly asymmetric with vertical axial planes and axes trending NNE. The metamorphism associated to the first phase has reached P-T conditions equivalent to the amphibolite facies of low rank. The following metamorphism associated to the second phase of retrogressive character, happened at P-T conditions of the greenschist facies. The third phase of deformation corresponds to a fracturing trending ENE-WSW, transversal to the regional trend of schistosity.

Lithogeochemical and petrochemical studies indicate that the host rock of the mineralization was formed through the metamorphism of impure limestones. The scheelite mineralization presents itself in two distinct ways: 1 - submillimetric crystals paralleling the banding, prior or syntectonic in relation to the first phase of deformation; 2 - poikiloblastic centimetric crystals also paralleling to the banding and syntectonic to the phase Fn+1. The geologic controls are: a - Lithostratigraphic - calc-silicate levels interlayered with marbles of the Jucurutu Formation (mainly that one situated between the marble and biotite-schist, and the

one between the pure marble and micaceous marble); b - Structural – the main ore-shoots are aligned according to a N100-150 E direction, with decreasing contents toward NNE and SE conditioned by the structural features related to Fn, or even to a pre-tectonic faciological character. The presence of scheelite synchronic or prior to the first phase of deformation probably already in the sedimentary rock, was attested.

Lindenmayer, Z.G. 1982. Geological evolution of Rio Curaçá valley and copper mineralized mafic-ultramafic bodies. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pp.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 950 1982 Date of presentation: 25/10/1982

Zara Gerhardt Lindenmayer Advisor(s): Hasui, Y.

Committee: Eduardo Antonio Ladeira - DEGEO/UFOP
Umberto Raimundo Costa - IG/UFBA

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The Rio Curaçá Valley on the northern part of the São Francisco craton in the State of Bahia, is formed by a basement of tonalitic to quartzmonzodioritic composition with gabbroic levels. The basement is overlain by a mainly sedimentary supracrustal sequence which, similarly to other Archean platform sediments, is pelitic at the base and chemical at the top. The Caraíba copper orebody as well as other small copper deposits in the district, are hosted in mafic-ultramafic rocks within the supra crustal sequence. The mafic-ultramafic rocks are sills or sill-like differentiated intrusions grading upward from hyperstenites through norites and gabbro-norites to anorthosites at the top. Economic concentrations of copper in the area are associated to layered intrusive bodies showing hyperstenites at the base. Low-grade sulphide disseminations occur within mafic bodies of gabbroic, noritic to anorthositic composition lacking hyperstenites. The absence of olivine-bearing ultramafic rocks and the chemical characteristics of the mafic-ultramafic host rocks indicate that the source material was a basaltic-tholeiitic melt, differentiated prior to intrusion. Copper mineralisation seems to have been conditioned by the stage of differentiation of the tholeiitic melt when it was intruded in the supracrustal sequence. It is also suggested that assimilation of sulphur from the country rocks played an important role in the formation of the deposits. This is shown by 1) the marked association of mineralised intrusions with carbonate sediments; 2) the common presence of sulphide-bearing graphitic levels within the mineralised intrusions; and 3) the location of the major orebody in intimate association with carbonate-bearing levels of anhydrite, probably of evaporitic origin. The basement, the supracrustal sequence and the mafic-ultramafic assemblage, which exhibit geological characteristics similar to other Archean high-grade metamorphic terranes, were subjected to granulite facies metamorphism. Later they were reworked and retro-metamorphosed to the amphibolite facies with partial migmatization and intrusion of granitic rocks during the Transamazonian event (1.800 - 2.000 m.y.). As the slow and progressive uplift of the entire metamorphic sequence proceeded, the diaphoretic processes were maintained, mainly within shear zones and/or within pressure release zones, with local development of green schist parageneses.

Mont'Alverne, A.A.F. 1982. Limestones of the Pernambuco Continental Shelf. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Continental shelf Pernambuco, Limestones, Sedimentological study, Depositional processes

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 581 1982 Date of presentation: 13/4/1982

Alarico Antônio Frota Mont'Alverne Advisor(s): Coutinho, P.N.

Committee:

Subject of thesis: Sedimentary Geology

State: PE 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The continental shelf of Pernambuco State being of reduced width and small depth, is characterized by a predominance of carbonate over terrigenous sedimentation. It is worth special attention in view of its sedimentological-ecological conditions as well as its sedimentological importance. This work starts with a general view on the physiographical aspects, the geology of the coastal zone, and oceanographic considerations, all of which are fundamental for the understanding of the subsequent chapters. The study of the composition of the bottom sediments provides parameters for understanding sedimentation processes acting in the area. These and other information of geological-geomorphological and oceanographic nature permit an insight, although sparse, of the paleo-geographical evolution of the area. Besides, it was possible to differentiate three sedimentary provinces (Bioclastic Carbonate, Arenaceous Terrigenous and Siltic-Argillaceous Terrigenous) based on the nature, occurrence, origin and distribution of the sediments. The geochemical characterization of the sedimentary provinces indicates the different utility options, chiefly with regard to the bioclastic/bioclastic carbonates, furnishing speculations as to their geochemical aspects. The exploitation of these carbonate deposits (their possible reserves are 1926x106 tons) may provoke environmental problems in the future, giving rise to ecological disequilibria which require specific studies with the involvement of specialists of different branches.

Montardo, D.K. 1982. Geological study of upper Gondwanic sediments, from Candelária to Santa Cruz do

Sul region, Rio Grande do Sul. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 413

1982

Date of presentation:

Doris Ketzer Montardo

Advisor(s): Bossi, G.E.

Barberena, M.C.

Committee:

Subject of thesis: Stratigraphy

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

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Abstract

Detailed stratigraphic profiles, geological mapping, cyclicity analyses, profile simulation, clay mineralogy and evaluation of the paleontological content led to the stratigraphical and paleoenvironmental characterization of the sedimentary gondwanic sequences that outcrop in the area covered by the Santa Cruz do Sul, Vera Cruz and Candelária Quadrangles (Rio Grande do Sul State, Brazil). Comparisons with other outcrop areas in the State permitted to bring the study to a regional scale.

The sediments represent the continental and epiclastic deposition which characterized the final phase of sedimentation in the southern border of the Paraná Basin. Lithostratigraphically, they represent the Santa Maria and Caturrita Formations of the Rosário do Sul Group (according to ANDREIS et alii, 1980) and the Botucatu Formation of the São Bento Group.

The Santa Maria Formation is divided into two members. The lower one, Passo das Tropas Member, is made up of more than 40 meters of whitish conglomeratic sandstones and fine sandstones and red pelites deposited by rivers with low sinuosity and poorly developed alluvial plains. The upper Alemoa Member comprises 55 meters of massive red pelites, accumulated under eolic influence on loess paleoplains.

The Caturrita Formation comprises a fluvial sequence organized in fining-upwards cycles normally well-defined and composed of coarse to fine sandstones and red, brown or grayish pelites reaching a thickness of 60 meters in average. The deposition was conditioned by a anastomosed river system (according to Smith & Smith, 1980), and thus characterized by multiple, straight to sinuous, stable channels separated by wide and stable alluvial plains of areno-pelitic composition aggraded by events of overbank floods.

The Santa Maria and Caturrita Formations were deposited under the influence of paleoclimatic conditions characterized by middle to warm temperatures, with alternating rainy and prolonged dry seasons, similar to those prevailing in the present subtropical zones.

Fine to medium, well-sorted, orange sandstones represent the Botucatu Formation. They were accumulated as dunes mobilized by dry winds of continental provenance. Their thickness is highly variable (30 meters to absent), suggesting proximity to the austral border of the accumulation basin.

Geochronological data, provided by correlation of paleoherpetofaunas, indicate a Middle Anisian to Middle Carnian age to the Santa Maria Formation. The same data indicate an Upper Carnian to Norian age for the Caturrita Formation. The relative age attributed to the Botucatu Formation comprises the Lower to Middle Jurassic interval.

Pereira, S.D. 1982. Statistical methods for the determination of sedimentary processes and environments in the continental shelf of the southern Brazilian region. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 443

1982

Date of presentation:

Silvia Dias Pereira

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This dissertation deals with the employment of statistical techniques to define the best grain size parameters to identify the depositional processes and environments of the continental shelf and slope of Rio Grande do Sul State.

The principal component analysis (PCA) of grain size data of 318 superficial samples of the area pointed out such variables as percentiles (Ø5, Ø16, Ø25, Ø50, Ø75, Ø84, Ø95), percents (gravel, sand, silt, clay), skewness and a derivate variable of the ratio (gravel + sand) / (silt + clay), as the most diagnostic variables for studies in the region.

The use of percentiles, percents and skewness data in cluster analysis, led to the construction of the faciologic map. These analyses indicated three factors which allowed facies identification: a factor of grain position (equivalent to the mean of all values), a second one representing the sorting (equivalent to dispersion), and, the last one, equivalent to skewness. This information allowed the definition of eight sedimentary facies: 1) Sand Facies - deposition of terrigenous sand in beach and inner shelf environment.

2) Patos Facies - present deposition of fluvial mud in marine coastal environment.

3) Shelf Mud Facies - past deposition of fluvial mud in quiet water marine environment.

4) Platina Facies - past deposition of fluvial mud, in an environment analogous to the previous one, but with the La Plata River influence.

5) Transitional Facies - remobilization and deposition of mud, causing a mixture with the sand.

6) Inner Biodebitric Facies - biodebitric gravel concentration by erosion in the deepest Pleistocene beds which contain it.

7) External Biodebitric Facies - past concentration of biodebitritus in marine environment of the inner shelf.

8) Slope Mud Facies - past deposition of fluvial mud in marine slope environment.

The last stage was the trend surface analysis of the derivate variable of the ratio (gravel + sand) / (silt + clay), to obtain information about depositional environments and associated energy levels. The 3rd order trend surface was considered the best one to define the regional component of these data, confirming the already existing sedimentary model of the area. The local component (deviations) of this same trend showed, in some places, lower energy levels than those expected for them.

Pinto, S.A.F. 1982. Using of remote sensing techniques for the characterization of soil erosion in the southwestern of São Paulo state. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1362

1982

Date of presentation: 29/9/1982

Sérgio dos Anjos Ferreira Pinto

Advisor(s): Queiroz Neto, J.P.

Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: SP

1/1,000,000 sheet:

SF22

Centroid of the area:

' -

'W

Abstract

Rosa Filho, E.F. 1982. Productivity Analysis of Tubular Wells in the Caiuá Aquifer (NE Paraná). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

[Caiuá aquifer, wells](#)

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 547

1982

Date of presentation: 21/9/1982

Ernani Francisco da Rosa Filho

Advisor(s): Manoel Filho, J.

Committee:

Subject of thesis: Hydrogeology

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

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Abstract

Twenty nine wells, used for public supply in 21 small towns in the State of Paraná, exploited by SANEPAR under the SUREHMA supervision, were analysed. The majority of these units underwent a decrease in the water discharge, along the time that it has been pumped.

The main causes that influenced in the water decreasing of the wells are pointed out in this thesis, together with the real yield capacity of each one of the wells, either for the present or for original conditions, by using redevelopment processes. Basic data refer to production tests, performed immediately after the conclusion of each drilling, as well as to the reevaluation tests made in 1981. Also, constructive and financial project models are presented, either to substitute or to complement the supply systems established as far as 1990.

It is concluded from this study that the main causes of the discharge drops are due to the excessive entrance velocity at the well screens, and also to their reduced slot sizes, together with the long period of inactivity of some wells.

The alternative suggestion for a good technical performance of the wells, are based on the elimination of the above mentioned factors, with the SANEPAR support as far as the operational recommendations of the systems are concerned.

Sá Filho, R.J. 1982. Copper sulfides mineralizations in Itiúba range - Bahia state. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 951

1982

Date of presentation: 25/10/1982

Raymundo José Sá Filho

Advisor(s): Fujimori, S.

Committee:

Aroldo Misi

- IG/UFBA

Alcides Nóbrega Sial

- DG/UFPE

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA

1/1,000,000 sheet:

SC24

Centroid of the area:

' -

'W

Abstract

The Serra de Itiúba is regionally made by pink, coarse grained, isotropic hornblende syenite which locally presents a foliation due to the orientation of the prismatic hornblende crystals.

The presence of amphibolitic and hornblende rock bodies into the hornblende syenitic as well as the existence of numerous fine (aplite) and coarse (pegmatite) quartz feldspathic dykes lead to the given denomination of Complexo Serra de Itiúba (Serra de Itiúba Complex)

The basic/ultrabasic bodies are sulfide mineralized with massive and disseminated feature, and a mineral assemblage formed by

pyrrhotite, pyrite, chalcopyrite bornite, sphalerite and molybdenite, the presence of magnetic and some ilmenite is remarkable. The survey, which consisted basically of 1: 250.000 scale geologic mapping, ground geophysics (magnetometry and VLF) and drilling, showed that the basic/ultrabasic bodies have tabular feature with sub-vertical dip.

Chemical analyses indicated on igneous trend to the syenitic basic/ultrabasic rocks, but with diverse origin. Economically, only the massive sulfide "belt" shows interesting copper concentrations (0.5 to 3.2%), being the average concentration in the N° 1 Occurrence, about 0.8% Cu..

For a real evaluation of the cupriferous potential of the region are necessary more detailed studies, not only in the area in the area surveyed but also in the whole Serra de Itiúba area.

Sá, J.M. 1982. Petrology and Structure of an Area N of São Tomé (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Geologic mapping, Precambrian basement, Tectonics, Metamorphism

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 613 1982 Date of presentation: 30/4/1982

Jaziel Martins Sá Advisor(s): Sial, A.N.

Committee:

Subject of thesis: Mineralogy and Petrology

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

This thesis emphasizes the relationship between tectonic and metamorphic phases, and their PT conditions, including geological mapping at a 1:25000 scale. The studied area comprises 10 km², located N of São Tomé and between the cities of Lages and Caiçara do Rio do Vento (RN). It is largely composed of Precambrian metamorphic rocks, with basal metasediments correlated to the Jucurutu Formation, predominantly muscovite-biotite schists and gneisses, with intercalation of quartzites, marbles, calcsilicates and amphibolites. The top unit of the metasedimentary sequence is composed by the biotite schist of the Seridó Formation. Successive granite injections, represented by porphyroblastic orthogneiss (G2a), fine-grained orthogneiss (G2b) and fine-grained granite (G3) cut these metasediments, being followed by younger mafic-ultramafic intrusions now represented by metaultrabasic, cumingtonite amphibolite, serpentinites and gabbro. Four tectonic/metamorphic phases (D1', D1, D2, D3) were recognized. The F1' phase deformation style was not characterized, and its associated metamorphism was developed in the high greenschist/low amphibolite facies with conditions of intermediate pressures, witnessed by the presence of kyanite. The D1 event developed tight to isoclinal folds, sometimes transposed, the associated metamorphism having reached the anatexis isograd, of low to intermediate pressure, with major evidence for the low pressure type. The D2 event developed open to closed folds, locally isoclinal, with steep-dipping axial planes, representing the mapped macrostructures. The metamorphism grades from the amphibolites to the greenschist facies in a syn to late-F2 stage. Both D1 and D2 events developed structures with a general NNE trend. The D3 event is represented by isopach, usually open folds with a NW-SE direction, developing cross-folding with respect to the earlier phases. The associated metamorphism is in the greenschist facies conditions. Interference patterns were defined by the different superposed phases. A tectonic unconformity was recognized between the metasediments and granitic rocks, the latter not showing F1' structures. Another tectonic unconformity was detected between the orthogneisses (G2a e G2b) and fine-grained granite (G3); this second one does not present F1 structure. The gabbro is the youngest unit in the stratigraphic column and is not affected by the above mentioned events, being correlated with the Mesozoic igneous suite of Rio Grande do Norte.

Silva Filho, A.F. 1982. Petrology and Geochemistry of the Salgueiro Batholith (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Petrology, Geochemistry

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 615 1982 Date of presentation: 17/12/1982

Adejardo Francisco da Silva Filho Advisor(s): Sial, A.N.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Salgueiro batholith is located 520 km inland from the Atlantic coast, Pernambuco State, occupying an area of about 230 km². This batholith intruded low-grade metamorphic rocks of the Salgueiro Group. Lithologically, K-feldspar, albite, biotite, allanite and sphene are present. Clinopyroxenes are restricted only to the quartz-monzodioritic unit. The alkali-feldspar syenites form a set of dark-coloured, fine-grained dikes, which cut the batholith in a S-N direction.

The batholith is characterized by high Al₂O₃ values and Na₂O > K₂O, in its eastern portion. In this eastern portion, K₂O is greater than Na₂O. The SiO₂ varies from 56% to 71%. Strontium values higher than 8700 ppm and barium higher than 6090 ppm were observed. In the Qz-Ab-Or diagram, potassic and sodic trends were observed. The P₂O₅ against SiO₂ plots as well as TiO₂ against SiO₂ ones show negative correlation and suggest a source rock of basaltic composition. The analysed samples show a predominant calcic character and, less frequently, calc-alkalic character. I type granite characteristics predominate, that is, a great compositional variety, mafic members with allanite and sphene, normative diopside, etc. The K-feldspar varies from Ab₅Or₉₅An₀

to Ab12Or88An0, while the plagioclase varies from Ab90Or1An9 to Ab97Or1An2. The coexisting microcline and plagioclase permit calculating that the minimum equilibration temperature varies from 3900C to 4600C. The variation of ferroaugite varies from En21Fs34Wo45 to En18Fs38Wo44, while ferroedenite reaches the following maxima: 9.74% of A12O3, 1.88% of Na2O, 15.56% of CaO and 20.77% of FeO. The high TiO2 content and A1IV > A1VI suggest high temperature of crystallization and the low content of A12O3 a depth of a relatively low intrusion. The biotite shows A12O3 contents between 11 and 13 percent, and FeO higher than 23 percent, which coupled with the low H2O content and scarcity of magnetite suggest reducing conditions during the crystallization. An initial 87Sr/86Sr ratio of 0.704±0.0001 was obtained, suggested mantle origin for the protolith magma. The batholith exhibits mesozonal characteristics and probable had a late-tectonic emplacement.

Silva, M.R.R. 1982. Petrology and Geochemistry of the Picuí-Pedra Lavrada Pegmatites (State of Paraíba). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Pegmatites, Petrology, Geochemistry

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 614

1982

Date of presentation: 5/8/1982

Marcelo Reis Rodrigues da Silva

Advisor(s): Beurlen, H.

Committee:

Subject of thesis: Mineralogy and Petrology

State: PB

1/1,000,000 sheet:

SB24

Centroid of the area: 06 42 's - 36 23 'W

Abstract

This thesis was developed in an area limited by the coordinates 6030' to 6054' S and 36015' to 36032' W, situated on the eastern border of the Borborema-Seridó Pegmatite Province.

Basically, there are two types of pegmatites: homogeneous (generally barren) and heterogeneous (differentiated and mineralized). Mineralization of Ta/Nb and Br are the most common (Li and Sn subordinate). The pegmatite emplacement took place in the beginning of the Phanerozoic (550-450 m.y.) compatible with other Brazilian pegmatite provinces. The enveloping rocks are the covering meta-sediments related to the Brasiliano Cycle. Review of the literature on the area suggests that the most common geological controls of the mineralizations are the albitization and the presence of complex phosphates. Registration card data are insufficient and do not permit to establish a regional zoning of the pegmatites in the Province.

Field data, petrographical and geochemical, of the area granites, point to the unit p E Apeg (pegmatoidal granites) as an intermediate term between the probable parental granite (not identified) and the pegmatites.

The dispersion study of trace-elements in the feldspars and micas, together with diffractometric data, permitted to draw the following conclusions: (a) the albite content of the perthitic K-feldspars decreases from the border to the center of the heterogeneous pegmatites; (b) negative correlation between trilinearity (D) and the Ba concentration in the K-feldspars; (c) Ba and Nb contents higher in the homogeneous pegmatites and Sn, Ta and Rb higher in heterogeneous ones, lead to the conclusion of a probable magmatic origin of the pegmatites; (d) no relation between the pegmatite mineral paragenesis and trace-elements enrichment, has been observed. The trace-element distribution at the pegmatite/host rock contact does not show enclosing rock influence in the formation of these pegmatites and their mineralizations, suggesting a probable hypogenic origin.

Silva, O.A. 1982. Modified electric gradient array and gravimetric and magnetic surveys in the exploration of disseminated sulfides in Suçuarana, Jaguarari- BA state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1565

1982

Date of presentation: 30/12/1982

Osmar Almeida da Silva

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA

1/1,000,000 sheet:

SC24

Centroid of the area: ' - 'W

Abstract

The surveyed area of 1.30 km² is distant 15km southern of Caraíba Mine and contains a copper bearing mafic body hosted by gnaissic rocks. The research comprised the methods: gravimetric, magnetic, induced electrical polarization and resistivity. The use of the gravimetric and magnetic methods allowed the characterization of the geometry of the ore bearing mafic body and the definition of the local geological pattern. The survey with both the induced electrical polarization and resistivity methods consisted of a variation of the gradient array aiming to investigate its applicability for the evaluation of disseminated metallic sulphide deposits in the Curaçá Valley. To the transmitter, we connected 10 current electrodes, 5 at each lateral extremity of the area, with separation AB equal to 1 km and we used current about 0.5 A. To the receiver we connected 2 potential electrodes keeping one fixed to permit calculation of the values of the electric field in both E-W and N-S directions. The E-W electric field data showed a good horizontal resolution with respect to vertical and sub-vertical conducting bodies elongated in the N-S direction (transverse to current lines). The N-S electric field showed several short conductors, under the action of the E-W current flow, when normally the electric field would vanish in the N-S direction. This doesn't happen because the disturbance in the field lines, caused by the N-S extremities of these bodies, creates positive and negative peaks of the electric field on their proximities. Also we developed a

theoretical solution considering an infinite number of current electrodes, from which we obtained expressions for the electric field applied to the case of a vertical dike of conductivity s_2 within an environment of conductivity s_1 . We used the theoretical curves to interpret the conductivity and the width of the mafic body. The PFE results indicated a greatest value of 3.5% for a background of 2%. These results suggest a uniformly disseminated mineralization, with so small local concentrations. The electromagnetic coupling interference limits the usefulness of the gradient array. However the use of 10 current transmission electrodes permitted a homogeneous current distribution under the ground and as a result a uniform response of the various conducting bodies.

Tessler, M.G. 1982. Actual sedimentation on the Cananéia - Iguape lagoonal region, São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2135 1982 Date of presentation: 15/6/1982

Moysés Gonzalez Tessler Advisor(s): Suguio, K.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: SP 1/1,000,000 sheet: SG23 Centroid of the area: ' - 'W

Abstract

Uhlein, A. 1982. Geology and chromite and itabirite mineralization from Serro region, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M019

DataBase Ref.: 79 1982 Date of presentation: 3/12/1982

Alexandre Uhlein Advisor(s): Dardenne, M.A.

Committee: Aripilino Antonio Nilson - IG/UnB

José Caruso Moresco Danni - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

In the region of Serro (Minas Gerais), located on the eastern side of southern Espinhaço, four lithostratigraphic units were identified.

The basal unit is the Crystalline Basement made up of leucocratic biotite gneisses and its related cataclastic facies (mylonites, protomylonites, phylonites, etc). The main structural feature is of rigid nature.

Overlying the sialic basement, is the Serro Vulcano-Sedimentary Sequence which is composed of magnesium schists derived from ultrabasic rocks, interlayered with metasedimentary rocks. It is interpreted as a possible Archean Greenstone Belt.

A tectonic contact is observed between the Serro Vulcano-Sedimentary Sequence and the overlying Itabirite Sequence, made up of quartzites, phyllites, itabirites and some volcanic intercalations. This later sequence is correlated to the Minas Supergroup of the Quadrilátero Ferrífero region.

The two above mentioned pre- Espinhaço units show two isoclinal folding phases of almost perpendicular axial trends (approximately NW-SE and NE-SW). The tectonic movement direction of the first phase was from SW to NE, while the tectonic movement related to the second phase is considered being from SE to NW.

Unconformably overlying the above mentioned units, rocks of the Espinhaço Supergroup are found. They are homogeneous psammitic metasediments, with intercalated metaconglomerates and phyllites. Post-tectonic metabasalt, as dykes and sills, represent the last magmatic activity of the study area.

The Espinhaço Supergroup shows a characteristic platform cover tectonics, represented by very open folds and intense thrust faulting with vergence towards the west, also affecting older units.

Gold, chromite, itabirites, bauxite and diamonds are among the most important economic occurrences of the Serro region.

The chromite deposits are of pré-metamorphic stratiform-type and probably, archaic in age. Alpine-type characteristics show by these deposits reflect the imprints of later metamorphic events.

Petrographic, stratigraphic and geochemical data of low- grade metamorphic itabirites (greenschist facies) indicate close affinities to that of Superior-type iron formation (oxide facies).

Vieira, H. 1982. Sedimentological aspects of the São Gonçalo channel. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 444 1982 Date of presentation:

Heleny Vieira Advisor(s): Villwock, J.A.

Committee:

Subject of thesis: Marine Geology

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract SI22

The study of bottom sediments of São Gonçalo channel, a natural connection between Patos and Mirim Lagoons, shows that they have been deposited in two distinct zones. One inside, in fluvial environment conditions and along the channel, and another one, at its end, under the influence of lagoonal bodies. Sands, clayey-silts, sandy-silts, silty-sands, silty-clays, sand-silty-clays, silts, and clayey-sands, are the main textural facies. The distribution of these facies shows some areas that have been receiving sediments (Piratini river and Pelotas creek) and others that have been eroded, furnishing sediments to the estuarine complex of Patos Lagoon. Coarse facies predominate at the deeper parts of the channel and fine facies occur at the shallow ones. Heavy and clay mineral assemblages show that the main source areas are the Cenozoic formations, which have been reworked by the channel currents, and the rocks of the crystalline basement, which are drained and eroded by some of its tributaries. Geomorphological analysis of this area accounts for the existence of an old lagoonal bottom which is now a lone-land, exposed after the last Holocene Transgression, where the channel is meandering. It is possible to see there point bars, natural levees, cleavage-splay, flood-basin, flood-plain and channel fill deposits.

Zacarias, J.D. 1982. A new species of aetosaurian thecodont, *Aetosauroides subsulcatus* n.sp., of the Santa Maria formation, Triassic from Rio Grande do Sul, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 758 1982 Date of presentation:

Jussara Dorneles Zacarias

Advisor(s): Barberena, M.C.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This dissertation deals with the taxonomy and osteological description of a new aetosaurian thecodont, *Aetosauroides subsulcatus*, n.sp., from the upper levels of the Santa Maria Formation (Triassic of Rio Grande do Sul State, Brazil). The main specific differences from *A. scagliai* (Ischigualasto Formation, Triassic of Argentina) are related to the surface ornamentation of the osteoderms which is more strongly developed in the Argentinian form. Biostratigraphically, the new species belongs to the Rhynchocephalia Assemblage-zone of the Santa Maria Formation and indicates a Lower Ischigualastian age for the upper beds of this formation.

Badi, W.S.R. 1983. The Pb Zn mineralization in sandstones of the Camaquã district, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 483

1983

Date of presentation:

Waldemar Salomão Rodrigues Badi

Advisor(s): Jost, H.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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Abstract

The Pb-Zn sandstone type mineralization of the Santa Maria deposit, Southern Brazil, was discovered in 1978 by geochemical exploration and drilling. The deposit is located in a sedimentary pile of probable Upper Proterozoic to Cambrian age, belonging to the lower mollasses of the central region of the State of Rio Grande do Sul basement area.

The sedimentary rocks of the Santa Maria deposit are mostly white arkosic sandstone, interlayered with minor conglomerates and rare siltstones. The rudites and arenites (Vargas Member, Arroio dos Nobres Formation) are arranged in a large and thick deltaic system. The coarse- grained deltaic system grades laterally into and progrades vertically on very fine-grained, deep water rhythmites of the Mangueirão Member of the same major stratigraphic unit. NE shear zones, NW tensional faults, diabase dikes, and joints are the most important post-depositional features, but they do not imprint major dislocations as to introduce difficulties during correlations within the deltaic system.

The geology of the mineralization is described for the first time. Paleogeographic, paleohydrologic and lithologic controls for ore emplacement, situation and geometry of the deposit, its mineralogy, paragenesis, succession and the effect of diagenesis, ore textures and structures as well as a discussion about its genesis are presented. Available information has been obtained from drill-holes, since minning operations have not begun to expose the ore.

The stratigraphic unit where the ore occurs is strongly controlled by paleogeographic features. A volcano- -plutonic mainland bordered by narrow foredeeps is the model proposed. The ore was emplaced within sequences denoting main clastic feeding channels, which are also characterized by rock assemblages with fast lateral and vertical facies change, and low carbonate content. The metals probably were deposited from brines flowing through the stratigraphic sequence during compaction and following the migration of hydro-carbons.

The geometry of the deposit is complex. It crosscuts the stratigraphy of the sandstone-conglomerate assemblage. Geometry can be focused from the standpoint of the metallic zonality and of the geometry of the sedimentary host rocks. Zonality is rather strong and marked by Cu-Pb-Zn ordered from conglomerates to very fine-grained sandstones. The morphologic effect of the sedimentary framework upon ore is represented by the termination of the mineralization along zones of facies change.

The mineralogy of the deposit is simple. Pyrite, galena, sphalerite, rare chalcopryrite, and native silver occur in arkosic sandstones and in the arkosic matrix of conglomerates. Textural and structural evidences suggest that the sulfides and native silver were deposited as a part of the diagenesis and cementation of the sedimentary pile. Major cementing materials comprise authigenic quartz and albite, sulfides, illite, and carbonates (calcite and ankerite/siderite). Illite crystallinity index suggests that sulfide deposition took place probably under advanced diagenesis. Mineralized intraclasts, which occur in barren conglomerates, suggest that brine flow, cementation, and consolidation of individual strata took place in successive flushes before the definite closure of the sedimentary process.

The Santa Maria Pb-Zn sandstone-type deposit is similar to other deposits of the category of Upper Proterozoic-Cambrian age, but its stratigraphic close association with copper deposits of the Cu sandstone type opens new perspectives for the study of regional metal zonation in an overall rudite-arenite sulfide ore deposit typology.

Baecker, M.L. 1983. The niobium mineralization of the lateritic residual soil and the petrography of the ultramafic-alkaline rocks of the Catalão I dome, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M023

DataBase Ref.: 83

1983

Date of presentation: 2/12/1983

Manfred Luiz Baecker

Advisor(s): Leonardos, O.H.

Committee:

Reinhardt Adolfo Fuck

- IG/UnB

José Vicente Valarelli

- IGc/USP

Subject of thesis: Prospection and Economic Geology

State: GO

1/1,000,000 sheet:

SE23

Centroid of the area:

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Abstract

This work aims the study of the niobium mineralization of the carbonatitic district of Catalão I. Emphasis is given to the residual mineralization, the petrography of the carbonatites, and the study of the hydrothermal processes.

The Catalão I Carbonatite forms a domic structure 6 Km in diameter intruded in the Precambrian schists and quartzites of the Araxá Group. The niobium mineralization lies in the central part of the structure lies in the central part of the structure and consists mainly of Na - Ca rich pyrochlore in the fresh rock and Ba-rich pyrochlore (pandaite) in the residual soil. Its mode of occurrence and mineral paragenesis is described and its importance in relationship to the ore dressing problem is discussed. In relation to the evolution of the complex started with and ultramafic intrusion that led to the crystallization of magnetite olivinite and pyroxenite, succeeded by an intense and intricate stage of alkali metasomatism. This was followed by five other stages of magmatic carbonatites and late hydrothermal activity. The niobium mineralization is associated with the second stage of magmatic

carbonatitic with late hydrothermal activity.

Bitencourt, M.F.A.S. 1983. Geology, petrology and structure of the metamorphites from the Caçapava do Sul region, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 486

1983

Date of presentation:

Maria de Fátima Aparecida Saraiva Bitencour Advisor(s): Hartmann, L.A.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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Abstract

The Caçapava do Sul region is described as a sequence of polymetamorphic rocks designated Passo Feio Metamorphic Complex, bordering an association of granitic rocks named Caçapava do Sul Granitic Complex. The metamorphic rocks comprise mainly metapelites, amphibole-bearing schists and gneisses, metagabros, and meta-volcaniclastic rocks, and, in smaller proportions, magnesian schists, quartzo-feldspathic gneisses, marbles, quartzites, and metavolcanics. Small diabase and lamprophiric dikes intrude these rocks. A gradational relationship is observed between foliated and massive anchimetamorphic rocks, coinciding with the predominance of meta-volcaniclastics over metapelites. Two regional metamorphic events are recognized. The first reached the staurolite zone of the amphibolite facies; the occurrence of andaluzite is suggestive of low-pressure conditions. The second event is a retrogressive, greenschist facies metamorphism, having reached the biotite zone. Three folding episodes are described. The second originated the main foliation, S2, and the last one built up the regional antiformal structure, by the folding of S2. The granitic rocks constitute the core of the regional structure and it is suggested that this complex of rocks, or part of it, has been affected by the second episode of folding and metamorphism. The geochemical study of amphibole-bearing rocks indicates that their trace element content, mainly that of Cr, Co, and Ni, is characteristic of igneous rocks. However, imperfect correlations with igneous differentiation trends are observed as well as the presence of mixed trends, towards argillaceous sediments. It is concluded that such rocks were provided partly by igneous rocks and partly by reworked volcanics and pyroclastics.

Carvalho, S.G. 1983. Geology and mineralization potential in the Fortaleza de Minas neighbourhood (MG state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1933

1983

Date of presentation: 28/4/1983

Sebastião Gomes de Carvalho

Advisor(s): Barbour, A.P.

Committee:

Subject of thesis: Mineralogy and Petrology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

Cruz, M.J.M. 1983. Geology of the Rio Piau gabbro-anorthositic massif and of its host rocks. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1286

1983

Date of presentation: 7/12/1983

Manoel Jerônimo M. Cruz

Advisor(s): Carvalho, I.G.

Committee: Shiguemi Fujimori - IG/UFBA

Vicente Antônio V. Girardi - IGc/USP

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA

1/1,000,000 sheet:

SD24

Centroid of the area:

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Abstract

The Jequié-Mutuípe Zone constitutes a sub-domain of the Eastern Bahia Province composed of metamorphic sequences of igneous parentage as well as belts of various metamorphites, migmatites, anatexites and supracrustal rocks. The socle "F" unit is one of those igneous-rock derived metamorphic sequences, defining a diversified assemblage of charnockitic rocks, including kinzigites and anorthosite. The Rio Piau Gabbroanorthositic Complex is a component of this unit, forming a 13 km long and 6 km wide body, trending NE/SW. It consists of anorthositic, leucogabbroic and gabbroanorthositic rocks and has been affected by at least two phases of folding under conditions of high plasticity and temperature of over 660°C.

Mineralogical, textural and structural features of the massif's rocks as well as their association with the country rocks suggest a differentiated intrusive nature, with its emplacement occurring in high grade metamorphic terrains. Its chemical composition shows a high degree of similarity with the anorthositic plutons of Morin in the Canadian Shield.

Iron-titanium ore has been found at the northern border of the body, associated with leucogabbroic-noritic rocks. The differentiated pluton genetic model proposed in this paper may prove helpful in economic exploration of deposits in the area.

Dominguez, J.M.L. 1983. Quaternary evolution of coastal plain associated to Rio Jequitinhonha river mouth (BA state): Influence of the sea level variations and of the litoral sediments drift. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1285 1983 Date of presentation: 31/5/1983

José Maria Landim Dominguez

Advisor(s): Bittencourt, A.C.S.P.

Committee: Louis Martin - IG/UFBA
Kenitiro Suguio - IGc/USP

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

Quaternary sea level fluctuations, along the coast of the State of Bahia, played an important role on the development of the Jequitinhonha River coastal plain. Nine stages were recognized representing the paleogeographic evolution of this plain: Stage I) Pliocene - deposition of the Barreiras Formation as a series of alluvial fans; Stage II) Pleistocene - the Most Ancient Transgression, which eroded, during its course, the external front of the Barreiras Formation; Stage III) Pleistocene - deposition of coalescing alluvial fans, at the foot of the coastal cliffs, carved by the Most Ancient Transgression, into the Barreiras sediments; Stage IV) 120,000 years B.P. - The Penultimate Transgression partially eroded the Pleistocene alluvial fans; Stage V) drop of the sea level, leading to the construction of coastal plain similar to those one that exist today; Stage VI) 5,100 years B.P. - the Last Transgression partially eroded and drowned the Pleistocene coastal plain, which became, in part, isolated from the open sea by barrier islands; Stage VII) 5,100 - 3,800 years B.P. - a new regression, allowed development of the first holocenic Jequitinhonha River Progradation zone. Coastline progradation was interrupted by another rise of sea level at 3,800 - 3,500 years B.P., which also caused lateral shifting of the river course; Stage VIII) 3,500 - 2,700 years B.P. - at the new river mouth the second holocenic Jequitinhonha River Progradation zone was constructed and again drowned during arising sea level between 2,700- 2,500 years B.P. This new event was the cause of a new shifting of the channel to its today position; Stage IX) after 2,500 years B.P. - the present day progradation zone initiated its development.

During all these stages the main factor affecting the Quaternary sedimentation at Jequitinhonha River coastal plain was the relative sea level variations. The lowering of sea level during the last 5,000 years, exposing large amounts of sediments into the Continental Shelf, represented the main source of sediments to nourish the progradation of these coastal plain. Considering this, the river played only a secondary role acting as a groyne and retaining on its updrift side, the sediments transported coastwise by wave-induced longshore currents.

Dreher, A.M. 1983. Petrology of the rodingites of the Cana Brava mine, Goiás State, Brazil. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 112p

rodingite; serpentinites; mafic-ultramafic complex; Cana Brava mine; Minaçu; Goiás State; Brazil

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1613 1983 Date of presentation:

Ana Maria Dreher

Advisor(s): Girardi, V.A.V.

Committee: José Moacyr Vianna Coutinho - IGc/USP
Marcos Aurélio Farias de Oliveira - IGc/USP

Subject of thesis: Mineralogy and Petrology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: 13 35 's - 48 00 'W

Abstract

Rodingites have been found in association with asbestos-bearing serpentinites of the Cana Brava mine, which is located in the southeastern edge of the Cana Brava complex, Goiás. The rodingites were formed by the metasomatic alteration of leucocratic metagabbros, which probably constitute differentiated layers of the ultramafic unit of the complex.

The rodingites are essentially made up of garnets of the grossular-andradite series, zoned vesuvianites and strongly calcic pyroxenes. Additional minerals include chlorite, zoisite and apatite. Pectolite and xonotlite occur in associated veins. The residual leucocratic metagabbros are albitized. The serpentinites associated with the rodingites are derived from harzburgites. They are composed by antigorite and lizardite as well as chrysotile in late formed veins, and are chloritized along the contact with the rodingites. The ultramafic unit also contains partially serpentinitized metapyroxenites as well as talc-carbonate rocks.

The rodingites of Cana Brava are chemically comparable but slightly more calcic than similar rocks described in the literature. With respect to the original leucogabbros, they are enriched in Ca, depleted in Si and Al, and almost devoid of alkalis. A genetic relationship between serpentinitization and generation of the rodingites has been established. Ca-rich fluids released by the alteration of the ultramafics migrated towards the basic layers, possibly in response to a pressure gradient, causing reactions and the replacement of the original minerals by a calc-silicate assemblage. The alkalis moved to a distance from the rodingitic reaction zone and provoked the albitization of the leucogabbros. Al was diffused towards the serpentinites and produced the chloritic borders.

The processes of rodingitization and serpentinitization took place during the initial stage of a retrogressive metamorphic episode

which affected the margins and country rocks of the Cana Brava complex. Temperatures of 400-500°C and pressures (P(H₂O) ~Pt) below 5 kb were estimated for this phase. In a second serpentinization event, chrysotile asbestos veins, and pectolite and xonotlite were formed in the serpentinites and rodingites, respectively. Folding, fracturing, and deformation occurred during this phase, for which temperatures around 200-300°C were assumed. Talc-carbonate rocks, along with carbonate veins that cut the ultramafics and rodingites, were formed at a later stage during which CO₂-bearing fluids percolated the rocks through faults and fractures.

The Cana Brava rodingites differ from the bulk of similar rocks reported in the literature in the sense that they are not related to an ophiolite-type complex, and that they formed at somewhat higher temperatures, in association with antigorite-bearing serpentinites.

Dussin, I.A. 1983. Geology, genesis and controls of the manganese deposits associated with the Macaúbas Group in the western portion of the Serra do Cipó, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília. pg.

Instituto de Geociências - Universidade de Brasília

Reference: M022

DataBase Ref.: 82 **1983** *Date of presentation:* 1/12/1983

Ivo Antônio Dussin *Advisor(s): Dardenne.M.A.*

Committee: Onildo João Marini - IG/UnB
José Vicente Valarelli - IGc/USP

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

In the Inhamã area, Serra do Cipó, Western Border of Serra do Espinhaço (MG), the units referring to Espinhaço Supergroup (Middle Proterozoic) and to the Macaúbas and Bambuí groups (Upper Proterozoic) are intensely affected by the tectonic Brazilian Cycle which characterizes itself by a peculiar pattern of imbricate scales.

The Macaúbas Group is constituted by a basal conglomeratic unit (tillite) and a pelitic unit, which represent two preponderant facies of the glacial environment.

The most important manganese deposits develop on the pelitic unit of the Macaúbas Group. They are essentially constituted by manganese and iron oxides originated by lateritic alteration and supergenic concentration processes related to the development of successive geomorphological cycles denominated: Sul-americano, Velhas and Paraquacú.

Fernandes, S.M. 1983. Uranium-bearing laterites of the Iporá-Amorinópolis region, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M024

DataBase Ref.: 84 **1983** *Date of presentation:* 5/12/1983

Selma Maria Fernandes *Advisor(s):* Leonardos.O.H.

Committee: Maria do Perpetuo Socorro - IG/UnB
Sebastião Maia de Andrade - NUCLEBRÁS

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

The present study gives an account of the uranium bearing laterites in the district of Amorinópolis, Goiás. Emphasis is given in the study of its mineralogy and of the mineralization controls.

Investigation was carried out in an area of 500 square kilometers, of which about 10% was capped by mappable laterite units. The uranium mineralization is chiefly found within the arkosic sandstones at the base of the Devonian Ponta Grossa Formation. The ore is tabular and concordant with the bedding, the controls being simultaneously litho- stratigraphical and biochemical. Narrow permeable horizons of arkosic sandstone lie between impermeable shale and siltstone layers. Within the permeable horizon fossil remains (probably brachiopods) are replaced by uranium minerals. The oxidized iron minerals may have acted to insulate and preserve the secondary soluble uranium minerals.

The mineral paragenesis is represented by renardite, meta-autunite I, fourmarierite, koninckite, ranquillite, meta-uranocircite I, meta-uranocircite II, barite, apatite, colophane, wavelite, variscite, an unnamed uranium mineral, quartz, chalcedony, goethite, lepidocrocite and hematite.

Fragoso César, A.R.S. 1983. Palaeoenvironmental and tectonic evolution of the Camaquã basin (RS): An introduction. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 484 1983 Date of presentation:

Antônio Romalino Santos Fragoso César *Advisor(s):* Jost,H. Andreis,R.R.

Committee:

Subject of thesis: Geochemistry

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

The Camaquã Basin is a molassic through (Southeastern Foredeep) which borders the Dom Feliciano orogenic belt, in the Rio Grande do Sul shield, and separates this belt from the Rio de La Plata craton at northwest. The Camaquã basin is an elongated (NE-SW) tectonic basin with maximum width of 65km and outcropping length of 160km; it is predominantly filled with imature clastic sequences, and presents locally a thickness of more than 4,000m.

During its evolution, from the Late Proterozoic (Vendian) to Early Phanerozoic (Cambro-Ordovician), it revealed a radical change in depositional environment-from deep sea (submarine fans and associated turbidites) to transitional (coastal fans and shallow water sandstones) and continental conditions ("piedmont", fluvialite, lacustrine and eolian deposits). These environmental changes reflected several phases of its tectonic evolution: during the transitional stage of the Brasiliano Cycle, initiated with the Molasse Synclinal phase (deep and shallow water deposits); followed by a Tectonic Imbrication phase, characterized by tectonic slivers of the marine deposits imbricated in the basement and covered by syntectonic ruditic fans; and culminating in a Graben phase, with reactivation of the NE-SW (and a subsidiary NW-SE) system of regional faults, and the formation of continental basins under arid or semi-arid climatic conditions.

This dissertation proposes a stratigraphic model to the sedimentary units of the Camaquã Basin, with a preliminary subdivision into three formations: Arroio dos Nobres, Vargas and Guaritas, each one with proper lithologic characteristics and specific paleoenvironmental and tectonic significance.

Frantz, J.C. 1983. Petrology and economic geology of granitoids in the region of Campinas-Figueiras, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 485 1983 Date of presentation:

José Carlos Frantz Advisor(s): Jost, H.

Committee:

Subject of thesis: Geochemistry

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

Granitoids (Campinas Granite) with tin mineralization in the Encruzilhada do Sul region, southern Brazil, are known since the beginning of this century, but the magmatic processes and their influence on the formation of ore have not been discussed yet. The Campinas Granite occurs as four stocks intruded into granites of the Encruzilhada Complex and schists of the Porongos Suite along the contact between the two units, which is marked by a large scale, deep-seated transcurrent lineament.

The modal composition of the studied stocks is that of a quartz monzonite with their chemical composition showing that they build up a line of differentiated, individually homogeneous granodiorites.

The high Sr87/Sr86 ratio and the recognition of inherited mineral phases from source rocks suggest that the granitoid magmas resulted from crustal partial melting. Their peraluminous nature, which results in normative corundum, and the textural characteristics of the magmatic phases indicate a rapid crystallization, probably owing to the degasification of the magmas. The release of the volatile phase was not only responsible for the metal depletion in the stocks but also for the widespread hydrothermal alteration halos (kaolinization, muscovitization, turmalinization, greisenization) with cassiterite-bearing quartz veins. Circulation of solutions within country rocks was mostly facilitated by the milonitic foliation in those stocks, whose intrusion was controlled and took place within the main milonite zones. Larger intrusions at the milonite margins show intraplutonic mineralization because of the trapping of solutions at the apex of the cupules.

Freitas, J.C.B. 1983. Study of the carbon and oxygen isotopic composition in shells from the Salvador litoral - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1563 1983 Date of presentation: 28/6/1983

Jacira C. B. Freitas Advisor(s):

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

The carbon and oxygen isotopic composition of 68 samples of marine shells from the region of Salvador was determined. These samples are from points on the open coast and in the interior of the Todos os Santos Bay and they are composed in part by recent specimens and in part by old specimens taken from Quaternary sediments. The results for d18O are in the range of -2,83 ‰ to + 1,21 ‰ (PDB) and for d13C in the range of -3,10 ‰ to + 2,63 ‰ (PDB).

The results for the recent shells from the interior of the Todos os Santos Bay show variations in the d13C values associated to the dominance of organic matter in some regions.

For the old samples, gathered in the open coast the variations in the d13C values was associated to the existence in points of

that region of deposits of fluvio-lagunar sediments, originated during the last marine transgression.

It was identified, for a few species with the same age and location, the effect of biological fractionations. Nevertheless, the observed dominant factor on the isotopic differentiation was the environmental fractionation.

Gré, J.C.R. 1983. Sedimentary aspects of the Santa Catarina continental shelf. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 445

1983

Date of presentation:

João Carlos Rocha Gré

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: SC

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The sedimentary nature and distribution of the Santa Catarina continental shelf is presented.

The sediments of the continental shelf are present in the area covering the Pelotas and Santos basins.

The granulometric, morphoscopic and sandy components, characteristic of the samples taken during Geomar XIV Expedition, were studied.

Three populations were observed on the shelf: siliceous sands, biogenic sands and terrigenous muds.

Siliceous sands occur on the internal shelf. They are products of reworking of the underlying Pleistocene deposits in coastal environment.

Biogenic sediments are characteristic of the middle shelf but, presently, are concentrated on the outer shelf. They seem to be deposited during regressive environmental conditions.

Terrigenous muds are dominant in the middle shelf. They cover partially the siliceous and bioclastic sands in the internal and external shelf. Their deposition is related to a transgressive environmental condition.

Geologic history of the southern Brazilian continental shelf is mainly based on the sea level variations during the last glacial cycle and modern hydrodynamic adjustment.

Some economic aspects have been reported. Deposits of quartzitic sand and carbonatic sand are potentially valuable, and further studies may perhaps delineate heavy mineral deposits.

Lima, R.E. 1983. Geologic evolution and controls of the talc deposits of Itaiacoca and Abapã region, Paraná state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M084

DataBase Ref.: 144

1983

Date of presentation: 17/4/1993

Renato Eugênio de Lima

Advisor(s): Dardenne, M.A.

Committee:

Bhaskara Rao Adusumilli

- IG/UnB

Job Jesus Batista

- IG/UNICAMP

Subject of thesis: Prospection and Economic Geology

State: PR

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The talc deposits in the region of Itaiacoca-Abapã, in first plateau of Paraná State, are in a low grade metamorphic rocks sequence, strongly deformed (folds, transcurrent and thrust faults).

These deposits are mainly in dolomitic marble units, and eventually in quartzites. These rocks belong to Itaiacoca Formation (Almeida, 1956).

Taking into account field and laboratory evidences, including the geological mapping of many talc mines, the studies resulted in an epigenetic model for these mineralizations.

In this model, there were three processes for the formation of the deposits. The first one related with the regional metamorphism of dolomitic limestones (metamorphic deposits). The second one related with the fluid percolation in fault zones (hydrothermal deposits). The third related to the erosion and deposition of the primary deposits (reworked deposits).

Finally, this study proposes litological (dolomitic marbles), structural (transcurrent and thrust faults) and geomorphological guides (elevations effect of diabase dikes and quartzites), to facilitate the prospection and exploration for talc in these areas.

Miranda, F.P. 1983. Systematics of remote sensing data interpretation in view of hydrocarbons perception. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1357

1983

Date of presentation: 15/7/1983

Fernando Pellon de Miranda

Advisor(s): Vitorello, I.

Meneses, P.R.

Committee:

Subject of thesis: Remote Sensing

State: AM 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Negrão, O.B.M. 1983. Research and the teaching methodology in the upper schools of geology in Brazil. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2139 1983 Date of presentation: 7/11/1983

Oscar Braz Mendonza Negrão Advisor(s): Levi, F.

Committee:

Subject of thesis: Education Applied to Earth Sciences

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Neves, J.L.P. 1983. Alluvionar prospection in the Galiléia pegmatitic region - Minas Gerais. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 008572/83-9

DataBase Ref.: 989 1983 Date of presentation: 13/12/1983

José Luiz Peixoto Neves Advisor(s): Cassedanne, J.P.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Cette recherche a eu pour but de tester la méthode de prospection alluvionnaire dans la région pegmatitique de Galiléia (MG). Les pegmatites de cette région sont encaissées dans les micashistes de la Formation São Tomé, dans la Tonalite Galiléia, dans la Granodiorite Palmital et dans le Granite Urucum, tous datés du Précambrien. Le travail a été divisé en deux étapes: 1) Travail de terrain - Il a consisté dans un échantillonnage systématique suivant une maille de 1km. 87 échantillons ont été collectés dans les thalwegs et concentrés à la batée. 2) Travail de laboratoire - Il a consisté dans la séparation des concentrés et l'identification de leurs constituants. 28 minéraux ont été terminés et décrits. A partir des résultats obtenus des cartes de distribution ont été réalisées. Le comportement des minéraux, leurs associations et leur provenance ont été discutés. Les résultats obtenus sont très satisfaisants: les indices déjà connus en place ont été retrouvés en alluvions (spodumène, chalcopirite, cassitérite) et de nouveaux ont été découverts (scheelite, anatase, or, chrysobéryl) qui démontrent l'efficacité de la méthode.

Oliva, P.R. 1983. Pan prospection in the Golconda pegmatitic region - Governador Valadares municipality - Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 13.354/83

DataBase Ref.: 988 1983 Date of presentation: 29/4/1983

Paulo Roberto Oliva Advisor(s): Cassedanne, J.P.

Committee: Fernando Roberto Mendes Pires -

Augusto Baptista -

Hélio Monteiro Penha -

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

An alluvial exploration with panning was carried out in a area of approximately 140Km², located 20Km NW of the Governador Valadares city in the State of Minas Gerais. Geologically the terrain consists of Precambrian biotite gneiss at times cataclastic with layers of amphibolite and pegmatites. The sampling programme involved the sampling of 135 active stream samples in a grid approximately 1km² in the Onça and São Domingos rivers and their respective tributaries. Thirty-eight minerals were described. Dravite was found in this area for the first time. Through this research, it was possible to distinguish the following mineralogical assemblages: 1) biotite, garnet, sillimanite and zircon characterize the gneiss. 2) amphiboles, epidote, dravite and pyrite relate with the amphibolites. 3) amblygonite, autunite, beryl, cassiterite, columbite-tantalite, spinel, espadumere, lepidolite, microlite, topaz, tourmalines characterize the pegmatites. In the Onça river beryl loses approximately 75% of its size along the distance of 12km, while in the São Domingos river cassiterite and columbite-tantalite show a size reduction of about 80% and 60% in 7km and 3km respectively. The minerals carried along the Onça river to the Doce river include amphiboles, dravite, garnet, ilmenite, limonite, magnetite, malacon, monazite, muscovite, quartz, rutile, sillimanite, tourmalines and zircon.

Oliveira, A.M. 1983. Petrology and geochemistry of the Barro Alto complex in the Goianésia region. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M082

DataBase Ref.: 142 1983 Date of presentation: 11/1/1993

Anete Maria Oliveira Advisor(s): Jost, H.

Committee: Reinhardt Adolfo Fuck - IG/UnB
Vicente Antônio V. Girardi - IGc/USP

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The Barro Alto Complex consist of a Precambrian, deformed and metamorphosed plutonic, volcanic and sedimentary rocks assemblage organized in a boumerang-shaped body approximately 150 km long and 25 km wide and is located in the central-north portion of the State of Goiás, Brazil. The shape of the Complex is given by an easterly northeast trending segment which articulate with a westerly east-west trending segment in its southern extremity. The study area is located in the east-west trending segment, close to the articulation. Fuck et al. (1981) and Danni et al. (1984) subdivide the Complex into three units: (a) the Serra de Santa Bárbara Sequence, consisting of plutonic mafic-ultramafic and felsic rocks and volcano-sedimentary rocks metamorphosed under granulite facies-, (b) Serra da Malacacheta Sequence, consisting of gabbro, anorthosite, troctolite, and olivinegabbro metamorphosed under amphibolite facies, and (c) Juscelândia Sequence which consist of a volcano-sedimentary sequence deformed and metamorphosed under greenschist to amphibolite facies.

Structural data compiled from LANDSAT images and outcrops of the study area indicate that the east-west segment of the Complex was thrust onto the northeast segment along a northeast trending fault which corresponds to the articulation between the two segments. It is furthermore suggested that the southern and northern limits of the Serra de Santa Bárbara Sequence as well as the east-west trending faults that cut the unit are lateral ramps of the thrust system.

The aim of this study is to describe and interpret the petrographic, stratigraphic, and petrochemical features and discuss the Platinum Group Elements (PGE) potential of a portion of the mafic-ultramafic plutonic rocks of the Serra de Santa Bárbara Sequence in an area of approximately 550 square Km situated north from the city of Goianésia. In the study area the ultramafic units are represented by meta-orthopyroxenites, meta-websterites, and feldspathic meta-pyroxenites while the mafic units consist of meta-gabbro/norites, metanorites, and anorthosites. These rocks are stratigraphically organized, from base to top, into a Basal Tectonites Zone characterized by basic mylonites and ultramylonites, and a Layered Mafic Zone subdivided into six cyclic units each one made up by a lower metapyroxenite overlaid by metagabbro/norite, locally followed by a metaanorthositic unit, all grouped under the Goianésia Series. Granulitized xenoliths of supracrustal rocks, autoliths, and felsic bodies frequently occur in the Layered Mafic Zone.

In a plain view, the different lithotypes are organized in a succession of laterally continuous layers which are in many aspects similar to stratiform intrusions and still preserving many of the original igneous cumulitic features.

Major, minor, trace, Rare Earth, and incompatible elements data from the Layered Mafic Zone rock assemblage show that each cycle were formed by fractional crystallization of a tholeiitic basic magma and correspond to a new refilling of the magma chamber with magmas of similar high-Fe and Ti, and low alkalis signatures. REE are slightly enriched in the LREE, with or without Eu anomalies. The cycles differ in their REE and incompatible elements concentrations indicating different mantle sources, with possible magma contamination. The similarity between their mantle normalized distribution suggests that a same magma source underwent multiple differentiation.

Most samples show PGE concentrations below detection limits. Samples with detectable amounts show erratic concentrations and that any comparison with similar intrusions supported by PGE as well as the evaluation of economic potential for PGE in the studied layered sequence must be based on a more detailed study.

Parisot, E.H. 1983. Underground waters in the middle-west of São Paulo municipality: Hydrogeologic and chemical characteristics. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2138 1983 Date of presentation: 13/5/1983

Elisabeth Hillairet Parisot Advisor(s): Rebouças, A.C.

Committee:

Subject of thesis: Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract**Profumo, J.J.L. 1983. Hydrothermal alteration of the ultramafic and mafic rocks of the Goiás Velho greenstone belt, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.**

Instituto de Geociências - Universidade de Brasília

Reference: M085

DataBase Ref.: 145 1983 Date of presentation: 19/4/1993

Juan José Ledesma Profumo

Advisor(s): Jost,H.

Committee: Raul Minas Kuyumjian - IG/UnB
Alfonso Schrank - IG/UNICAMP

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

Serpentinities, talc-schists, carbonate and chloritetremolite shists of the Goiás Velho "greenstone belt" basal, unit, attributed by varios authors to ocean-floor hydrothermal alteration, were until now only indirectly observed for gold regional exploration. The research of hydrothermal alteration in ultramafic basal unit rocks show a differentiation trend in komatiites, expressed by its high content of Mg in the base (peridotitic komatiites), evolving to terms of more Al and Ca in the middle and to komatiitic basalts in the upper middle part.

Petrographic evidences show abundant carbonatization during static metamorphism with formation of dolomite in metabasalts and magnesite in metakomatiitas. Both were chloritized afterwards during dynamic metamorphism.

In the Limeira fault domain, the hydrothermal alteration of metavulcanic middle unit formed abundant aluminosilicates (kyanites, chloritoidites, kyanite-sericite schists and turmalina-sericite shists), showing intense metasomatic processes coeval with deformation unknown.

Intense carbonated metaultramafic basal unit rocks and hydrothermal middle unit rocks within the Limeira fault, show little anomalies of gold (0.5 and 0.39 ppm, respectively), so both metasomatic processes are expected to develop small gold concentrations.

Reis Neto, J.M. 1983. Geotectonic evolution of the Alto Tocantins basin, Goiás state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 98 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1036 1983 Date of presentation:

José Manoel dos Reis Neto

Advisor(s): Cordani, U.G.

Committee:

Subject of thesis:

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

Riccomini, C. 1983. Comparative study between products of remote sensing systems applied to the lithostructural analysis of Quadrilátero Ferrífero area - Minas Gerais state. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1358 1983 Date of presentation: 18/7/1983

Claudio Riccomini

Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Rodrigues, F.F. 1983. The Gramame Limestone Facies of the Itamaracá Island (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Gramame Formation limestones, Facies study, Fossil content, Depositional environment

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 582 1983 Date of presentation: 5/12/1983

Francisco Ferreira Rodrigues

Advisor(s): Coutinho, P.N.

Committee:

Subject of thesis: Sedimentary Geology

State: PE 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

Abstract

Facies analysis, based on petrographical data from 42 thin sections, along with a consulted bibliography, permitted to determine the scalar properties as well as the litho and stratigraphical attributes needed to construct a sedimentary model of the calcareous sequence of the Gramame Formation (Late Cretaceous: Maastrichtian).

Detailed microfacies were determined according to FOLK (1959) and CAROZZI et al (1973) and were grouped into composed microfacies: biomicrites, biomicrites with ghosts of fossils, dolomites with and without fossils, and clayey with phosphate.

In the above cited sequence is detected a certain dominance of the planctonic foraminifers over both the benthonic ones and other fossils (mollusks, ostracods, algal structures bryozoans, echinoderms, and gastropods) which frequently are associated, in variable proportions, to inorganic components (clay, quartz, feldspars, pyrite, iron oxides, and phosphate). The Gramame Formation, taking mainly into consideration its fossil association, suggests a marine sedimentation environment where the water was warm, quiet and less than 200m deep.

Santos, A.S. 1983. Importance of palinology in the correlation between sedimentary cretaceous rocks from Brazil and Africa. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 004855/83-6

DataBase Ref.: 1437 1983 Date of presentation: 1/12/1983

Aymar da Silva Santos Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

In the present paper is shown a palinological correlation between Cretaceous sedimentary rocks of Brazil and African continent, composed by ten biozones as follow in descendent order: Tricolpites synstriatus biozone, Syncolporites triangularis biozone, Cretaceiporites mulleri biozone, Hexaporotricolpites emelianovi biozone, Tricolpites giganteroreticulatus biozone, Gnetaceapollenites clathratus biozone, Elaterocolpites castelaine biozone, Reticulatasporites jardinus biozone, Schizea certa biozone and Applanopsis trilobatus biozone. Analysis of paleoflorae show that angiosperm began to become more abundant than pteridophytic and gymnosperm since the Coniacian-Santonian stages.

Sichel, S.E. 1983. Geology of precambrian rocks of Barão de Cocais region and preliminar geochemistry of the komatiites from Rio das Velhas supergroup, Quadrilátero Ferrífero - MG state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 2.994/83

DataBase Ref.: 1181 1983 Date of presentation: 22/2/1983

Susanna Eleonora Sichel Advisor(s): Valença, J.G. Pires, F.R.M.

Committee: Marcus Aguiar Gorini - DG/UFRJ

Paulo Fernando Bahia Guimarães -

José Raymundo de Andrade -

Subject of thesis: Regional Geology and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The studied area (400 square kilometer) is located in the region of Barão de Cocais Altas, in the northeastern part of the Quadrilátero Ferrífero (minas Gerais, Brazil), and is mainly composed of Precambrian rocks. The oldest rocks referred to here as the Migmatitic Complex, are of Archean age and composed of migmatites, metatetic gneisses, and rare granitic intrusive rocks. They are interpreted as an analogue of a tonalitic sialic basement, subsequently modified by enrichment of potassium. The Migmatitic Complex was affected by a series of events in the following chronological order: Rio das Velhas orogeny (Archean age) · Minas/Espinhaço orogeny (Proterozoic) · Tectonic and metassomatic event (Proterozoic) · Thermal metamorphism of the Brazilian Cycle (Late Proterozoic)

The rocks of the Migmatitic Complex, here considered as the basement for the Archean Rio das Velhas Greenstone Belt (Rio das Velhas Supergroup), lie in direct tectonic contact with those of the Quebra Osso Group, by a high angle fault. The Quebra Osso Group is the lowest unit of the Rio das Velhas Greenstone Belt (Rio das Velhas Supergroup), and is essentially composed of meta-ultramafic, komatiites, based on their spinifex texture, pillow and quenched structure, and high MgO contents (> 25%). A study of the geology and the main geochemical features of these komatiites, and a comparison chiefly with those of the Munro and Barberton komatiites are presented. The Quebra Osso rocks also show gradational contacts with those of the intermediate unit, the Nova Lima Group of the above greenstone belt. This group consists mainly of metasediments, metatuffs, graphitic and carbonaceous phyllites, a few intraformational conglomerates and banded iron formation (Algoma Type). The upper unit of the Archean Rio das Velhas Greenstone Belt, the Maquiné Group, is not present in the region of Barão de Cocais. The youngest rocks in the area of Proterozoic age and mainly represented by itabirites, quartzites, phyllites, conglomerates and k-feldspar-rich blastomylonites.

They are encompassed by the following three units: · Minas Supergroup (Gandarela Syncline)

· Espinhaço Supergroup

· Blastomylonitic unit

The Minas Supergroup is folded in recumbent style, with present thickness increased by effects of thrust faults. This supergroup is in tectonic contact with the Migmatitic Complex, Rio das Velhas and Espinhaço Supergroups and metabasitic rocks. This allochthonous nature was achieved after the basic magmatism which succeeded the Espinhaço sedimentation, and prior to the

Minas and Espinhaço metamorphic events. The Minas and Espinhaço Supergroups were both submitted to P-T conditions of the greenschist facies of metamorphism and are here considered as being isochronous. These supergroups exhibit an increase in the metamorphic grade, from west to east. This regional dynamo-thermal metamorphism caused retrograde effects in the Migmatitic Complex. The formation of the blastomylonitic unit, named elsewhere as "Granito Borrachudos", is thought was connected with the tectonic and k-metasomatic Proterozoic event. The evidence in this work indicates that the parental rocks for the "Granito Borrachudos" were most likely the gneisses and migmatites of the Migmatitic Complex. Two generations of basic intrusive rocks were found in the Barão de Cocais area. The oldest one was contemporaneous to the Espinhaço Cycle and underwent low-grade metamorphism whereas the younger intrusives were emplaced after the Brazilian Cycle and not affected by metamorphism. It is proposed a modification on the stratigraphy of the region of Barão de Cocais and also a model of the geological evolution for the Precambrian rocks of this area.

Silva, M.G. 1983. The volcano-sedimentary sequence of the medium rio Itapicuru river, Bahia state: Petrographic characterization, preliminary petrogenetic considerations and metamorphic zoneography. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 953 1983 Date of presentation: 10/10/1983

Maria da Glória da Silva Advisor(s): Costa, U.R.

Committee: Shiguemi Fujimori - IG/UFBA
Othon Henry Leonardos - IG/UnB

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The Itapicuru River volcano-sedimentary sequence is located in the northeastern portion of the São Francisco Craton, State of Bahia and consists of a mafic volcanic domain (DVM) comprising basaltic lavas and pyroclastics of tholeiitic affiliation; a felsic volcanic domain (DVF) with calc-alkaline lavas and pyroclastics of andesitic to dacitic composition; and a sedimentary domain (DS) with psammitic, pelitic and chemical sediments. This supracrustal sequence is laterally curbed by granite-gneissic domes and internally invaded by small felsic and mafic bodies, all this surrounded by gneiss-migmatitic terrains of archaic age.

Preliminary petrogenetic investigation based on the abundances of some incompatible trace elements in the mafic and felsic volcanics has showed that the former may have derived from partial melting of a mantle peridotitic source material and the latter from partial melting, at a degree of around 40%, of the basal portions of the previously formed tholeiitic lavas.

Systematic studies involving field data, and petrographic and microprobe analyses, permitted the identification of three distinct metamorphic events affecting only the supracrustal sequence. of hydrothermal nature, the first event (M1), involved circulation of seawater through the volcanic pile, transforming these rocks in spilites and keratophyres, and producing chemical sediments indicative of processes that may have generated massive sulfide bodies, still to be encountered in the area. Related to the granite-gneissic domes, the second event (M2) is regional in nature and extent and has developed an inner and widespread greenschist facies zone (zone C surrounded by an outer amphibolite facies zone (zone B and a hornblende hornfels facies zone (zone A, the last two adjacent to the domes. The H₂O -, CO₂ - rich fluids evolved in this event seem to be responsible for the quartz-carbonate {it lode gold} mineralization in the area. The last event (M3), was related to, and promoted the development of hornblende hornfels (zone D) contact aureoles around, the post-tectonic internal intrusive bodies.

Estimated values for P-T conditions presiding over the metamorphic events are as follows:

M1 P : 0,2 kb; T < 400oC

M2 P : 2-4 kb; 400oC < T < 600oC

M3 P : < 2 kb; 500oC < T < 600oC.

Souza, S.L.A. 1983. Geology of Itaipava - Araras region (RJ state). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 000877/83-5

DataBase Ref.: 1180 1983 Date of presentation: 8/9/1983

Sérgio Luiz Abreu de Souza Advisor(s): Penha, H.M.

Committee: Rudolph Allard Johannes Trouw - DG/UFRJ
Henrique Dayan -
Paulo Fernando Bahia Guimarães -

Subject of thesis: Regional Geology and Economic Geology

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The work in this thesis refers to primarily, to the 1:25.000 scale geologic mapping and the study of the main geologic aspects of an area located in the region of Itaipava-Araras (Rio de Janeiro State) delimited by the coordinates namely 22o30' and 22o23' south latitude and 43o07' and 43o15' west longitude, and 22o26' and 22o23' south latitude and 43o15' and 43o21' west longitude. The lithologies in the area belong the Serra dos Órgãos Series (Rosier, 1965). They are essentially represented by several types of gneisses and migmatites, granite-gneiss, varied granites and minor diabases, lamprophyres and tectonic breccias. After the anatectic migmatization that transformed the above lithologies of the area to a different degree, three phases of deformation

affected these rocks. The first phase F1, gave origin to planar structures, S1, with NW-SE trend. The emplacement of a large plutonic body of acid and to intermediated composition - the Serra dos Órgãos Batholite (Pegrgn) - is interpreted as being contemporaneous to this phase. The second phase, F2, transposed S1 to a S2 NE-SW trending which now consists the main foliation in the rocks of the area. The third phase of deformation F3 formed small asymmetrical folds with a SE vergence. This phase of deformation affected mainly rock of the Serra dos Órgãos Batholite (Pegrgn). Post-tectonic bodies of granite and basic dikes emplaced along NE-SW trending fractures cut all the other lithologies.

Tavares, G.A. 1983. Isotopic and hydrochemical studies in waters from the Rio Verde basin - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1564 1983 Date of presentation: 21/2/1983

Gilberto A. Tavares

Advisor(s): Rebouças, A.C.

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

In situ measurements of water level, temperature and pH in 8 wells of the limestone rocks of the Bambuí and Caatinga Formation, in the Rio Verde basin, were taken in August, September, October, November and December 1979 and in April and October of 1980. Samples of precipitation and surface waters in the region and groundwater of that wells were analyzed for the content of Ca⁺⁺, Mg⁺⁺, Na⁺, K⁺, SO₄, HCO₃⁻, Cl⁻ and isotopic ratios D/H and 18O/16O. For the groundwater samples it was also determined the radiocarbon activity and isotopic ratio 13C/12C of the dissolved carbonates. The parameters determined were used to analyze the factors that control the groundwaters in the region within the hydrological cycle as well as an eventual leak into the region of water from the nearby reservoir of Sobradinho. No relation was found between the groundwaters and the Sobradinho reservoir. Their apparent carbon-14 ages range from 2300 to 13640 years. As all samples come from a small area this indicates a heterogeneous and complex aquifer. The data of isotopic ratio D/H and 18O/16O and the high carbon-14 ages of the groundwater suggest neither direct recharge from precipitation or correlations between the waters of Rio Verde and the aquifer. The chemical data of the slightly saline groundwater with differences in the chemical ratios with respect to the surface samples suggests some dissolution in addition to evaporation as the mechanisms that control the salt content in the aquifer.

Vicalvi, M.A. 1983. Sedimentation on the Rio Grande do Norte plateau during the Upper Quaternary. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 24.321/83

DataBase Ref.: 1428 1983 Date of presentation: 23/9/1983

Marco Aurélio Vicalvi

Advisor(s): Ferreira, C.S.

Committee:

Hernani Aquini Fernandes Chaves - DG/UFRJ

Renato Oscar Kowsmann -

Antonio Carlos Magalhães -

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Rio Grande do Norte Plateau lies on the Continental Slope of northeast Brazil, between the isobaths of 600 and 100m. Its surface shows regular relief, only interrupted on the extreme north and southeast portions by marked erosional valleys. Sediments from 5 piston cores and 12 dredgings recovered from the Plateau and adjacent deeps were examined both macro and microscopically and their lithostratigraphic relationships were established. The distribution of pelagic, hemipelagic and redeposited sediments was mapped. The coarse terrigenous and heavy mineral fractions of the redeposited sediments of the central and northern Plateau surface were sourced by the Barreiras Group and were transported downslope by gravity induced currents. Clay minerals, identified by X-ray diffraction, seem to reflect climatic oscillations. The foraminiferal fauna indicates that 9 dredge samples are Holocene in age, 1 is Miocene and 1 is Middle Eocene. The biostratigraphic zoning of Quaternary sediments of 5 cores was based on the varying abundance of *Globorotalia menardii* s.l. Holocene sedimentation rates are highly variable with values of 2.7cm/1000 years, 10.5cm/1000 years and 36.3 cm/1000 years. These rates seem to be controlled by primary productivity, water depth and current action. A single value obtained for the Glacial Wisconsin indicated a rate of 7cm/1000 years. Vertical variations in calcium carbonate and coarse fraction content in cores correlate well with glacial-interglacial climatic fluctuations. 18O/16O isotopic analysis of planktonic foraminifer shells *Globigerinoides sacculifer* (Brady), from a piston core sampled on the Rio Grande do Norte Marginal Plateau (05°02'S; 34°45'W) permitted the identification of 3 interglacial and 2 glacial stages during the last 120,000 years. Observed values of $\delta^{18}O$ (PDB) oscillated between -0.70 and + 0.09‰. These values, if converted to temperatures, result in a maximum variation of 30°C. This temperature range agrees well with that obtained for the South Atlantic between the glacial maximum (23°C) and the interglacial (26°C). The $\delta^{18}O$ curve correlates very well with climatic biozones, calcium carbonate and coarse sediment content down the same core. From the available data it is concluded that during the Quaternary, the deposition of sediments in the Rio Grande do Norte Plateau area was cyclic and climatically controlled by the glacio-eustatic fluctuations of sea-level.

Appi, V.T. 1984. Use of LANDSAT images in the discrimination of structures in the Potiguar basin and in the adjacent pre-cambrian terrains. MSc Thesis, National Institute of Spatial Research, INPE, pp.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1356 1984 Date of presentation: 17/12/1984

Valéria Tiriba Appi

Advisor(s): Amaral, G.

Committee:

Subject of thesis: Remote Sensing

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

Araújo, T.M.F. 1984. Morphology, composition, sedimentology and evolutive history of the coral reef of the Ilha de Itaparica island, Bahia state. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1288 1984 Date of presentation: 21/12/1984

Tânia M. F. Araújo

Advisor(s): Leão, Z.M.A.N.

Committee:

Abílio Carlos S. P. Bittencourt, - IG/UFBA

Ivan de Medeiros Tinoco -

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

The fringing reef off the Itaparica Island coast occupies an extension of approximately 20km. The Itaparica Island is located at the entrance of the Todos os Santos bay on the eastern coast of the State of Bahia.

The reef is significantly different from the well-known reefs in the Western North Atlantic. In very shallow waters, the flat top of the reef stays subaerially exposed during low tides. The reef front lack the "Spur and Groove" system, but there are small isolated reefs with a mushroom growth form, similar to the "chapeirões" described on the Abrolhos area. The back reef zone is represented by extremely shallow lagoons, without patch reefs.

Corals, millipores and incrusting coralline algae are the major framebuilders of the reef. The coral fauna is represented by only massive forms and the number of coral species is less than half of the Caribbean fauna; they are dominantly archaic, endemic species that are the combined result of the isolation of a late Tertiary community preserved on a Pleistocene refuge, on the Abrolhos area, the stress of periodically high turbidity of the Brazilian waters, during winter storms, and the limited variation in habitats of the Itaparica reef. Millepores are abundant on the windward borders of the reef, replacing the "Acropora palmata zone" of the Caribbean reefs, and the incrusting coralline algae forms an algal rim similar to that existing on the Indo-Pacific reefs.

In contrast with the predominance of carbonate sediments surrounding most reefs in the Caribbean and in the Pacific, the Itaparica reef is surrounded by sediments which contain over 50% of quartz sands.

The Holocene coral reef of Itaparica was established on a non reefal substrate, a dark green shale of Cretaceous age. The reef accumulated with a rate of 8 m/1,000 years, which is comparable to the average growth rate of coral reefs in carbonate platforms and clear waters. The today's reef configuration with a truncated top which stays exposed during low tides and showing a expansion toward land, is the result of the reef erosion after two falls in sea level that occurred during Holocene time, along the eastern coast of the State of Bahia.

Batista, R.P. 1984. Hydrogeology of the Recife Plain (Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Recife plain, Groundwater resources, water overexploitation

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 548 1984 Date of presentation: 21/12/1984

Renô Peixoto Batista

Advisor(s): Manoel Filho, J.

Committee:

Subject of thesis: Hydrogeology

State: PE 1/1,000,000 sheet: SC25 Centroid of the area: 08 04 's - 34 55 'W

Abstract

The area under study includes basically the municipality of Recife, measuring 123.21 km² and being limited by the parallel 8°00' 00" and 8°08'15" S and by the meridians 35°00'00" and 34°51'27" E.

According to Köppen's classification, the climate in the area is of As' and Am types, showing a high annual average temperature

around 25.80C. It presents a pluviometric distribution pattern rather uneven, achieving an annual average of 1651 mm for an observation period of 58 years.

Morphologically, it is a plain surrounded by hills and tablelands constituted by Barreiras Group sediments. Geologically it is classified as a sub-basin of the coastal basin Pernambuco-Paraíba, being formed basically by four lithological units: Lower Beberibe Formation, Upper Beberibe Formation, Barreiras Group and recent sediments.

Although it is constituted by four lithological units, the plain forms an unique hydrogeological system with free water table characteristics. According to the hydrogeological point of view the Lower Beberibe Formation, with average saturated thickness of 120m, is undoubtedly the most important lithological unit.

The average permeability coefficient found for the Lower Beberibe Formation sediments is $k = 2.37 \times 10^{-5}$ m/s with standard deviation of $D = 1.00 \times 10^{-5}$ m/s. Considering a reliability of 95%, the most probable values lie within the range: Reliability = 95% $\{1.37 \times 10^{-5} \text{ m/s} < k < 3.37 \times 10^{-5} \text{ m/s}\}$

Periodical resources are situated around 6.2 millions m² per year, while permanent resources average 1.44 billions m³.

The piezometric surface shows evidence of overdraft conditions. There are two extensive drawdown regions with has already caused groundwater to flow from the east inland. This flow inversion is particularly observed in the Brasília Teimosa district and the Olinda municipality south boundary.

Bernardi, A.C. 1984. Remote sensing in thermal and near-infrared bands for the study of peat deposits in Rio Paraíba do Sul valley (SP state). MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1355 1984 Date of presentation: 16/10/1984

Antonio Carlos Bernardi Advisor(s): Vitorello, I. Meneses, P.R.

Committee:

Subject of thesis: Remote Sensing

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Botelho, N.F. 1984. The Pedra Branca granite and associated tin mineralizations, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M030

DataBase Ref.: 90 1984 Date of presentation: 21/12/1984

Nilson Francisquini Botelho Advisor(s): Marini, O.J.

Committee: - IG/UnB
Roberto Dall'Agnol - CG/UFGA

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The Pedra Branca Granite belongs to the Paraná Subprovince, a subdivision of the Goiás Tin Province. The massif is a small elliptical pluton (12 x 9 km) of Middle Proterozoic age, intrusive in gneisses of the Granite-Gneiss Complex. It also has tectonic relation with the Grupo Arafá metasediments.

Lithologically it is composed of texturally varied, porphyritic to equigranular, biotite granite and of albitized to greisenized granite with mineralized greisens. The associated tin deposits are characteristic of greisenized granitic cupolas.

Major-elements of the normal biotite granite show high SiO₂ contents and Al₂O₃, K₂O, Na₂O, and CaO values that indicate a calc-alkaline to subalkaline and peraluminous composition. The Fe₂O₃/FeO ratios are varied but very low (< 0,5) in less altered samples, typical of ilmenite series granitoids. Among trace- elements, Ba, Rb, F, Li, Sn, Y, La, Ga and Zn are anomalously enriched.

Post-magmatic events are well portrayed by petrographic and chemical data. The whole massif shows different degrees of post-magmatic changes represented by albitization, microclinization and greisenization. The key minerals of the late and post-magmatic alteration are: microcline, albite, quartz, protolithionite, Li-muscovite, fluorite, topaz, cassiterite, magnetite and hematite. During the evolution of the alteration processes, the increase and late decrease in SiO₂ the decrease in Na₂O and Ba, the increase in K, Li, Rb, Fe³⁺, Sn, Zn and the inversion in Fe₂O₃/FeO ratios, all significant.

The tin mineralization is distributed in four distinct regions, in the southwestern and midwestern parts of the massif. The dominant types are the cassiterite in albitized and greisenized granite and cassiterite in quartz-mica greisen veins. There also is fluorite mineralizations in small lodes or disseminated ore in the greisen Alluvial cassiterite deposits occur near or at the base of the Pedra Branca range.

It is suggested that the Pedra Branca Massif may be correlated with A-type granitos. It probably was emplaced in subvolcanic conditions in an anorogenic environment, related to a rift stage.

Brehme, I. 1984. Submarine valleys between Abrolhos bank and Cabo Frio. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 006861/84-66

DataBase Ref.: 1179 1984 Date of presentation: 3/5/1984

Isa Brehme Advisor(s): Gorini, M.A.

Committee:

Elmo da Silva Amador	-
Valdenir Veronese Furtado	-
Renato Oscar Kowsmann	-

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The characteristics of the submarine canyons and other sea-valleys of the Southeastern Brazilian continental margin are described, based on their morphology and distribution and also on their relationships with the structural features and sedimentation of the continental margin. In this study almost all existing seismic reflection profiles and 3,5 Khz echograms from oceanographic surveys were considered. The Southeastern continental margin of Brazil has been subdivided in two morphologic and sedimentary systems: the Embaíamento de Tubarão Sector, showing lack of sedimentation and a extremely gullied upper and middle continental slope; and the Delta do Paraíba Sector with intense progradation of the margin, crossed by two groups of canyons which extend from the shelf break to the base of the continental slope. In the Embaíamento de Tubarão Sector the submarine canyons and gullies are exclusively erosional features while in the Delta do Paraíba Sector they are built up mainly by interchannel deposition. The São Paulo Plateau has trapped part of the sediments arriving from the shelf through the canyons. The rest of the sediments bypassed the plateau, and through the Columbia and Carioca channels, reached the abyssal hills, forming the Rio de Janeiro Abyssal Plain. These channels cross all of the continental rise and are not basement controlled. The main influx of sediments to the continental rise has been brought by the Antarctic Bottom Current.

Campos, E.G. 1984. Genesis and controls of the Camamu barite deposit, Bahia state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M025

DataBase Ref.: 85 1984 Date of presentation: 31/5/1984

Edson Guimarães Campos Advisor(s): Dardenne, M.A.

Committee:

Ariplínio Antonio Nilson	- IG/UnB
Milton Romeu Franke	- PETROBRÁS

Subject of thesis: Prospection and Economic Geology

State: BA 1/1,000,000 sheet: SD24

Centroid of the area: ' - 'W

Abstract

This dissertation has as the main goal, the study of the geological and geochemical mechanisms responsible for the origin of the Camamu barite deposit (BA). The mineralization is associated to Cretaceous sediments of a marginal tectogenetic basin linked to "Recôncavo Sul". It lies in discordance on the "Lower Sequence", related to the base of the Aratu stage, being composed of conglomerates, shales and horizons of silicified coquinas. It's situated at the base of an arkosian sand level, associated to pelites, being considered to relate to Alagoas stage. The "Upper Sequence" is composed by marine sediments (dolomites) of Algodões Formation, of Albian age that encroaches upon the former units.

The barite shows, from base to top, textural forms: espherulitic, ribbon and nodular, that account for the evolution of the mineralization under the influence of the overlasting mechanisms of dissolution and precipitation.

The deposit, which lies at the edge of a evaporitic basin rich in gipsite, is controlled by local paleogeography, that is characterized by a succession of highs and lows on which is cast the baritic horizon (the main).

The precipitation of barite was conditioned to the coming up of continental solutions rich in Ba⁺⁺, which are responsible for the substitution of the evaporitic sequence. The marine origin of sulfate is confirmed by the isotopic studies of oxygen (δ¹⁸O) and sulfur (δ³⁴S).

Chukewski, K. 1984. The genus Puriana (Ostracoda). Its occurrence in the Brazilian continental shelf, ecology and geographic and stratigraphic distribution. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 801 1984 Date of presentation:

Katia Chukewski Advisor(s): Purper, I.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

he present dissertation deals with the genus *Puriana* (Ostracoda), showing its ecology, geographical and stratigraphical distribution. The study of this genus in the Brazilian Continental Shelf allowed the description of the new species - *Puriana variabilis* Chukewiski, 1984, and the registration of the occurrence of *Puriana convoluta* Teeter, 1975. Based on the distribution of the genus *Puriana* and its association in the Caribbean region, it is suggested that the Caribbean faunule could have spread till the latitude 09°41,5'S in the Brazilian coast.

Coimbra, J.C. 1984. The subfamily Orionininae Puri, 1973 in the Brazilian continental shelf. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 803 1984 Date of presentation:

João Carlos Coimbra Advisor(s): Ornellas, L.P.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This dissertation deals with the systematic, the bathymetrical and geographical distributions, associated to the ecological data, of the species of the subfamily Orionininae Puri, 1973 found at the Brazilian Continental Shelf.

In the systematic study made, two genera and seven species - four of which are new species - were identified.

Caudites nipeensis Van den Bold, 1946, *Orionina bradyi* Van den Bold, 1963 and *Orionina similis* Vanden Bold, 1963, were for the first time registered in the northern and eastern Brazilian Coast.

The study of the geographical and bathymetrical distributions, together with the analysis of the ecological data, led to the characterization of three different associations along the shelf. Between the northern/eastern and the southern associations a transitional zone, corresponding to the meridional part of the eastern shelf, was found.

Correa, W.L.P. 1984. Chemical and mineralogical characterization of clays of the Bacia do Alto Tietê region: Contribution to the deposits genesis depósitos and technological application. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2011 1984 Date of presentation: 3/7/1984

Waldomiro Lunardi Pires Correa Advisor(s): Levi, F.

Committee:

Subject of thesis: Mineralogy and Economic Geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Costa, M.G.F. 1984. Deposition Facies and Sedimentary Environment of the Late Carboniferous Monte Alegre Formation in the Autas-Mirim and Neighbouring Areas (Middle Amazon Basin). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Monte Alegre Formation, Amazon basin, Sandstone bodies, Facies study, Hydrocarbon

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 583 1984 Date of presentation: 23/1/1984

Maria das Graças Feitosa da Costa Advisor(s): Mabeoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Facies, microscopic petrographical and petrophysical analyses of samples from the Monte Alegre Formation, from wells drilled in the Autas-Mirim area (Amazon basin), permitted the recognition of four principal sedimentary facies occurring in a section where thick and elongated sand bodies interdigitate with clayey-carbonate sediments, containing a marine fauna. These indications lead to the interpretation of a depositional model in coastal environment, with strong river influence, possibly characterizing a delta, with a strongly-braided delta plain, subject to eolian reworking (facies B)). Thinner bodies, with evidence of deposition from a suspension load (facies C), could characterize the delta front. Shales and carbonates (facies D and E, respectively), could represent pro-delta deposits and abandon phases or delta margin. Facies A involves sediments deformed by fluidization processes of the foregoing other primary facies. The sandstones are chiefly quartzose, generally without a detrital matrix and show well-rounded grains and a good sorting, indicative for plutonic sources and high energy conditions in the depositional realm. Diagenesis depends also from sandstone composition, with two initial successive steps producing respectively, a silica and a carbonate cementation. However, the most expressive and interesting phenomenon is the generation of a secondary porosity due to leaching of the cement formed before, producing porosity and permeability values varying from 8-17% and 10-100 mD, the

higher values remaining restricted to facies B and C. The oil occurrence, as simple indications or as sub-commercial accumulations (to be re-estimated), is restricted to facies B and C, being that of well 1-AM-6A-AM present in facies C sandstones which suffered large-scale diagenetic leaching. The possibility of tectonic control, through a microfracture net, for explaining the better developed leachings, may be guessed, and the proximity of the well to a diabase dike could confirm this supposition. The hydrocarbon occurrences seem to have a structural control, related to depositional highs coinciding with the distribution axes of the sand.

Cunha, M.A. 1984. Mechanics of a translational slide in soils occurred in 1979 december in the Santos and São Vicente hills, São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1909 **1984** Date of presentation: 9/11/1984

Marcio Angelieri Cunha

Advisor(s): Amaral, S.E.

Committee:

Subject of thesis: Engineering geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

D'el-Rey Silva, L.J.H. 1984. Geology and structural control of the Caraíba copper deposit, Curaçá valley, Bahia state, Brazil.. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 955 **1984** Date of presentation: 20/12/1984

Luiz José Homem D'El-Rey Silva

Advisor(s): Gaál, G.E.

Committee:

Ian Davison

-

Shiguemi Fujimori

- IG/UFBA

Subject of thesis: Metallogeneses and Mineral Exploration

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The Caraíba deposit, located in the northern part of Bahia State, in the Curaçá river valley, is a chalcopirite/bornite-bearing mafic/ultramafic sill, derived from a tholeiitic magma, which was intruded into a volcanic-sedimentary sequence composed of quartz-feldspar gneisses, leptynites, banded iron formation, calcsilicate rocks and amphibolites.

Probably between 2.6 and 2.0 Ga, that sequence was deposited and submitted to at least three main tectonic-magmatic events.

The first two deformational events were thrust-undesthrusting types, producing a crustal thickening by interleaving of the layers and injection of several G1 and G2 orthogneissic sheet-like intrusions, tonalitic/trondhjemitic and granodioritic in composition.

Amphibolite and granulite facies metamorphism accompanied the first and second phases, resulting in a mixed pile with a strong metamorphic S1 foliation with transposed N-S trending D1 intrafolial folds, followed by N60oW trending tight folds.

After the horizontal tectonic regime a strong E-W compressive stress field resulted in a regional sequence of tight to open D3 folds with N80oS axial planes and 16o to 20oS plunging regional axes. M3 metamorphism reached high-amphibolite to locally granulite facies and, together with a strong deformation, created a very strong and penetrative foliation, S3, marked by oriented quartz-plagioclase-biotite-hornblende crystals.

Many of syntectonic potassic lens shaped granitic bodies, were intruded during F3, including the huge Itiúba syenite, all of them strongly foliated and with a characteristic pink-red colour.

As a result, the Caraíba copper deposit is now a lobate interference pattern (type 2 of Ramsay, 1967) between a D3 tight synform positioned on the 70oW dipping limb of the major N-S trending D3 Caraíba antiform, refolding the recumbent tight D2 folds. The sulphide mineralization is now concentrated along vertical and disrupted rods which marked originally a horizontal N60oW lineation (or B2).

Because of this poliphase tectonic-metamorphic history with associated strong migmatization, the copper content is very heterogeneously distributed inside the pyroxenitic/noritic host-rocks, adding difficulties to the mining works, mainly the underground operations.

Two later events of shearing are also described and probably one fourth folding phase, but not important for the ore control.

A very hypothetical regional tectonic rift-valley system is proposed for the crustal evolution of the Curaçá region, Itiúba syenite and the Cr-belt on its eastern side, and the Jacobina Group, all of the them enclosed between two Archean blocks.

Dino, R. 1984. Genesis of the nickel ore of São João do Piauí by intemperic alteration. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2036 **1984** Date of presentation: 22/10/1984

Rodolfo Dino

Advisor(s): Oliveira, S.M.B.

Committee:

Subject of thesis: Economic Geology

State: PI 1/1,000,000 sheet: SC23 Centroid of the area: ' - 'W

Abstract

Freitas, L.C.S. 1984. Calcareous nannofossils and their distribution (Aptian-Miocene) in the Sergipe-Alagoas basin. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 006716/84-3

DataBase Ref.: 1438 1984 Date of presentation: 18/5/1984

Luiz Carlos da Silva Freitas Advisor(s): Quadros, L.P.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The purpose of this thesis was to gather the main data about calcareous nannofossils that nowadays are, undoubtedly, an important biostratigraphic tool used on the oil researches, because of the short ranges and the wide geographic distribution of this group of microfossils. The review of the calcareous nannofossils slides from the wells of the Sergipe-Alagoas basin allowed a refinement of the biozones pre-established by TROELSEN & QUADROS (1971) proposed to all the Brazilian continental shelf. The gathering of a greater number of genus and species of calcareous nannofossils facilitated the redefinition of the chronostratigraphic limits and the reconnaissance of some biozones that had not been described in the Sergipe-Alagoas basin yet.

Gomes, F.A.F. 1984. Influence of Barreiras formation in the generation of seismic noises in the Japarutuba region-SE state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1562 1984 Date of presentation: 12/3/1984

Frederico A. F. Gomes Advisor(s):

Committee:

Subject of thesis: Geophysics

State: SE 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The present work had been performed in the Japarutuba region, Sergipe State. The poor data quality in that area of the Sergipe-Alagoas Basin has been an obstacle to the satisfactory utilization of the seismic reflection method. Several trials, with different methods and sources provided little usable data. The basic goal of this thesis is to investigate the influence of the Barreiras Formation on the noise generation, trying to understand the genesis and geophysical properties of that noise. In this way, 33 residual noise profiles were analysed in areas with and without the presence of the Barreiras Formation. Applying computational methods, the root mean square amplitudes of the seismic traces were obtained in nine selected parts of a seismic section (57-RL-139). The R.M.S. amplitudes of the signal and the ground roll were separated through careful interpretation of the seismogram. These amplitudes were plotted in graphs of R.M.S. amplitude versus source receiver distance and analysed with geological knowledge. After the analysis, it is concluded that: the Barreiras Formation presents serious coupling problems, with resulting signal penetration loss, and that a great amount of energy is lost in the generation of air waves.

Heilbron, M. 1984. Metamorphic-structural study in the area between Itutinga and Madre de Deus de Minas, Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 26.469/84-42

DataBase Ref.: 969 1984 Date of presentation: 28/12/1984

Monica da Costa Pereira Lavalle Heilbron Advisor(s): Trouw, R.A.J.

Committee: Joel Gomes Valença - DG/UFRJ

Fernando Roberto Mendes Pires -

Oscar Paulo Gross Braun -

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Geologic and structural mapping have been carried out in the Itutinga and Madre de Deus area, southern Minas Gerais State. Two distinctive Pre-Cambrian lithological sequences have been identified in the area. The lower and older sequence is mainly composed of orthogneiss with granodioritic to tonalitic composition associated with bands and "roof pendants" of ultramafic and mafic metamorphic rocks with minor metasediments, correlated to the Barbacena Group. Banded gneiss and migmatites do also

occur in this sequence. Pegmatites veins and dikes invaded this rock assemblage. This Lower Sequence is covered with an upper metasedimentary Proterozoic Sequence, which can be divided in two groups according to its sedimentary faciological characterization and distinctive tectonic setting: a) A mature of allocthonous quartzites and schists belonging to the Carrancas Group, and b) The São João Del Rei Group, composed of grey graphitic phyllites and schists with minor quartzitic bands overlain by biotite schists and gneiss with conglomerate and calcosilicatic lenses. Structures observed in the metasedimentary sequence were grouped in three phases of deformation, according to superimposition criteria and morphological characterization. The first deformational phase (D1) produced a slaty cleavage and isoclinal folds associated with thrust faults. The second phase of deformation (D2) caused a tight to isoclinal recumbent folding with E-W axis. A crenulation cleavage (S2) is the main cleavage of the area printed mainly in the less competent schists and phyllites. A refolding on several scales took place during the last deformation phase (D3) with NNE-SSW subhorizontal axis and axial planes dipping steeply in SE direction. An important fault zone and locally a new crenulation cleavage were produced in this phase. In the Lower Sequence the deformation is heterogeneous and concentrated in or sometimes restricted to bands or shearing zones. The three phases of deformation (D1, D2, D3) are well developed at the vicinity of the contacts with the upper sequence. The principal metamorphism produced intermediate pressure parageneses and increased from medium greenschist to amphibolite facies. Its peak occurred during D2 deformational phase, and consequently the isograd pattern shows the effects of folding and faulting caused by the third phase. Superimposed retrograde parageneses, late-to post-tectonic with respect to the last deformational phase, do locally occur. Detailed geologic mapping related to this work also confirms Ebert's initial suggestion, modified by Trouw and collaborators, that São João Del Rei, Carrancas and Andrelândia Groups belong to a single tectono-sedimentary cycle. In the Madre de Deus area, faciological variations associated with increasing metamorphism is responsible for a gradational lateral transition between the São João Del Rei and Andrelândia Groups. A few geochronological Rb-Sr age determinations carried out at the IGEO-IGUSP laboratories, suggest ages older than Brasiliano cycle for the metasedimentary sequence. K-Ar data indicate the isotopic remobilization during the Brasiliano Cycle.

Manso, V.A.V. 1984. Geophysics and Sedimentology of the Itabaiana Area (State of Paraíba). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Geophysics, Sediments, Lithologic analysis

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 584

1984

Date of presentation: 14/11/1984

Valdir do Amaral Vaz Manso

Advisor(s): Rand, H.M.

Committee:

Subject of thesis: Sedimentary Geology

State: PB

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The present thesis, made in the Itabaiana region (Paraíba), includes a sedimentological study of the sedimentary covers (Tqc) and a geophysical investigation of the area, by means of radiometry, magnetometry and gravimetry. Sedimentological studies based on statistic grain size parameter analysis (Dm, SK1, KG), Sahu and Passega methods for environmental interpretation of the sedimentary spots (C1, C2, C3) show the same behaviour and are probably of the same dry-climate fluvial origin. From a radiometrical point of view, the area does not present important radioactive minerals, showing in its whole extension values near the background. Radiometry appeared to be a useful instrument for the differentiation of the various lithic types. With respect to magnetometry, three magnetically distinct zones were found, presenting in all of them significant anomalies, chiefly related to basic intrusive bodies. In relation to gravimetry, a high regional gradient in the N of the area was determined, probable reflection of a big structure located NW of João Pessoa, called "hot spot" Paraíba. In the far E of the area, a negative anomaly of the Pernambuco-Paraíba sedimentary basin is masked and suppressed due to the observed higher gradient. In the centre a NE-SW lineation was found, coinciding with the Congo fault, and finally a big negative anomaly is observed in the E of the area associated with the less denser granitoids in relation to the enveloping gneissic-migmatitic complex.

Melo, E.B. 1984. Geology and Petrology of the Saco dos Veados Scheelite Mineral Deposit, Currais Novos (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Scheelite mine, Saco dos Veados occurrence

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 618

1984

Date of presentation: 28/12/1984

Evenildo Bezerra de Melo

Advisor(s): Beurlen, H.

Committee:

Subject of thesis: Mineralogy and Petrology

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

The Saco dos Veados tungsten deposit is located in the northern end of the geological structure which contains the important scheelite mines of the municipality of Currais Novos in the Rio Grande do Norte State.

The ore is represented by lenticular and tabular skarn bodies associated with marble amphibolites, quartzites and gneisses of the Parelhas-Jucurutu Formation. Modal composition determined by X-ray diffractometric together with the macro and microscopic

textural relationships, suggest that the skarns evolved from a fine-grained amphibole gneiss to an intermediate calcite-hornblende-diopside skarn to a final coarse-grained vesuvianite-epidote-grained skarn.

Detailed mapping allowed the identification of isoclinal to tight folds associated to transposition at the limbs and open normal refolding. Strong shearing complements the structural framework. The fold axes play an important role as very important in the tungsten control of the main scheelite enrichments.

The observed granitization occurred after the isoclinally folded scheelite mineralization while the augen-gneiss is not. The pegmatites intruded along the axial planes related to the normal and open folds.

Based on geochemical criteria the fine skarn and the scheelite have basic filiation while the coarse tectite developed with intermediate filiation.

Mistretta, G. 1984. Monograph on the Jandaíra aquífer of the Potiguar basin. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2027

1984

Date of presentation:

Gildo Mistretta

Advisor(s): Davino, A.

Committee:

Subject of thesis: Hydrogeology

State: RN

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

Moraes, L.C. 1984. Petrology, stratigraphy and diamond potential in the volcano-alkaline suite of the Santo Antônio da Barra region, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M026

DataBase Ref.: 86

1984

Date of presentation: 8/11/1984

Lúcia Castanheira de Moraes

Advisor(s): Danni, J.C.M.

Committee:

Othon Henry Leonardos

- IG/UnB

Joel Gomes Valença

- DG/UFRJ

Subject of thesis: Prospection and Economic Geology

State: GO

1/1,000,000 sheet:

SE22

Centroid of the area:

' - 'W

Abstract

Mela-analcimite, olivine mela-analcimite, nepheline analcimite, phonolite, melilite mela-nephelinite, and basaltoid, both as flows and piroclastic accumulations, make up the alkaline volcanic sequence that occurs near Santo Antônio da Barra in southwestern Goiás. Volcanism is related to the N 400 W Rio Verde-Iporá lineament of Cretaceous age. Intercalation of sandstone and volcaniclastic rocks shows that there is close association of the volcanism with the sedimentary rocks which can be divided into the Santo Antônio da Barra and Boa Vista formations.

The volcanics show a trend of the fractional crystallization: olivine mela-analcimite until phonolite, with the mela-analcimite as the most abundant member. The relationship of rocks this trend and melilite mela-nephelinite and basaltoid are still obscure. Field data evidence volcanic recurrence. Petrographic and petrochemical features demonstrate the sodic/potassic mixed nature of the suite.

The kimberlite/alkalic ultrabasic rocks relationship as well as the results of diamond prospection are discussed here in.

Morsch, S.M. 1984. Systematic revision of bivalves (Mollusca) from strata of the Ponta Grossa formation - Devonian - Paraná state. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 802

1984

Date of presentation:

Suzana Maria Morsch

Advisor(s): Esteves, I.R.F.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

A systematic revision of some bivalve species of the Devonian Ponta Grossa Formation (Paraná State, Brazil) is presented.

These species were described or mentioned by Clarke in 1913. New specimens were used in some of the redescrptions.

Lectotypes were selected among Clarke's syntypes deposited in the collection of the "Seção de Paleontologia" of the "Divisão de Geologia e Mineralogia" (DNPM), Rio de Janeiro.

Species belonging to the genus *Nuculites* were not revised, though forms similar to *Nuculites pacatus*, *N. reedi* and *N. sharpei* are mentioned. Mention is also made in reference to *Solemya* (*Janeia*) (?) cf. *brasiliensis*, *Sphenotomorpha* sp. and *Sanguinolites* sp. The revision here proposed includes the following taxa: *Palaeoneilo magnifica*, *P. sancti-crucis*, *P. (?) rhysa*, *Nuculana (?) viator*, *Solemya (Janeia) (?) brasiliensis* nov. comb., *Modiomorpha (?) austranotica*, *Modiomorpha (?) erebus* nov. comb., *Sphenotomorpha ulrichi* nov. comb., *Pleurodapis multicincta*, *Cypricardella (?) olivieri*, *Cardiomorpha (?) colosse*, *Orthonota (?) bokkeveldensis* nov. comb., *Grammysioidea scaphula*, *Grammysioidea capricornus* nov. comb., *Pholadella (?) cf. radiata* and *Prothyris (Paraprothyris) knodi*. The taxonomic delimitation of *Phthonia (?) epops*, *Goniophora (?) abbreviata* and *Sanguinolites lagoensis* nov. comb. is also discussed.

Müller, A.A. 1984. A contribution to the technological study of the recent sandy sediments of the Rio Grande do Sul state - Brazil. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 446

1984

Date of presentation:

Alberto Antônio Müller

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

'W

Abstract

An universal concern about the study of the non-metallic substances has been considerably emphasized recently. It is worth noticing the significance of such a study concerning the survey of the technological properties of a certain mineral of a given region, based on laboratory and field data which aim at a qualitative knowledge of the basic material available to production. References review showed that sand is a material which has multiple applicability, even susceptible of usage by many industries, such as the glass industry. It is important to notice that, considering its own applicability, sand, concerning its inner and final constitution, is a material that is offered by nature ready to use.

In this dissertation we present a detailed study of a number of geographical areas with recent sandy sediments, inlet in the Coastal Province and in the Peripheral Depression of Rio Grande do Sul, in accordance with occurrences of the fluvial and coastal Quaternary in this State, which made it possible to clear up some chemical and sedimentary relations, relevant to the prospect of sand for the glass industry.

Based on this study, some comparisons of technological character between occurrences of sand studied in Rio Grande do Sul are made, in order to show parameters of usage.

Concerning the technological aspect, it is demonstrated in this study that sand has to fulfill two main requirements: granulometry and appropriate chemical and mineralogical composition, based on the requirements of the companies that make use of such raw material and on the insufficient data that have been found in the specialized bibliography.

On the bases of the geological and technological aspects concerning age, origin and physical-chemical properties of certain Quaternary sandy systems, we obtained several results about the sand potential of Rio Grande do Sul, regarding quality and usage control.

Oliveira, I.B. 1984. Geophysical studies for the origin and extension determination of salinization of underground water in aquifers of the Biritinga-Pataíba region/Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1561

1984

Date of presentation: 17/12/1984

Iara B. Oliveira

Advisor(s): Lima, O.A.L.

Committee:

Subject of thesis: Geophysics

State: BA

1/1,000,000 sheet:

SC24

Centroid of the area:

' -

'W

Abstract

Drill holes which penetrate the aquifers of the Ilhas and Massacaré Groups produce water with a high content of dissolved salts. In order to optimize a field procedure to determine the two dimensional extension of the salt water occurrence, as well as to contribute to the understanding of possible mechanisms responsible for this salinization, electrical soundings were made in the Biritinga-Pataíba area in the state of Bahia. Twenty eight (28) vertical electrical soundings, 18 electrical well logs and chemical analysis of 35 samples of groundwater allowed the determination of the structural configuration of the Ilhas-Massacaré aquifer system in the region, and to estimate the influence of this configuration on the chemical characteristics of the groundwater. In the studied region the system consists of a vertical sequence of sandstone and shale layers dipping SE, which are longitudinally sectioned by gravity faults in a sequence of horsts and grabens. In the horst where the system contains a high shale/sandstone proportion the water are more salty. Furthermore some of the structural blocks have shown an increase of water salinity with depth. These facts seem to indicate that ionic filtering by the shales in the system and a process of mixing and hydrodynamic dispersion along the faults, are the main controllers of the characteristics of the ground water. The results also indicate that, under favorable conditions, informations about the block structure system and water characteristics can be inferred from surface electrical soundings

Parente, C.V. 1984. Geology of the copper mineralization of Mandacaru region, Piauí state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M027

DataBase Ref.: 87 1984 Date of presentation: 26/11/1984

Clóvis Vaz Parente Advisor(s): Fuck, R.A.

Committee: Hardy Jost - IG/UnB
 Alcides Nóbrega Sial - DG/UFPE

Subject of thesis: Prospection and Economic Geology

State: PI 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

The Mandacaru area, São Julião County, Piauí, comprises a Precambrian crystalline basement of granitic to quartz dioritic gneisses overlain by several younger units of low grade metamorphics, volcanic and sedimentary rocks. The Late Proterozoic São Julião sequence comprises folded epicontinental marine metasediments of rank greenschist facies, including phyllite, marble, metarkose and quartzite. The Eopaleozoic Catolé Formation is represented by continental volcanic material (basalt, andesitic basalt, dacite, rhyolite, pyroclastics) and sedimentary rocks (conglomerate, arkosic wacke, feldspathic sandstone, siltstone), intruded by the post-tectonic Mandacaru Granite and related dykes and apophyses of granophyre, quartz porphyry and other felsic subvolcanic rocks. The intrusive rocks display subalkaline to slightly alkaline (potassic) trends. Rb-Sr isotope determinations yielded a reference isochron of 550 ± 8 m.y., $R_i = 0,70924 \pm 0,00010$. Eopaleozoic volcanism, sedimentation and granite intrusion are controlled by faulting and graben-like structures, the evolution of which culminated with the deposition of polymictic conglomerate and breccia of the Tamboril Formation. All the previous units are unconformably overlain by the Silurian Serra Grande Formation at the eastern border of the Parnaíba Basin.

The Cu mineralization, probably of volcanic origin, is associated with the volcanic and sedimentary rocks of the Catolé Formation, having been later consecutively remobilized by water-rich fluids along minor faults and fractures within both the volcano-sedimentary pile and the granitic rocks during the Mandacaru Granite intrusion.

Pedrosa-Soares, A.C. 1984. Metamorphism, granitogenesis and associated mineralization in the Coronel Murta region, northeast Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M029

DataBase Ref.: 89 1984 Date of presentation: 19/12/1984

Antônio Carlos Pedrosa Soares Advisor(s): Leonardos, O.H.

Committee: Onildo João Marini - IG/UnB
 José Marques Correia-Neves - IGC/UFMG

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

The present work deals with regional geologic aspects of supracrustal sequences of the Araçuaí Folded Belt, pegmatites and their host rocks in the Coronel Murta-Virgem da Lapa district and it estribes also W mineralizations in the Middle Jequitinhonha region, northeast Minas Gerais State, Brazil.

The supracrustal sequences that are subject of this study comprise the Salinas and Macaúbas groups. The glaciogenic lithologies of the Macaúbas Group (Upper Proterozoic) differ it from the Salinas Group (undifferentiated Proterozoic age). The psamo-pelitic and calcsilicatic rocks of the Salinas Group point to sedimentation on a stable continental margin, that suffered reactivations as indicated by ortoconglomeratic and quartzitic lenses. Two and three deformational phases were described, respectively, in the Macaúbas and Salinas groups. A Barrowian type metamorphic "zoning", associated with a geothermal gradient around 300C/km, is related to the more intense regional metamorphic phase that affected both Macaúbas and Salinas groups.

Contact metamorphism and metassomatism is often overprinted in the country rocks which outcrop in the vicinities of the granitoid intrusions around Coronel Murta. Mineralogical assemblages and reactions suggest pressures between 4 to 5 kb and maximum contact temperatures in the range of 600 to 7000C.

The intrusions of Coronel Murta are post-tectonic, homogeneous, alkaline, K-rich, metaluminous to peraluminous, granitic plutons. Those plutonites belong to the ilmenite series and were generated by anatexis of a pile composed, mainly, of sedimentary rocks. The actual surface of erosion cuts different levels of the intrusions. The original anatectic liquid appears to be better represented by biotite-muscovite granites, whereas muscovite- biotite ones show Na-and K-metassomatic features. Tourmalinized albitized granites are facies found in the apical parts of the plutons. Contraction of the cooling plutons allowed the emplacement and crystallization of silicated residues on the cupolas, resulting in covers of pegmatoid granite. Contact metamorphism and structural features point to emplacement of the plutons at 12-15 km depth.

The pegmatite district of Coronel Murta-Virgem da Lapa belongs to the beryl-bearing ones related to Barrowian belts, but comprises also some more differentiated bodies carrying spodumene, lepidolite and cassiterite. The pegmatites were divided in groups according to prevailing essential and accessory minerals. The geological, geochemical and mineralogical differences between the Li-Sn bearing pegmatite district of Itinga - Araçuaí and the Coronel Murta-Virgem da Lapa district were made evident. Tungsten mineralization (wolframite + scheelite) was found in quartz veins hosted in quartz-mica schists.

Light-colored bands control the scheelite mineralization in the garnetiferous calcsilicatic hornfelses. Scheelite small crystals occur disseminated in the granoblastic matrix (quartz + andesine + diopside) or in strings parallel to relict foliation of the calcsilicatic

hornfels. The scheelite crystallized during the thermal event and perhaps during the regional metamorphism.

Saes, G.S. 1984. Stratigraphy and sedimentology of Estância group in the northeastern region of the Bahia state. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1287 1984 Date of presentation: 21/12/1984

Gerson S. Saes Advisor(s): Vilas Boas, G.S.

Committee: Benjamim Bley de Brito Neves - IGc/USP
Rodi Ávila Medeiros - PETROBRÁS

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The metasedimentary Upper Precambrian Estância Group in the northeastern region of the State of Bahia was studied with the aim of identifying and individualizing its sedimentary facies. This was based on lithology and sedimentary structure association plus interpretation of depositional processes. The time and space relations of the different facies were controlled by climatic changes and variations in the nature of sediments as well as changes in rates of sediment supply and subsidence. The basal portions of the Estância Group in the study area consist of continental terrigenous deposits of the Juetê Formation accumulated in alluvial fan systems. This is overlain by the Acauã Formation composed of sediments of variable carbonate nature deposited on tidal flats and carbonate sand shoals of a marine shelf. A thick succession of terrigenous sediments of the Lagarto and Palmares formations ends the Estância sedimentation in the region. These consist of predominantly tidal flat and mud shelf pelitic sediments (Lagarto Formation) that evolved to fan delta conglomeratic deposits as well as beach and tidal shelf sand (Palmares Formation).

Salomão, F.X.T. 1984. Geopedologic interpretation applied to the study of engineering geology. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1908 1984 Date of presentation: 25/10/1984

Fernando Ximenes de Tavares Salomão Advisor(s): Amaral, S.E.

Committee:

Subject of thesis: Engineering geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Santoro, E. 1984. Geology of Cabreúva quadrangle, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2147 1984 Date of presentation:

Edgard Santoro Advisor(s): Sadowski, G.R.

Committee:

Subject of thesis: Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Simões, L.S.A. 1984. Geology of the Araxá Group in the Mossâmedes region and associated mineral occurrences, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M028

DataBase Ref.: 88 1984 Date of presentation: 10/12/1984

Luiz Sérgio Amarante Simões Advisor(s): Fuck, R.A.

Committee: Aripilino Antonio Nilson - IG/UnB
Rudolph Allard Johannes Trouw - DG/UFRJ

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

In the region of Mossâmedes, State of Goiás, Brazil, the Precambrian metamorphic rocks of the Araxá Group were mapped at the scale of 1:25.000, with emphasis on stratigraphic, structural, petrographic and economic aspects. These metamorphites represent a continuous stratigraphic sequence which, from bottom to top, can be subdivided in five informal lithostratigraphic units: 1) psamitic unit (quartzite, metaconglomerate); 2) psamitic-pelitic unit (quartzite, quartz schist, muscovite schist); 3) lower pelitic-volcanic unit (chlorite-biotite schist, fine grained blastoporphyrific gneiss, amphibolite and calcschist); 4) upper pelitic-volcanic unit (garnet muscovite schist, biotite schist and gneiss, amphibolite, magnetite muscovite schist); 5) gneissic unit (epidote biotite gneiss amphibolite). Three types of meta-intrusive rocks were found besides basic dykes related to Mesozoic magmatism.

Four phases of deformation affected the volcano-sedimentary sequence. Associated with the first phase (D1) a well developed schistosity (S1), a stretching lineation and rare tight to isoclinal folds were observed. The second phase (D2) transposed S1 developing the main foliation (S2), with E-W/10-20S general attitude. Due to transposition, S2 is: parallel to S1 and to sedimentary bedding. D2 originated tight to isoclinal folds and mineral and stretching lineation generally parallel to D2 fold axes. Two other phases of deformation affected the main foliation: D3 developed asymmetrical folds with NE vergence and SSW steeply dipping axial surface; D4 originated gentle folds with subvertical axial surface. Finite strain ellipsoid analyses for metaconglomerate deformed pebbles generally fall within the oblate field of the Flinn diagram, and locally within the prolate field.

Barrowian type metamorphism increases progressively from North to South, from the biotite zone to the garnet zone (green schist facies), reaching the staurolite-kyanite zone (amphibolite facies). Microtectonic observations show that the climax of metamorphic was reached during the beginning of D2. The distribution of metamorphic zones and behavior of the garnet isograd suggest that the isograd surfaces dip north and intercept the lithostratigraphic units.

The magmatism related to the Araxá Group evolution consists of mafic to felsic volcanic activity, mostly intermediary (metavolcanoclastic), and three intrusive events: the first, probably pre-deformational (metagabbro and amphibolite), the second sin-D1 (metagranite) and the third late - D2 (porphyritic metadacite dykes). Petrochemical studies indicate that, at least in part, the rocks interpreted as metavolcaniclastics consist of metatuffs. The magmatism shows calcalkaline affinity (including the intrusive rocks), similar to recent active continental margins.

Gold and copper minerals of economic interest occur within the studied area. The gold mineralizations are related to the lower and upper pelitic-volcanic sequences. Copper occur in several rocks from the pelitic-volcanic and gneissic sequences, showing generally pyrite + calcopyrite + sphalerite paragenesis. Present data indicate the possibility of several genetic types of deposits with essentially volcanic primary source for gold and copper. Besides copper and zinc sulphides molybdenite occurrence was identified, reinforcing the economic potentiality of the region. Long time known and exploited diamond occurrences within the metaconglomerates are also mentioned.

Stein, D.P. 1984. Sketch of the pre-cambrian geologic evolution of the Pilar do Sul quadrangle, SP state - SF23-Y-C-IV-4. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2148

1984

Date of presentation:

Dirceu Pagotto Stein

Advisor(s): Hasui, Y.

Committee:

Subject of thesis: Geology

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

Teixeira, J.B.G. 1984. Geology and controls of gold mineralization in Fazenda Brasileiro, Serrinha (BA). MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 954

1984

Date of presentation: 20/12/1984

João Batista Guimarães Teixeira

Advisor(s): Gaál, G.E.

Committee:

Ian Davison

-

Umberto Raimundo Costa

-

IG/UFBA

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA

1/1,000,000 sheet:

SC24

Centroid of the area:

' -

'W

Abstract

The Fazenda Brasileiro gold deposit is composed of mineralized orebodies which occur in zones of hydrothermal alteration in the southern part of the Rio Itapicuru greenstone belt, NE Bahia.

A study was made on the nature of the host rocks, aiming at defining mineralization conditions and the processes active during mineral deposition. Some new ideas on the geological evolution of the ore deposit have been formulated.

Two types of mineralization have been recognized: (1) stratabound orebodies which occur in a folded shear zone on an anorthosite unit within a mafic differentiated sill and (2) discordant quartz veins with native gold which occur in any lithology. Field data and chemical analyses support the hypothesis that the differentiated sill was intrusive and was the product of fractional crystallization of a tholeiitic to sub-alkaline basaltic magma.

Five superimposed deformation phases have been recognized in the area around the ore deposit. These processes destroyed almost all of the primary structures in the igneous and sedimentary rocks. This complicated deformational pattern prevented previous work from recognizing the association of the Fazenda Brasileiro orebodies with a differentiated mafic intrusion.

The mineralized zones are situated along an antiformal hinge of a second phase fold suggesting that the mineralization processes occurred in the uppermost structural position in the fold. These zones were probably developed by hydraulic fracturing during a regime of high pore fluid pressure.

Hydrothermal processes caused carbonation, silicification and gold deposition. Alteration and mineralization were caused by interaction of carbon dioxide-rich aqueous fluids with metamorphosed host rocks.

The close relations between folds and shear zones with the silicified and mineralized orebodies indicate that the mineralization process was related to repeated episodes of dilational fracturing and fluid flow, coupled with the interaction of these fluids with the host rocks.

Fluid inclusion studies indicate that the ore was deposited at temperatures ranging from 250 to 40 °C. The very low salinity of the mineralizing fluids (less than 5 equiv.wt% NaCl) suggests that they could be generated by dehydration reactions of the volcanosedimentary pile during regional metamorphism.

Relations between compositions and temperatures of homogenization in primary inclusions suggest a continuous evolution of the mineralizing fluids, starting with a relatively dense fluid (0.85 g/cm³) towards a less dense fluid (0.75 g/cm³), and point to at least three stages of ore deposition.

The stratabound mineralization probably occurred first as the associated fluids were the least evolved. The native gold mineralization in the quartz veins, on the other hand, was probably a later phase, as the mineralizing fluids appear to have been more evolved.

The periods of mineralization in the Fazenda Brasileiro deposit are thought to be associated with hydrothermal alteration during phases of localized retrograde metamorphism, probably related to the uplift of the volcanosedimentary pile after the peak of regional metamorphism.

Vespucci, J.B.O. 1984. Depositional systems and tectono-sedimentary evolution of the Taubaté basin, SP. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2145

1984

Date of presentation:

Juracy Bento de Oliveira Vespucci

Advisor(s): Suguio, K.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

Assis, P.I.S. 1985. Determination of paleocurrents with the "dipmeter" profile - one application: attempt for the sediments of the São Bento group of the Paraná basin. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1922 1985 Date of presentation: 19/12/1985

Pedro Ivo Silveira de Assis

Advisor(s): Szikszay, M.

Committee:

Subject of thesis: Stratigraphy

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Barbosa, L.M. 1985. Coastal quaternary of Alagoas state: Influence of sea level variations. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1290 1985 Date of presentation: 13/12/1985

Liana Maria Barbosa

Advisor(s): Bittencourt, A.C.S.P.

Committee:

Geraldo da Silva Vilas Boas - IG/UFBA

Jáder Onofre de Moraes -

Subject of thesis: Coastal and Sedimentary Geology

State: AL 1/1,000,000 sheet: SC24

Centroid of the area: ' - 'W

Abstract

The Quaternary Coastal at the Alagoas State are correlatable, both from a geomorphic and sedimentologic point of view, with coastal deposits occurring along the coast of the states of Bahia and Sergipe. Three important transgressive episodes affected the coast of the State of Alagoas during the Quaternary. These episodes left readily interpretable records represented by lagoonal deposits and two levels of marine terraces.

The quaternary paleogeographic evolution of the studied area comprises 6 stages: I) Pleistocene - The Most Ancient Transgression carved a line of coastal cliffs into the unconsolidated sediments of the Barreiras Group; II) Pleistocene - deposition of coalescing alluvial fans at the foot of the coastal cliffs formed during the previous stage; III) 120.000 years B.P. - The Penultimate Transgression partially eroded the alluvial fans deposited during the stage II; IV) Pleistocene - The lowering in sea level that followed the maximum of the Penultimate Transgression favored the development of strandplains which were probably very similar to those existing today; V) 5.100 years B.P. - The Last Transgression partially eroded the Pleistocene strandplains. It also caused the drowning of the lower river courses giving origin to estuaries; VI) Holocene - the lowering in sea level that followed the maximum of the Last Transgression favored the construction of the Holocene portion of the Quaternary strandplains.

Barbosa, M.I.M. 1985. Geochemistry of the mafic-ultramafic belts, plutonites and migmatites of Barbacena greenstone belt, Conselheiro Lafaiete region (MG). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 021661/85-23

DataBase Ref.: 991 1985 Date of presentation: 30/9/1985

Marília Inês Mendes Barbosa

Advisor(s): Pires, F.R.M.

Committee:

Joel Gomes Valença -

Rudolph Allard Johannes Trouw -

Eduardo Antonio Ladeira -

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The geology of the manganiferous district of Conselheiro Lafaiete, at the southern portion of the Minas Gerais State, represents a fraction of typical granite-greenstone province. Precambrian metamorphic rocks of different ages which outcrop in the region, have an apparent basement composed of migmatitic-gneissic complex of the Mantiqueira Group. Barbacena Group Barbacena Group comprises a volcanic-plutonic assemblage similar to those classified as Greenstone Belt. The lowermost unit of the Barbacena Group is constituted by ultramafic rocks, talc chorite schists at present, compositionally similar to the basaltic komatiites of several archean Greenstone Belts, and equivalent to phanerozoic periodites. They are marked by high-MgO content (> 19%), low values for alkalis (mainly K₂O < 0,1%), relative enrichment in Cr and Ni, and odd ratios CaO/Al₂O₃ (@ 1), although sometimes this ratio been affected by selective decalcification and a slight enrichment in aluminium. The rocks have similar geochemical trend to the ocean floor basalts (OFB). The mafic rocks of the Barbacena Group, represented by amphibolites and amphibole schists, correspond to the middle stratigraphic unit and spatially widespread. They are correlated in the archean Greenstone Belts to basalts and andesites of the tholeiitic series (TH)

Canuto, J.R. 1985. Origin of the diamictites and associated rocks of the Itararé subgroup, southern of Paraná state and northern of Santa Catarina state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1985 1985 Date of presentation:

José Roberto Canuto Advisor(s): Rocha-Campos, A.C.

Committee:

Subject of thesis: Mineralogy and Petrology

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W
SC

Abstract

Carvalho, L.M. 1985. Gold mineralizations of Gentio do Ouro, Bahia state. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 956 1985 Date of presentation: 25/12/1985

Luiz M. Carvalho Advisor(s): Carvalho, I.G.

Committee: François Soubiès -
Paulo Ganem Souto - IG/UFBA

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The Gentio do Ouro gold district is lithologically characterized by the metasediments of Lagoa de Dentro and Açuruá Formations which are parts of the middle Proterozoic Paraguaçu Group, Espinhaço Supergroup. These formations were intruded by sills and dykes of gabbroic composition. A Tertiary-Quaternary cover of lateritic soils and Quaternary sediments which are represented by allocthonous latosols, arenaceous colluvial and alluvial sediments and talus complete, in the lithological aspect, the general framework of the area.

The gold occurrences of Gentio do Ouro comprise two types of mineralizations: hypogene mineralizations and secondary mineralizations. The first type is closely related to lens and veins of quartz intruded into the gabbroic rocks whereas the secondary mineralizations resulted from the oxidation processes and supergene enrichment of gold and by the action of the weathering agents. These were responsible for the chemical decomposition and physical disaggregation of the lens and veins of quartz, the products of which built up the eluvial, eluvio-colluvial and colluvio-alluvial placers.

In the economic point of view, the eluvial placers are reported as the most important gold concentrator among the others gold deposits of the Gentio do Ouro auriferous area. This is referred to both ore volume and gold content.

De Ros, L.F. 1985. Petrology and characteristics of reservoir in Sergi formation (Jurassic) in Sesmaria Field, Recôncavo basin, Brasil. MSc Thesis; Department of Geology, University Federal of Ouro Preto, Minas Gerais, 194 pp

Departamento de Geologia - Universidade Federal de Ouro Preto

Reference:

DataBase Ref.: 1223 1985 Date of presentation:

Luiz Fernando De Ros Advisor(s):

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Sesmaria Field is located on the eastern margin of the Recôncavo rift basin, Brazil, and produces an average of 250 cubic meters of oil per day, mostly from the Jurassic sandstones and conglomerates of the Sergi Formation. This unit was deposited by a braided alluvial system that prograded from NW to SE through a cratonic basin, previous to rift rupture, under an arid/semiarid climate. These conditions produced sandy deposits of large original continuity and compositional homogeneity.

The porosity and permeability of these essentially continuous and homogeneous bodies were, subsequently, greatly changed by several intense diagenetic processes, from shallow eodiagenetic to deep mesodiagenetic conditions. The general sequence of diagenetic phases and processes is: 1) eodiagenetic precipitates (caliches, silcretes and early dolomite); 2) mechanical clay infiltration; 3) mechanical compaction; 4) chemical compaction; 5) secondary quartz and feldspar overgrowths; 6) calcite cementation and replacement of silicates; 7) secondary porosity generation by calcite dissolution; 8) reactivation of mechanical compaction; 9) late authigenic precipitates (mainly chlorite, quartz, albite, titanium minerals and pyrite).

The development of this general sequence was inhibited or even aborted where early processes were particularly strong, such as in the top of Sergi Formation, where clay infiltration was abundant.

The mesodiagenetic evolution history records the temperature-controlled interaction between organic and inorganic materials, and subsurface fluid flow regimes. These seemingly occurred in a 30 m.y. interval, between upper Jurassic sedimentation and Aptian oil generation and migration. Reactions with carboxylic organic acids and convective re-circulation of fluids seem to have been of major importance in this evolution.

Controlled by this diagenetic evolution, reservoir pore geometry is very inhomogeneous, from the scale of hundreds of meters to the microscopic, as evidenced by pore casts and capillary pressure data from mercury injection-withdrawal. This geometry results in low values of permeability and poor non-wetting phase recovery efficiency. The presence of large amounts of interstitial clays, the high complexity of pore geometry, and other reservoir features require the adoption of specific drilling, evaluation, completion and production procedures to minimize formation damage and to optimize oil recovery.

Dresch, R.A.C. 1985. Petrographical, petrological and geochemical study of the Morro Agudo deposit, Paracatu, MG. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 490

1985

Date of presentation:

Renato Antônio Chdiay Dresch

Advisor(s): Formoso, M.L.L.

Committee:

Subject of thesis: Geochemistry

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

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Abstract

The Morro Agudo mineralized area is situated in the Paracatu region, WNW of Minas Gerais State, near the western edge of the São Francisco craton. The Proterozoic lithologies in the Morro Agudo deposit belong to the Vazante Formation, base of the Bambuí Group. The Vazante Formation can be divided into seven facies, which are, in ascending order: Serra do Garrote, Morro do Calcário, Serra do Velosinho Inferior, Serra do Velosinho Superior, Serra da Lapa, Serra do Landim and Morro Agudo. These facies are petrographic units representing different paleo-environments whose characteristics were developed by sea level fluctuations and distribution of stromatolitic reef in a shallow sea.

The Morro do Calcário facies, eminently carbonated, comprises Pre-reef, Reef and Post-reef subfacies. The Pre-reef subfacies is a laminated boundstone composed of SS, SH and LLH-SH type stromatolites. The Reef subfacies is dominantly a combination of boundstone and mudstone. This laminated boundstone is composed of LLH type stromatolites. The Post-reef subfacies is a grainstone composed of intraclasts, oolites and oncolites. Typically, there are three intraformational breccia bodies, each with characteristic features. Geochemical interpretations indicate that grainstone and intraformational breccia with similar matrix, hosts of the ore, are calcitic dolomites. Yet, the mudstone and boundstone were identified as dolomites.

The Conophyton type stromatolites of the boundstones of the Morro do Calcário facies are preserved structures of bluegreen algae or Cyanophyta. Within the cyanophytic algae, species of the orders Chroococcales and Nostocales were important in stromatolite formation. The evidences suggest that nostocalean algae are represented by families Oscillatoriaceae and Scytonemataceae.

A temporal sequence of carbonate diagenesis of the Morro do Calcário facies includes neomorphism, cementation, dolomitization, silicification and dedolomitization.

The Morro Agudo mineralization is stratigraphically and structurally controlled. Stratigraphically, the ore occurs in the grainstone and intraformational breccia of the Post-reef subfacies of the Morro do Calcário facies. These rocks are localized along the western flank of the Calcário Hill, considered a stromatolitic bioherm. Structurally, the ore presents its eastern edge limited by a fault approximately N-S. Three prominent fault systems in the Morro Agudo deposit are responsible for the displacement and remobilization of the ore.

Dominant ore minerals are sphalerite and galena. Pyrite, a relatively minor constituent, occurs in bedded bodies composed almost exclusively of pyrite. Three broad categories of ore are delineated: 1. bedded and disseminated, 2. breached, and 3. stockwork. Bedded ore is characterized by its geopot structure. Breached ore lies within a collapse breccia showing the pull-apart structures in the edges. Stockwork ore occurs in a complex system of faults and fractures.

Morro Agudo ore exhibits a paragenetic sequence of mineral deposition. Early disseminated mineralization was followed by sulfides characterized by colloform texture. These were succeeded by the deposition of sulfides, dolomite, quartz and barite in fractures and vugs. The succession is characterized by overlap and recurrence of the pyrite followed by sphalerite and, after, galena. The rare occurrence of cerussite and goethite in the ore reveals an inexpressive oxidation of the ore minerals. Within the mineralized sequence, there are several laterally discontinuous layers of fragmented chert. Commonly, the chert fragments show rimmed by pyrite.

The major elements of the Morro Agudo ore include: Zn, Pb and Fe. Mn and Cd are less abundant. Cu is low, however being slightly more concentrated in sphalerite than in galena and pyrite. Within the minor and trace elements present in the principal minerals, the following are mainly noticeable: Ge in sphalerite; Ag in galena; Ga, In, Ni, Co, V and Mo in pyrite. The average of the rates Co/Ni in the pyrite is 0.7.

A diagenetic model is established for the genesis of the ore. Several arguments are used to support the hypothesis that precipitation of the sulfides occurred during the dolomitization and cementation of the host rocks. Among these arguments, are to be emphasized: the high structural competency, textural accessibility and chemical reactivity of the grainstone and intraformational breccia of the Morro do Calcário facies. The ore was formed by the mixing of metal-bearing brines with H₂S - rich waters in carbonate rocks. The brines were dolomitizing fluids produced by evaporation, whereas H₂S was supplied by bacterial reduction of sulfate.

Dussin, T.M. 1985. Geology and geochemistry of the banded iron formation of the Serra da Serpentina, Conceição do Mato de Dentro, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M033

DataBase Ref.: 93

1985

Date of presentation: 19/12/1985

Tânia Mara Dussin

Advisor(s): Dardenne, M.A.

Committee:

Onildo João Marini

- IG/UnB

Carlos Alberto Rosière

- IGC/UFMG

Subject of thesis: Prospection and Economic Geology

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

' -

'W

Abstract

The Serra da Serpentina Region, located at the Eastern Border of the Southern portion of the Serra do Espinhaço (Minas Gerais, Brazil), is made up of four major stratigraphic units: (a) the Gnaissic Migmatitic Complex, which constitutes the basement of supracrustal sequences represented by; (b) the Vulcano-Sedimentary Sequence of Rio Mata Cavalo, interpreted as a probable Archean greenstone belt; (c) the itabirite Sequence, a possible extension of the Minas Supergroup of the Quadrilátero Ferrífero, and (d) the Quartzitic Sequence, of uncertain stratigraphic position and regionally correlated to the Espinhaço Supergroup. All units are intensely affected by shearing which is responsible for the actual deformational model, represented by a succession of imbricated scales. Metamorphic conditions observed on supracrustal rocks are compatible with the greenschist facies while the gnaisses underwent retrometamorphism from upper amphibole to greenschist facies.

The iron formations of the itabirite Sequence constitute the aim of this report. Their stratigraphy, lithologies and geochemistry suggest for deposits formed under epicontinental basin environments of Lake Superior type. Their mineralogy is essentially represented by hematite and magnetite, locally with siderite and ankerite. These minerals formed under a wide range of conditions, spreading from sedimentary to metamorphic, with superimposed weathering. It is suggested that the compact iron ores associated to itabirites were formed under very special conditions not reproduced by the more abundant itabirites. REE data from the iron formations of the area show Eu and Ce anomalies relatively the other rare-earth elements, which is interpreted as a response to intermediate oxygenation levels of atmosphere and hydrosphere between the Archean and the Upper Proterozoic.

Farias, F.F. 1985. Temporal and spatial variations in the dynamics of sedimentation at praia de Armação beach - Salvador, Bahia state. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1289

1985

Date of presentation: 12/2/1985

Félix F. Farias

Advisor(s): Bittencourt, A.C.S.P.

Committee:

Geraldo da Silva Vilas Boas

- IG/UFBA

Horst G. Pasenau

-

Subject of thesis: Coastal and Sedimentary Geology

State: BA

1/1,000,000 sheet:

SD24

Centroid of the area:

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'W

Abstract

The Armação beach constitutes a high-energy environment in which erosive phases displace sediment amounts comparable to those observed on beaches subjected to severe storm action such as on the east coast of the United States. Sand envelopes up to 3 m thick have been measured. This is attributed to fall and winter cold fronts that, although not storm-producing, are so frequent as to carry out equivalent geological work.

As a result of a local time-reversing coastal drift, the two ends of the beach exhibit, in general, opposite and time-alternating behavior with an erosive phase at one end corresponding to a constructive one at the other.

A significant exchange of material between the beach face and the shoreface has been observed along the Armação beach except for the portion near its NE extremity where the presence of shallow submerged rock outcrops prevent it.

The dynamics of sedimentation at the Armação beach is controlled by the type of wave and the angle with which it reaches the beach. Although the swell waves are generated at the southernmost Atlantic Ocean, all the others derive from the local wind regime.

Ferreira Filho, C.F. 1985. Geology and sulfide mineralizations of the Bahia Prospect- Carajás Mineral Province- Pará state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M034

DataBase Ref.: 94

1985

Date of presentation: 20/12/1985

Cesar Fonseca Ferreira Filho

Advisor(s): Danni, J.C.M.

Committee:

Reinhardt Adolfo Fuck

- IG/UnB

Raimundo Netuno Nobre Villas

- CG/UFPA

Subject of thesis: Prospection and Economic Geology

State: PA

1/1,000,000 sheet:

SB22

Centroid of the area:

' -

'W

Abstract

Copper mineralization of the Bahia Prospect is located 45 Km east of the Serra dos Carajás N-4 iron deposit. The mineralization is hosted by a subaqueous volcanic-sedimentary sequence, formed by silicic pyroclastic rocks, basic flows and sills, finely laminated sediments and banded iron formations.

Hydrothermal alteration is widespread and two events are suggested. The first is responsible for a generalized spilitization of basalts. The second is related to the copper mineralization, and is represented by veneration and cloritization of the host rocks, with leaching of alkalis and large gain of FeO_t, H₂O, Cu, CO₂ and S.

The mineralization of stringer ore type has a copper average between 0,1 e 1,0 wt.%, which is related to the intensity of the hydrothermal alterations and veneration of the host rocks.

Rb-Sr and K-Ar informations give a late Archean or early Proterozoic age to the formations of the volcanic-sedimentary sequence.

Florenzano, T.G. 1985. Evaluation of the use of MSS-LANDSAT 4 data in the mapping and characterization of geomorphologic unities in semi-arid zones (test area: Juazeiro region - Bahia state): An integrated approach. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1353 1985 Date of presentation: 29/10/1985

Teresa Gallotti Florenzano

Advisor(s): Kux, H.J.H.

Mantovani, L.E.

Committee:

Subject of thesis: Remote Sensing

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

Freire, G.S.S. 1985. Marine Geology of the Ceará Continental Shelf. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Continental shelf, Marine deposits, Sedimentological analyses

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 586 1985 Date of presentation: 2/12/1985

George Satander Sá Freire

Advisor(s): Coutinho, P.N.

Committee:

Subject of thesis: Sedimentary Geology

State: CE 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The continental shelf off Ceará State, Brazil has a narrow width and low depth, showing a carbonate and terrigenous cover that deserves special consideration owing to sedimentological, environmental and economic constraints. In this thesis a general insight into physiographic aspect, geology of the coastal zone, oceanographic conditions and geochemistry of sediments is given.

The study of the seafloor sediment composition has provided parameters for understanding of sedimentary processes that take place in the area. In addition to other information on geomorphological, oceanographic and chemical features, it allowed a knowledge, though preliminary, of the area's paleogeographic evolution. In this context, it was possible to differentiate seven sedimentary facies.

With regard to the geochemical characterization of the sedimentary facies, a statistical treatment has been applied to the results of chemical analyses for the carbonate and terrigenous sediments, separately, and isocontent curves for the balanced elements have been drawn. Analyses have also been performed on its variation pattern depositional environment, and the obtained results have been compared with those from other similar sedimentary areas, whereby conclusions have been drawn about the geographic distribution of those elements.

Laurindo, A.M.O. 1985. The Cabo Formation Carbonate Facies (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Cabo Formation, Limestones, Facies study, Petrography, dolomite

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 585 1985 Date of presentation: 28/1/1985

Águeda Maria de Oliveira Laurindo

Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: PE 1/1,000,000 sheet: SC25 Centroid of the area: ' - 'W

Abstract

The coastal strip of south Pernambuco State presents a geological framework dissimilar to the northern section of this sedimentary area. Geophysical investigation revealed the reduced thickness of the sedimentary sequence when compared with other coastal basins. The studied dolomites are found in two levels, intercalated within claystones and siltstones, suggesting a former connection (Aptian) with the Sergipe-Alagoas basin. The studied dolostones have been correlated with the Ibura Member (Muribeca Formation) evaporites.

Petrographically, the dolostones show a high percentage of ferro-dolomite, followed by clay, iron oxides, quartz and feldspar. Two modes of origin have been proposed for these dolomites: (1) primary, corresponding to an evaporitic platform facies, at the limit between a sabkha water body and a continental body in the supratidal zone; (2) secondary, resulting from evaporitic reflux caused by infiltration of Mg-rich hypersaline water, dolomitizing the underlying sediments, triggered by the tectonic instability of a subsiding basin and a relative uplift of its surroundings.

Lima, E.F. 1985. Petrochemistry and lithogeochemical prospection of the Merita area, Volta Grande region, Lavras do Sul, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 489

1985

Date of presentation:

Evandro Fernandes de Lima

Advisor(s): Nardi, L.V.S.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' - 'W

Abstract

The Volta Grande region is constituted by a Precambrian to Cambrian volcano-sedimentary sequence which belongs to the Hilário Formation. Au, Cu-, Pb-, and Zn-sulphide mineralizations are found in lodes and brecciated zones which cut across these lithologies. The present paper is concerned with the petrological and geochemical characterization of volcanic and tuffaceous rocks from this region as well as the study of hydrothermally altered rocks for lithogeochemical exploration purposes. Major and trace element geochemistry demonstrates that unaltered rocks have remarkably high contents of alkalis, Ba, Sr, and Rb as well as relatively low contents of Zr, Nb, and Ti. Their geochemical features permit to include the studied rocks in the shoshonitic series. Propylitization is the main hydrothermal alteration, and it is responsible for the sulphide mineralization and neoformation of chlorite, epidote, and calcite. Such alteration causes chemical changes in original rocks, as indicated by their lower CaO, MgO, and LOI values, and higher Pb contents. The lithogeochemical exploration works carried out in the Merita area (eastern portion of Volta Grande region) were based on the study of Ni, Co, Cu, Pb, Zn, and Ag distribution patterns shown by subsurface samples. Factor analysis and correlations obtained from these elements indicate that the Ni and Co values are related to different lithological types present in this area, while Cu, Pb, and Zn contents have been affected by hydrothermal processes. The independent character of Cu, Pb, and Zn dispersion haloes shows that more than one indicator element must be used for lithogeochemical exploration in this area.

Magalhães, A.C. 1985. Geology of ultramafic bodies in the region between São João del Rei and Liberdade, with special emphasis in Carrancas area, MG state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1177

1985

Date of presentation:

Antonio Carlos Magalhães

Advisor(s): Trouw, R.A.J.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

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Abstract

Ultramafic rocks are abundant in the south of the state of Minas Gerais and scarce in the state Rio de Janeiro. They can be subdivided in two different types, that occur in distinct lithological associations: a) In the first case, the ultramafics are essentially represented by layers of talc-schist, chlorite-schist, tremolite-schist and serpentinite, which occur interstratified with amphibolites, greenschists, goudites, mica-schists, quartzites and BIF. This lithological association belongs to the Barbacena Group of probable Archaean age. This interstratified association reflecting varied primary compositions probably represents a volcanic-sedimentary sequence. In the area studied, such a sequence was studied near Itumirim (MG). b) In the second association, the ultramafics appear as ovoidal bodies, and frequently display primary peridotitic nuclei not affected by metamorphism. These nuclei are composed of harzburgites, dunites, bronzitites and ilmenitites. The outer part of these bodies is formed by ultramafic schists such as chlorite-schists, tal-schists, tremolite-schists and massive serpentinites. These ultramafics are interpreted as alpinotype bodies situated in an essentially metasedimentary sequence of Proterozoic age, that encompasses the Carrancas, the Andrelândia and possibly the Paraíba Groups. They may be situated within gneisses and migmatites of the basement of these groups. The best examples of such bodies occur in the Andrelândia Group in the neighbourhood of Liberdade (MG). These examples have been mapped in detail and are described with emphasis on their tectonic and metamorphic history. Inside the region under consideration, the Carrancas area is of particular interest due to the presence of ultramafic bodies of both above mentioned lithological associations, and for this reason has been studied in detail. Several other bodies are described and are compared to the main groups.

Marciano, V.R.P.R.O. 1985. Contribution to the mineralogy and geochemistry study of pegmatites from the Governador Valadares region, Minas Gerais state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1822 1985 Date of presentation:

Vitória Régia Peres da Rocha Oliveiros Marci Advisor(s): Gomes, C.B.

Committee:

Subject of thesis: Mineralogy and Petrology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Mattar, L.C.B. 1985. A new Spheenosuchia (Barberenasuchus brasiliensis, n.g., n.sp.) from the middle Triassic of Rio Grande do Sul, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 804 1985 Date of presentation:

Luiz Cláudio Borges Mattar Advisor(s): Barberena, M.C. Araújo, D.C.F.

Committee:

Subject of thesis: Palaeontology

State: RS 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The present dissertation deals with the osteological description of the skull and second cervical vertebra of *Barberenasuchus brasiliensis* (n.gen. and sp.), a new spheenosuchid thecodont from the Santa Maria Formation (Pinheiros Local Fauna), Triassic of Rio Grande do Sul State, southern Brazil.

Generic diagnostic differences are to be seen between the new form and other South American spheenosuchids, such as: a) a narrow and vertically elongated infratemporal opening; b) a forward inclination of the quadrate and quadratojugal, caused by a moderately shorter lower jaw; c) squamosal flange present, but not so much expanded as in other related forms (e.g.

Pseudhesperosuchus); d) presence of pterygoid teeth.

The finding of *B. brasiliensis* in the Santa Maria Formation reinforces the chronocorrelation between the Pinheiros and Los Chañares Local Faunas, confirming the Early Charnian age already attributed to these paleoherpetofaunas.

The possible origin of the Crocodylia in Middle Triassic spheenosuchid thecodonts is also commented. It is concluded that the paucity of cranial material in *Lewisuchus* and the almost complete lack of postcranial elements in *Barberenasuchus* do not offer any sound evidence to clarify this question.

On the other hand, *Barberenasuchus* and *Pseudhesperosuchus* share several characters. The more primitive state of some of them in the Brazilian form seems to indicate it as an adequate ancestral to the Argentinian one.

Naumann, M.P. 1985. The volcanosedimentary ultramafic complex and granitoids of the Ibaré region, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 487 1985 Date of presentation:

Márcio Paulo Naumann Advisor(s): Hartmann, L.A.

Committee:

Subject of thesis: Geochemistry

State: RS 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This dissertation deals with the petrological, geochemical, and geochronological study of some Pre-Cambrian units, occurring in the Ibaré region, RS. The name Ibaré Complex is proposed for ultramafic and metavolcano-sedimentary lithologies. This complex comprises the Bela Vista Sequence, which contains metarkoses, iron formations, metagreywackes, metarhythmites, metapelites, metabasites and metandesites, and the Corticeira Sequence, with serpentinites, magnesian schists, mafic hornfelses, rodingites, chloritites and tourmalinites. Two regional metamorphic events were recognized. The first and most intense reached the chlorite zone of the greenschist facies. Contact metamorphism was locally developed reaching the hornblende hornfels facies. Three deformation episodes were identified: the first originated the main foliation, which was folded during the subsequent episodes. Intrusive granitoids are related to tectono-magmatic events of Upper Proterozoic to Eo-Paleozoic ages. They comprise three distinct groups of magmatic rocks represented by the Timbaúva Granodiorite, Santa Rita Monzogranite and the Jaguarí Intrusive Suite. Petrochemical studies show that the metagreywackes and metarhythmites of Bela Vista Sequence have volcanogenic affiliation. In the same way, the ultramafic rocks show komatiitic affinity. The chemical composition of the minerals was determined by electron-probe analysis of granitoids and mafic-ultramafic hornfelses. Isotopic studies of the Timbaúva Granodiorite and of the tremolites of the Corticeira Sequence have been carried out.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1291

1985

Date of presentation: 20/12/1985

Gélbio M. F. Rocha

Advisor(s): Carvalho, I.G.

Committee:

Aroldo Misi

- IG/UFBA

Ronald Fleisher

-

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA

1/1,000,000 sheet:

SD23

Centroid of the area:

' -

'W

Abstract

At the Boquira region, western part of the State of Bahia, the Boquira Formation (Lower Proterozoic) is constituted by metasedimentary rocks (schists, quartzites, carbonates and banded iron facies which are positioned between the Espinhaço Supergroup (Middle Proterozoic) and the Paramirim Complex (Archean).

The banded iron facies comprises four sub-facies: quartz-hematite, quartz-magnetite, silicate-magnetite and carbonate-silicate. Metamorphosed limestone and dolomites, although not constituting a ferruginous facies also occur closely associated with the carbonate-silicate sub-facies. The main parageneses present at the banded iron facies are: quartz-hematite, quartz-magnetite, cummingtonite-magnetite-quartz, cummingtonite-anthophyllite-quartz, actinolite (ferroactinolite)-ferrodolomite-quartz, actinolite (ferroactinolite)-calcite-quartz.

Based on data from chemical analyses as well as isotopic and physico-chemical evaluation of the banded iron facies, the Boquira Formation was deposited in a shallow, semirestricted basin of epicontinental type. Anaerobic organisms were also active at this basin. Sedimentation began with pelite deposition, grading progressively upward to chemically precipitated carbonates and Fe and Si-rich sediments. It is possible to detect a gradual increase in the Fe and a decrease in the Ca and Mg contents as one goes from the carbonate-silicate sub-facies to the quartz-hematite sub-facies.

The Pb-Zn ore bodies are enclosed in the silicate-magnetite sub-facies and they are concordant with rock bedding. The silicate-magnetite sub-facies, together with the Pb and Zn-sulfides, was precipitated in less oxidizing zones of the depositional basin. It was not possible to classify the depositional environment of the Boquira Formation as being volcanogenic. Although the depositional environment may be influenced by a distal volcanic source.

The epidote-amphibolite facies metamorphism caused sulfide remobilization, decarbonation and dehydration of the banded iron-facies.

Rodrigues, E.P. 1985. Anitápolis alkaline complex : a petrologic study. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2150

1985

Date of presentation:

Eleno de Paula Rodrigues

Advisor(s): Girardi, V.A.V.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SC

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Santos, E.G. 1985. Mineralogy and zoneography of Golconda pegmatitic field - Governador Valadares municipality - MG. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 017398/85-96

DataBase Ref.: 990

1985

Date of presentation: 13/8/1985

Eduardo Gomes dos Santos

Advisor(s): Cassedanne, J.P.

Committee:

Augusto Baptista

-

Fernando Roberto Mendes Pires

-

Hélio Monteiro Penha

-

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The pegmatites of the Golconda Region occur preferentially embedded in the biotite and cataclastic gnaisses inserted with beds of amphibolites Precambrian in age related to the Paraíba do Sul Group. Two very distinct types occur. One characterized by simple mineralogy and structure, and the other, by complex mineralogy and zoned structure. Pegmatites of the first type occur in geomorphologic marsh unit and those of the second type occur predominantly in the hills (Serra dos Ferreiras) and, when they do not appear zoned, they show themselves albitized to divide the area into two different domains. The description of identified minerals and data about the orientation of pegmatites, forms, sizes and relation with the wall rock, are presented in the text and are included in the index cards of the individual description of the pegmatites that constitute the attachment. It must be noted that the principal mining activity of the area is primitive mining for columbite-tantalite and gems. Many are the remaining mining sites from the 40's and 50's presently abandoned and/or completely caved in, obstructing the direct access for study of its mineralogy,

which obliged the use of panning for concentration of the wastes and posterior processing in laboratories. The pegmatites product feldspar, mica, beryl, columbite, tantalite and gems.

Santos, W.L.B. 1985. Relationship between resistivity and time of transit in the Recôncavo basin. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1559

1985

Date of presentation: 9/7/1985

Walter L. B. Santos

Advisor(s): Lima, O.A.L.

Committee:

Subject of thesis: Geophysics

State: BA

1/1,000,000 sheet: SD24

Centroid of the area: ' - 'W

Abstract

This work describes a method of generating pseudovelocity synthetic logs using measurements of electrical resistivity. A theoretical and empirical relationship between electrical resistivity and transit-time have been developed which are applicable to a wide range of lithologies. The theoretical equation is based on the models of Bussian (1983) and Wyllie et al (1956), the former relates the electrical properties of the rock matrix to those of the interstitial water, at all frequencies. The latter model relates transit-time of a compressional wave to rock porosity. The empirical relationship which confirms the results obtained using the theoretical equation, has been developed using data of nine wells in the Recôncavo Basin. The combined application of both expressions considerably improves the reliability of the sonic logs. The methodology which has been developed defines lithological intervals related to the same formation and showing small variation in resistivity as lithoresistivity intervals. These intervals are fundamental in the selection of the required generating parameters. Results obtained in the Recôncavo basin demonstrate the validity of the present method and indicate the possible importance of this approach as a prospecting tool in zones of hydrocarbon accumulation.

Seer, H.J. 1985. Geology, deformation and copper mineralization in the volcano-sedimentary complex of Bom Jardim de Goiás, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M031

DataBase Ref.: 91

1985

Date of presentation: 26/8/1985

Hildor José Seer

Advisor(s): Nilson, A.A.

Committee:

Othon Henry Leonardos - IG/UnB

Fernando Roberto Mendes Pires - DG/UFRJ

Subject of thesis: Prospection and Economic Geology

State: GO

1/1,000,000 sheet: SE22

Centroid of the area: ' - 'W

Abstract

The Bom Jardim de Goiás Volcano-Sedimentary Complex is here redefined as the Bom Jardim de Goiás Group. It is composed of a lithologic assemblage consisting of metabasalt-metandesite with associated pillow structures, metarhyolite, basic, intermediate and acid metapyroclastic rocks, metachert and small subvolcanic metabasic bodies. It also includes a metasedimentary section consisting of polymictic metaconglomerate, metaorthoconglomerate, metagraywacke, metavolcanoclastic rocks, metasubarkose, phyllite and quartzite.

This group underwent regional metamorphism in the greenschist facies and local contact metamorphism. It was also severely folded: four phases of folding, two mylonitization events and several sets of fractures were recognized. Its tectono-metamorphic evolution was similar to that of the Cuiabá Group, a thick detrital sedimentary sequence that is part of the southern portion of the Paraguai-Araguaia Fold Belt.

The basic volcanic rocks show tholeiitic affiliation while the intermediate and acid terms follow a calc-alkaline pattern. The overall trend of the volcanic rocks is calc-alkaline.

Tuffs of intermediate composition are host to a small copper sulfide deposit controlled by a complex fracture system. Its genesis is probably related to volcanic-exhalative processes.

Lithological, petrochemical and structural characteristics suggest that the Bom Jardim de Goiás Group evolved in a tectonic setting similar to that of modern island arcs or continental margins. This interpretation thus leads to alternative geotectonic and metallogenic models for the southern portion of the Paraguai-Araguaia Fold Belt.

Silva Filho, E.F. 1985. Remote sensing applied to basic geological mapping: A methodological approach to northeastern region. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1354

1985

Date of presentation: 10/12/1985

Edgar Fagundes da Silva Filho

Advisor(s): Paradella, W.R.

Committee:

Subject of thesis: Remote Sensing

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Sousa, S.H.M. 1985. Sedimentary facies in Estrada Nova and Corumbatai formations in the São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2152 1985 Date of presentation:

Silvia Helena de Mello e Sousa Advisor(s): Suguio, K.

Committee:

Subject of thesis: Sedimentology/Sedimentary Petrology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Thiago, L.M.A.K. 1985. Survey of the Miocene fossils from Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 201080/85-54

DataBase Ref.: 1461 1985 Date of presentation: 19/12/1985

Lélia Maria de Araújo Kalil Thiago Advisor(s): Sommer, F.W.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Historical account, general characteristics, type section, occurrence area, lithology of the Miocene stratigraphical units in Brazil. The study refers to the Biostratigraphy, Lithostratigraphy and to the fossiliferous content of the units. The Miocene fossil forms were related whenever it is possible, they are brought up to date under a systematic point of view, in accord of the bibliography that is available. The occurrence of these fossils in Brazil as in other territories, and their age, were topics deserved our attention.

Tomazzoli, E.R. 1985. Geology, petrology, origin and gold potential of the Goiás greenstone belt, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M035

DataBase Ref.: 95 1985 Date of presentation: 27/12/1985

Edison R. Tomazzoli Advisor(s): Nilson, A.A.

Committee: Hardy Jost - IG/UnB
Eduardo Antonio Ladeira - IGC/UFMG

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The Goiás Greenstone Belt or Goiás Velho Group, emplaced in rocks of the Granite-Gneiss Complex, consists of three units, namely Lower Ultrabasic, Basic-Intermediate and Upper Metasedimentary units. The Lower Ultrabasic Unit comprises serpentinites and talc schists with intercalations of metachert and occasionally of pelitic or graphitic phyllite. The Basic-Intermediate Unit consists of sub-unit A, mainly basic schists (albite-quartz-epidote-actinolite schist, for example) and sub-unit B, chiefly intermediate-to-felsic metatuffs. It displays lensoid intercalations of talc schist at several stratigraphic levels. The Upper Metasedimentary Unit consists of pelitic phyllite, graphite schist and metachert. The Serra de Cantagalo Metasedimentary Sequence comprises pelitic phyllites, metagraywacke, sericite-quartz schists, quartzite and meta-orthoconglomerate. In spite of having been interpreted as a unit unconformably overlying the Goiás Velho Group, it apparently shows transitional features with the Upper Metasedimentary Unit of the greenstone belt. The rocks of the Goiás Velho Group have been metamorphosed mainly in the greenschist facies (chlorite, biotite and garnet zones). Parageneses typical of incipient grade (prehnite-pumpellyite facies) occur locally in the ultramafic rocks. Folds attributed to at least five phases of plastic deformation have been observed. D1 and D2 phases are represented by sub-coaxial, asymmetric, inclined to recumbent isoclinal folds with sub-horizontal axes, general N700W trend and vergence towards NE. D3 is characterized by crenulations trending approximately 300 S20-400 E, often developing a clear crenulation cleavage. D4 is represented by gentle undulations with axes trending NE-SW. D5 is attributed to kink bands. The contact between the Goiás Velho Group and the Granite-Gneiss Complex consists partly of N700W-striking thrust faults, the strike of which is similar to the general trend of D2 asymmetrical folds. Both structures were possibly generated by the same compressive sub-horizontal principal stresses.

Petrochemical data indicate significant mobility of most major elements during metamorphism resulting in modifications of the chemical composition of the original, pre-metamorphic rocks. They also revealed that the Goiás Velho Group includes different

sets of orthometamorphic rocks displaying komatiitic, tholeiitic and calc alkaline affinities respectively. There is evidence for crystal fractionation of olivine, chromite and clinopyroxene in ultramafic rocks and possibly of plagioclase in mafic ones. Gold mineralization appears to be associated with thin, usually stratiform, sulfide layers that are part of a sequence of calc alkaline tuffs of the Basic-Intermediate Unit. Their genesis may be explained through an ocean-floor convective model of the type proposed by Hutchinson et al. (1980).

Valeriano, C.M. 1985. Structural geology and stratigraphy of São João Del Rei group, in São João Del Rei region, MG state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 015664/85-37

DataBase Ref.: 1178 1985 Date of presentation: 12/7/1985

Cláudio de Morrison Valeriano Advisor(s): Trouw, R.A.J.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Two sequences of precambrian metamorphic rocks occur in the São João Del Rei region, southern Minas Gerais state, Brazil. The older, Barbacena Group, consists of mafic to ultramafic schists interbedded with metasediments and migmatitic banded gneiss. Several bodies of granodioritic to granitic orthogneisses of intrusive character occur associated to the above mentioned rocks, together with a metagabbro massif. The younger unit, the São João Del Rei Group, overlies unconformably the Barbacena Group. The former consists of a metasedimentary sequence representing a marine transgression. This unit can be subdivided in the following lithostratigraphic units, from bottom to top: A) quartzite with cross bedding and ripple marks, and subordinated metaconglomerate and phyllite; B) white to grey slate, locally with reduction spots; C) fine grained micaceous quartzite; D) metaconglomerate with subordinated quartzite and phyllite; E) quartz-phyllite weathered to orange saprolite; F) laminated black phyllite and fine grained quartzite; G) pelitic-carbonatic sequence, with hectametric marble lenses; H) black phyllite with interbedded quartzite; I) biotite-chlorite-phyllite. Cutting this sequence, several metabasitic dykes were observed. Three phases of deformation are described in the São João del Rei Group: the first one D1, originated tight to isoclinal folds with subhorizontal axial surfaces and slaty cleavages suparalel to sedimentary bedding (S1). Possibly a relatively weak stretching lineation shown by deformed metaconglomerate pebbles formed during this phase. The second phase of deformation (D2) produced, in the northern part of the area, open folds with steep SE dipping axial surface and axes oriented around 70/15. In the southern part of the area, tight overturned folds were generated with axes oriented around 105/22, together with crenulation cleavage, locally transposing S1. During D2 an important fault, apparently of normal displacement, was formed, limiting the São João del Rei Group to the north. The third phase of deformation produced large open folds with subvertical axial surfaces and E-W subhorizontal axes. On the mesoscopic scale, small folds and crenulations, with NE-SW to NNE-SSW gently plunging axes were detected, locally with development of crenulation cleavage. The relations between a set of vertical faults with the deformation phases are discussed in the text. The São João del Rei Group was metamorphosed to greenschist facies, biotite zone, at intermediate pressure. The climax of this thermal event was reached during D2, as indicated by the growth of biotite and kyanite crystals, forming a mineral lineation which parallels D2 fold axes.

Vieira Jr, N. 1985. Petrology and geochemistry of the mesozoic volcanism of Jaguarão - RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 488 1985 Date of presentation:

Nelson Vieira Júnior Advisor(s): Formoso, M.L.L. Roisenberg, A.

Committee:

Subject of thesis: Geochemistry

State: RS 1/1,000,000 sheet: SI22 Centroid of the area: ' - 'W

Abstract

The mesozoic volcanic sequence that occurs in the region of Jaguarão (Rio Grande do Sul State - Brazil), covers an area of approximately 160 km² and is composed of glassy dacites and rhyodacites. This sequence overlies the crystalline basement that consists of granitic rocks, schists and quartzites, which correspond to the xenoliths found very often in the volcanic rocks. The main crystalline phases consist of plagioclase and hypersthene. The plagioclase phenocrysts and xenocrysts contain glassy inclusions produced by partial melting processes.

Magmatic modelling using major and trace elements, has demonstrated that these volcanics could not have derived from a primary basaltic magma by processes like fractional crystallization, assimilation/contamination of fractional crystallization plus assimilation. On the other hand, incompatible elements ratios, Sr87/Sr86 initial ratios and the slope of REE patterns, suggest an origin by crustal melting.

Petrochemical, petrographic and stratigraphical data reveal that these volcanics are entirely distinct from the Serra Geral Formation. This justifies the introduction of a new lithostratigraphic unit, named Jaguarão Formation. This formation is probably associated with the Lagoa Mirim Marginal Basin, representing one of the oldest volcanic eruption related to the Atlantic Ocean opening.

Vlach, S.R.F. 1985. Geology, petrography and geochronology of the Morungaba Complex meridional and

oriental regions, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 253 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1050

1985

Date of presentation:

Silvio Roberto Farias Vlach

Advisor(s): Ulbrich,H.H.G.J.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP

1/1,000,000 sheet:

SF22

Centroid of the area:

' -

'W

Abstract

Alves, M.G. 1986. Use of remote sensing techniques in a geological work of semi-detail in a Quadrilátero Ferrífero region, MG state. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1352 1986 Date of presentation: 26/11/1986

Maria da Glória Alves

Advisor(s): Schorscher, J.H.D.

Cunha, R.P.

Committee:

Subject of thesis: Remote Sensing

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract SF23

Andrade, E. 1986. Sedimentary Geology of the Aracati-Icapuí Coastal Area (State of Ceará). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Sedimentary geology, Facies interpretation

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 587 1986 Date of presentation: 14/3/1986

Edsard de Andrade

Advisor(s): Coutinho, P.N.

Committee:

Subject of thesis: Sedimentary Geology

State: CE 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

The study of the coastal zone of Aracati - Icapuí, at SE coast of Ceará State has been made in order to define the paleogeographical evolution and origin of the recent sedimentary deposits, using surface geological analysis, and to give information the National Plan of Coastal zone Management.

Field and laboratory research has developed as follows: specialized literature review, geological survey, geological mapping (1:10.000) geomorphological sections/radiometric track columnar sections, and sediment sampling. Most used sedimentary studies were grain size analysis, clay and clastic mineralogy, heavy mineral determination and microfacies approach. The interpretation of the different depositional events, the sources of the clastic and other minerals were determined from the above related studies.

Araujo, S.M. 1986. Petrology and sulfide mineralizations of the Palmeirópolis volcano-sedimentary sequence, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M039

DataBase Ref.: 99 1986 Date of presentation: 20/11/1986

Sylvia Maria de Araujo

Advisor(s): Nilson, A.A.

Committee:

Hardy Jost

- IG/UnB

- IG/UnB

Umberto Raimundo Costa

- IG/UFBA

Subject of thesis: Prospection and Economic Geology

State: TO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The Palmeirópolis volcano-sedimentary sequence is situated at the central-northern portion of the Goiás State and is part of a northeast-trending volcano-sedimentary belt situated along the western border of the major basic-ultrabasic massifs of central Brazil.

The Palmeirópolis sequence is characterized by a bimodal volcanism with larger volumes of basic metavolcanic rocks (amphibolites) chemically analogous of modern tholeiitic midocean ridge basalts.

The Zn-Cu-Pb massive sulfide bodies discovered in the region are associated to a thick sequence of basic metavolcanic rocks (amphibolites) and have under lying hydrothermal alteration zones with Cu mineralization of stringer ore-type.

The three know orebodies have similar ore mineralogy, represented by pyrrhotite and pyrite with associated sphalerite, chalcopyrite and galena. Hydrothermal alteration zones formed by anthophyllite-, biotite- and cordierite-bearing rocks, plagioclase- and biotite- bearing rocks and sericite-rich rocks are genetically related to the massive sulfide bodies.

The sulfide deposits are interpreted as syngenetic in origin but modified in form by deformation with accompanied metamorphism. The features observed in the Palmeirópolis orebodies are similar to the ophiolite-associated Zn-Cu deposits.

Arienti, L.M. 1986. Paleogeographic evolution of the Gravataí river basin. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 449

1986

Date of presentation:

Luci Maria Arienti

Advisor(s): Villwock, J.A.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

'W

Abstract

Geologic-geomorphologic, sedimentologic and evolutive analyses of an area located in the Northeast part of the Coastal Province of Rio Grande do Sul are presented. This area consists of extensive deposits of alluvial fans, a barrier system and two lagoonal terraces behind the barrier complex as well as fluvial and swamp deposits.

The alluvial fans represent piedmont deposits which were formed at the Tertiary during lowstand periods of the sea level, with torrential rains, and in dry climates, thus constituting coarse and poorly selected sediments of the paraconglomerate type.

The barrier system is composed of an elongated sandy body which is aligned towards the Northeast. It represents the oldest barrier of the Coastal Province of Rio Grande do Sul which was settled in the first transgression-regression of the Pleistocene. This barrier consists of two regions with distinct characteristics. They are interpreted in this study as old junction inlets of the lagoon with the sea at the time, and which later on during the geologic evolution of the area were filled up.

In addition, there are lagoonal terraces constituted by clay and sandy materials which were formed during the successive Quaternary marine changes. The fluvial deposits can be subcurrent, presenting themselves as abandoned terraces in more topographically elevated levels, as well as current ones normally converging to the Gravataí River Basin.

The Gravataí River, because of its hydrologic system and the sedimentologic and morphologic characteristics of its alluvial plains, acts as a meandering river which produces the drainage of the water of the basin. It was probably formed when the Lombas Barrier was closed down, thus an increase of the water level of the lagoon behind this barrier was produced, causing a narrow and deep channel to be excavated in the gondwanic terrains.

The swamp deposits are present in the Pachecos-Chico Lomã Swamp and they may have peat accumulations, which are economically useful.

Eighteen chemical analyses of clay-minerals were made, and it was clearly observed that kaolinite was the dominant material.

A model of paleogeographic evolution is presented, representing nine evolutive stages, which were responsible for the present morphologic configuration of the Gravataí River Basin, related to the glacio-eustatic changes of the sea level during the Pliocene and Quaternary.

Atencio, D. 1986. Secondary sulphates: Relations with previous rocks and synthesis. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1852

1986

Date of presentation: 23/7/1986

Daniel Atencio

Advisor(s): Hypolito, R.

Committee:

Subject of thesis: Mineralogy and Petrology

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

Bortolotto, O.J. 1986. Petrology of the marbles from Caçapava do Sul, RS state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1961

1986

Date of presentation: 18/12/1986

Olavo José Bortolotto

Advisor(s): Oliveira, M.A.F.

Committee:

Subject of thesis: Petrology

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

'W

Abstract

Cardoso, T.R.M. 1986. The covers of the northeastern of Atlântico Shield during the stabilization stage. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1429

1986

Date of presentation:

Tereza Regina Machado Cardoso

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

In this paper we present discussion about the nomenclatural and stratigraphical problems of formations deposited in a phase preceding the taphrogenesis in northeast Brazil. The Paleozoic formations analysed were correlated with equivalent sediments of the Parnaíba basin. The biostratigraphic distribution of palynomorphs in the wells 1-TN-1-SE, 1-JP-1-SE and a core of the 2-IMst-1-PE are presented. The Ibimirim and Moxotó (formation Tucano/Jatobá) contain microfossils that occur from the Upper Devonian to the Lower Carboniferous the Batinga and Aracaré formations (Sergipe-Alagoas basin) are Early Permian. In field work we observed some outcrops that are lithologically described and illustrated here.

Carneiro, M.A. 1986. Contribution to the geology of the São José dos Quatro Marcos region - MT state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 156 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1808 1986 Date of presentation: 16/5/1986

Maurício Antônio Carneiro

Advisor(s): Ulbrich, H.H.G.J.

Committee:

Subject of thesis: Geotectonics

State: MT 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Corrêa, A.A. 1986. Sedimentology of Wells Drilled in the Recife Plain (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 589 1986 Date of presentation: 23/10/1986

Ariovaldo Arruda Corrêa

Advisor(s): Mabeçoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: PE 1/1,000,000 sheet: SC25 Centroid of the area: ' - 'W

Abstract

Correia, C.T. 1986. Geology of Cássia quadrangle - MG state and petrology of its amphibolites. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 123 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1233 1986 Date of presentation: 15/12/1986

Ciro Teixeira Correia

Advisor(s): Girardi, V.A.V.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Cunha, F.M.B. 1986. Paleozoic evolution of the Parnaíba basin and its tectonic framework. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1430 1986 Date of presentation:

Francisco Mota Bezerra da Cunha

Advisor(s): Gorini, M.A.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The origin of intracratonic basins is still under discussion. Several hypotheses have been proposed to explain their slow regional subsidence in the interior of a continent. The present consensus among geologists is that such basins, also called synclises, occur preferentially along highly cataclastic unstable zones. Such zones, once formed are easily reactivated by subsequent tectonic events, which may, or may not, be accompanied by igneous activity. Such zones are marked by compressional, extensional and wrench type structures. The Parnaíba Basin is located among folded belts that border the Amazon, São Luís and

São Francisco cratons. These belts are made up of metasediments of low and medium grade, formed or reworked during the Brazilian Cycle. They crop out on the eastern, southeastern, southwestern and western borders of the basin. In the present work, sedimentation in the Paraíba basin is considered to have started during Silurian time with subsidence along two major lineaments: the Transbraziliano and the Picos-Santa Inês lineaments, inherited from Precambrian times. Along these lineaments, especially along the Transbraziliano, there are ancient grabens filled with thick sediments of latest Precambrian through Cambro-Ordovician age. These grabens and their sediments witness in major precursor basins which extended to southwestern África. From Silurian time on, slow epirogenetic subsidence were interrupted twice; these disturbances are marked by regional discordances. Structural control over sedimentation was exercised, until Pennsylvanian time by the two major lineaments along which great thicknesses occur. From Permian time on, the control of sedimentation changed, resulting in random depocenters in the northern part of the basin.

Cunha, T.P. 1986. Method development for the study of minerals of bituminous shales from Irati formation. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 009865/86-95

DataBase Ref.: 993 1986 Date of presentation: 21/5/1986

Tarcísio Pereira da Cunha Advisor(s): Santos, P.S.

Committee: Franklin dos Santos Antunes -
Ignacio Aureliano Machado Brito -
Elmo da Silva Amador -

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This work is about the mineralogy of Irati Formation shales employed by Petrobrás in the Petrosix Process in São Mateus do Sul (Paraná). The study involved the development of a method in which cementing agents were "degraded", allowing the separation of individual minerals and their mineralogical classification. The work was carried out through two stages. In the first stage the shales were characterized through chemical and mineralogical analysis, followed by an evaluation of the effect of cementation on Shales minerals. During this stage the most cemented rocks - the oil shales were also determined. These results led to the definition of "xisto original de processo" from Petrosix Process as the representative sample of the cemented materials. Eighth cement degradation methods were applied to this representative sample and evaluated through X-Ray diffractometry and infrared spectroscopy of the resulting materials. From these results a analysis route was defined and applied throughout this work. The second stage involved the granulometric and mineralogical analysis of the resulting materials, and the results defined the largest particle size that could be used with the method. The results of mineralogical analysis have also shown that "xisto Original de Processo" consists of quartz, plagioclase, feldspar, mica and the clays kaolinite and montmorillonite. It was concluded that the main cementing agent consists of organic matter and that the clays are bound to the cementing agent. It was also carried out a quantitative mineralogical analysis through physical, chemical and granulometric methods.

Dias Neto, C.M. 1986. Contribution to the seismotectonic analysis of the southeastern region of Brazil. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1848 1986 Date of presentation: 8/5/1986

Coriolano de Marins e Dias Neto Advisor(s): Sadowski, G.R.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Diniz, M.N. 1986. Environmental interpretation of the Ponta Grossa formation in the central part of Paraná basin: A subsurface study. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2034 1986 Date of presentation: 17/4/1986

Mirian Nobile Diniz Advisor(s): Rösler, O.

Committee:

Subject of thesis: Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Ferreira, V.P. 1986. Petrology and Geochemistry of Peralkaline Rocks of the Cachoeirinha-Salgueiro Fold

Belt (State of Pernambuco). MSc Thesis, Departament of Geology, University Federal of Pernambuco, pp.

Peralkaline rocks, Salgueiro Group, Cachoeirinha Group, Geochemistry, Petrology

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 620 1986 Date of presentation: 6/11/1986

Valderez Pinto Ferreira

Advisor(s): Sial, A.N.

Committee:

Subject of thesis: Mineralogy and Petrology

State: PE 1/1,000,000 sheet: SB24 Centroid of the area: 07 38 's - 38 30 'W

Abstract

Peralkaline rocks of probable Brasiliano age (=Pan-African) intruded Precambrian metasediments of the Cachoeirinha and Salgueiro Groups, in an area delimited by the following geographic coordinates: 37° e 40° W and 7° e 8°15' S, Pernambuco and Paraíba States. These rocks can be divided into two groups: silica-saturated ultrapotassic rocks (alkali-feldspasyenite) and silica-oversaturated (quartz-alkali-feldspar syenites to alkali-feldspar granite, with fluorite and cassiterite). Plutons of the first group occur as batholiths and aligned dikes, adjacent to the SE and SW borders of the Cachoeirinha-Salgueiro Fold Belt (CSF), forming a syenitoid line, and as dike swarm intrusive in the Cachoeirinha Group metasediments. The majority of the bodies in the CSF syenites and gabbros are interlayered and metamorphosed in the albite-amphibolite facies. Rocks of the second group occur as batholiths, stocks and dikes cutting through the CSF metasediments. These show magnetite and are aegirine and riebeckite-arvedsonite-rich, with microcline comprising more than 7% of the volume of the rock. Major element chemistry shows that the majority of the peralkaline rocks are ultrapotassic, with K₂O up to 13%, and very high K₂O/Na₂O ratios. The abundance of microcline accounts for high K₂O, Ba (up to 7800 ppm) and Sr (up to 1800 ppm) value in these rocks. The REE pattern show negative slope and are characterized by strong LREE enrichment and depletion in the HREE relative to chondrite. Eu anomaly is absent in most samples. Pyroxenite enclaves are richer in REE than usually, with LREE 240-900 times chondrite abundances, whereas HREE is about 20 times chondrite, in a pattern of negative slope. Aegirine pattern shows negative slope, with an upward concavity in the HREE, and relatively high SREE. Oxygen isotope data reveal two distinct groups. δ 18O values for the Triunfo batholith (saturated group) is usually low (+6‰ < δ 18O < +8‰) suggesting a parental basaltic magma, while δ 18O values for the oversaturated group (+8‰ < δ 18O < +10‰) suggest interaction with meteoric water, with feldspar as the most affected phase. A significant initial pyroxene fractionation (~37%) from an alkaline mafic magma, rich in incompatible elements, originated in upper mantle, probably gave rise to the syenites in the syenitoid line, whose emplacement may be associated with the initial stage of development of a rift, during Late Proterozoic time. The oversaturated pluton apparently received more substantial crustal contribution and are more recent than the ones in the syenitoid line.

Fonseca, A.C. 1986. Geochronology of granitic and host rocks in Rio de Janeiro city, RJ. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 2.281/86-16

DataBase Ref.: 992 1986 Date of presentation: 3/3/1986

Ariadne do Carmo Fonseca

Advisor(s): Pires, F.R.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

In this work are presented the analytical results obtained by Rb-Sr and K-Ar isotopic and fission-tracks dating methods of some metamorphic and igneous rocks outcropping in the Rio de Janeiro city. The strongly deformed gneissic rocks were generated under conditions of pressure and temperature related to high grade metamorphism. Magmatic rocks of basic and acid compositions, deformed or not, intrude the metamorphic sequence. Dykes of basalt, diabase and alkaline rocks related to Mesozoic tectonism occur elsewhere in the area. The whole rock Rb-Sr isochron age are characteristic of the Brazilian Cycle. The ages between 750 and 550 m.y. are related to the tectonic phase, with deformation, metamorphism and anatexis of magmatic precursors and preexistent crustal materials and the intrusion of gabbroic and granodioritic magmas. The intrusion of late and post-tectonic granites occurred between 550 and 450 m.y. The comparison between initial ratios and petrographic studies suggests different origins for the metamorphic rocks: either magmatic precursors, which probably generated the gneisses of Inferior Serie and plagioclase-gneisses, or preexistent materials, which may have generated leptinites and biotite gneisses. However the elevated initial ratios don't determine if the leptinites and biotite-gneisses were formed by the metamorphism and anatexis of Brazilian sediments or rejuvenesce of the older metamorphic crustal rocks. The K-Ar age of 476 m.a. in hornblende, of amphibolite, is related to regional cooling for the Brazilian Cycle. However the ages of plagioclase of diorites are discordant, either older or younger than other ages. Fission-tracks dating in apatites, of two diorites and one plagioclase-gneiss, produced ages in the interval between 85 and 124 m.y. These dates represent the cooling below 110°C (retention temperature of fission tracks in apatite) of the rocks, interpreted as consequence of ascensional movements associated with the continental uplift, resulting of the mantle intumescence, during South Atlantic opening.

Henz, G.I. 1986. Organic petrography and geochemistry of the coals from Faxinal coal field, Arroio dos Ratos municipality, Rio Grande do Sul, Brazil. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 491 1986 Date of presentation:

Gilberto Inácio Henz Advisor(s): Formoso,M.L.L. Corrêa da Silva,Z.C.

Committee:

Subject of thesis: Geochemistry

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

Organo-petrographic and geochemical data of the coal seams from Faxinal Coalfield, Arroio dos Ratos, RS, are presented. The sequence belongs to the Rio Bonito Formation, Guatá Group, Tubarão Supergroup (Lower Permian of the Paraná Basin) and presents five coal seams from 19.8 cm to 221.4 cm thick. The petrographic analysis comprises organic matter observations in both reflected and transmitted light. Based on reflected light analyses the maceral groups were divided, according to the "Handbook of Coal Petrology". The vitrinite group was divided into "vitrinite A", "B" and "C", according to its petrographic characteristics.

Petrological data show that the coals present high vitrinite/mineral matter ratio and a predominance of mono and bimaceralic microlithotypes (vitrinite, vitrinite and inertite) over trimacerite.

Proximate analysis, including moisture, ash, and volatile matter determinations had its results modified by the high content of minerals. Carbonates, pyrite, and clay minerals produce an increase of the volatile matter content owing to high temperature dissociations, and of the moisture value caused by the loss of water from the clay minerals.

The organic-geochemical study comprises organic determination, pyrolysis, extractable organic matter, liquid and gas chromatographic separation, stable carbon isotopes, and biomarkers.

The organic carbon value ranges from 22.85 to 49.82% and the vitrain concentrate from 65.58 to 72.61%.

Pyrolysis data show that the samples collected at the mine present higher value of S₁, S₂, and hydrogen index.

The extractable organic matter varies from 1,970 to 5,793 ppm, for the ordinary samples and from 6,800 to 9,750 ppm for the vitrain concentrate.

The extractable organic matter, which was analysed by liquid chromatographic separation, is composed mainly of resins plus asfaltenes, aromatic hydrocarbons, and, less frequently, saturated hydrocarbons (paraffins).

Gas chromatographic separation data show that saturated hydrocarbons present 29 numbers of carbon atoms and high pristane/phytane ratio.

The chromatograms are bimodal, indicating that the paraffins are originated from both aquatic (algae + bacteria) and terrestrial plant material.

The stable carbon isotopes value, from the extractable organic matter, ranges from -24.2 to -26.2‰.

Biological markers parameters (biomarkers) range from 0.47 to 1.21 for the esters (C₂₇/C₂₉) and, for the terpanes, vary from 0.35 to 0.84 (C₂₄(TS)/C₃₀Hop), from 0.88 to 1.14 (C₃₁(S/R)) and from 0.67 to 1.00 (C₃₂(S/R)).

Petrographic and geochemical data demonstrate that the organic matter is predominantly of woody plant origin, deposited in a limnic (open moor) to limno-telmatic (forest moor) environment.

The rank allows the coal to be classified as "Gasflammkohle" or High Volatile Bituminous A/B, according to DIN and ASTM classification, respectively. However, geochemical, petrographic and technological characteristics indicate a rank equivalent to "Glanzkohle" (Sub-bituminous A).

The coals could be beneficiated by gravimetric methods, since their high ash content is due to pelites intercalation and pyrite. Low contents of sulphur could also be reached by gravimetric separation of the pyrite.

Janasi,V.A. 1986. Geologia e petrologia do maciço monzodiorítico-monzonítico de Piracaia-SP. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo Reference:

DataBase Ref.: 1813 1986 Date of presentation: 27/8/1986

Valdecir de Assis Janasi, Advisor(s): Ulbrich,H.H.G.J.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Lima,R.C.C. 1986. Geological aspects and mineralizations in the Brumado area: Magnesita in Serra das Éguas range. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia Reference:

DataBase Ref.: 958 1986 Date of presentation: 20/12/1986

Raif C. C. Lima Advisor(s): Fujimori,S.

Committee: Raimundo Netuno Nobre Villas - CG/UFPA
Reinholt Ellert - IGc/USP

Subject of thesis: Metallogenesis and Mineral Exploration

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The mapped area at 1:100.000 scale comprises about 150 sq. km, consisting of two 15'X15' sheets, which are part of the Projeto Brumado-Caetité executed by the Cia. de Pesquisa de Recursos Minerais (CPRM) in cooperation with the Departamento Nacional da Produção Mineral (DNPM). A more detailed map (scale 1:25.000) of an area, with about 225 sq. km, was made in the Serra das Éguas area.

Migmatic-Plutonic Assemblages show organizational patterns indicative of a common Precambrian evolution, or are closely related to the vulcano-sedimentary sequence constituted by the Brumado-Urandi Complex, that is intruded by supposed Transamazonian granites (lower Proterozoic). The platform cover is represented by detritic sedimentary rocks of the Espinhaço Supergroup (Middle Proterozoic), containing basic intrusions, and Tertiary-Quaternary sediments.

The litho-stratigraphic correlation made with several vulcano-sedimentary sequences of Bahia State and other sequences described in the world point to the Serra das Éguas as a structure similar to a greenstone belt with a probable Lower Proterozoic age and resulted possibly from an oceanic crust. It has an asymmetric braquissinclinorium form with the main axis oriented in a NE-SW direction.

Field relations, petrographic and petrochemical studies helped to define the evolutionary process and the origin of the amphibolitic, metaultrabasic and carbonate rocks, and shed light on the origins of other lithologic units in the area.

The study of sedimentary and metamorphic processes complemented by isotopic fractionation of carbon and oxygen indicates that the magnesite is of sedimentary origin. Because the pureness and amount of the magnesite it was preserved in the top of volcano-sedimentary sequence.

This granite-greenstone terrain has high potential for magmatic affiliated deposits. The tectono-magmatic-thermal events at the end of Transamazonian Cycle constitute important metallogenetic factors.

Maciel, R.R. 1986. Geologic-structural mapping of an area at the east of Três Pontas town, MG state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 3.794/86-26

DataBase Ref.: 1176 1986 Date of presentation: 20/5/1986

Rosângela Ramos Maciel Advisor(s): Trouw, R.A.J.

Committee: Joel Gomes Valença - DG/UFRJ
Eduardo Antonio Ladeira - DEGEU/UFOP
Henrique Dayan -

Subject of thesis: Regional Geology and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

To the East of the city of Três Pontas, in Minas Gerais state, the rocks may be subdivided in three approximately E-W trending groups. These groups comprise a basement in the north, unconformably overlain by mature metasediments in the central part and, finally, a group of banded gneiss in the south, on top of the metasediments. The basement is composed of orthogneisses, with phenocrysts of feldspar and mafic aggregates rich in biotite and hornblende; homogeneous orthogneisses; metamorphosed gabbroic rocks; and at some places mylonitised amphibolites and gneisses. These rocks can be related to the Barbacena Group. The metamorphism belongs probably to the amphibolite facies, with evidence of later retrograde reactions. Three deformation phases were identified and these are in accord with the deformation phases recorded in the metasediments. The second group has been studied in detail (1:10.000) in the hills, east of Três Pontas city. It is mainly composed of quartzites and phyllites, which were divided in six stratigraphic levels, named A to F, from the base to the top. This group belongs to the Luminárias belt of the Carrancas Group, showing gradational faciological transition towards the São João del Rei Group. The metamorphism belongs to the greenschist facies, lacking garnet. It probably attained its peak during or closely after the second of the three deformation phases. The first deformational phase (D1) generated a slaty cleavage, parallel to the compositional banding. Locally large folds were detected that may be ascribed to this phase. The second deformation phase (D2) formed tight to isoclinal folds and crenulations, with SW plunging axes. Locally these axes exhibit an E-W trend. Frequently a new crenulation cleavage S2 is developed, mainly in micaceous rocks. Kink band boundary migration at D2 hinges is a frequently found feature. Quartz grains in D2 fold hinges are generally recrystallized to polygonal aggregates, sin or post D2. A pre-D3 mineral lineation is observed in all three groups of rocks and was probably generated during the second deformation phase. The last and less intensive phase of deformation (D3) produced open folds and crenulations, again with SW plunging axes, vertical axial planes, striking NE-SW. The antiform that crops out at the southwest end of the hills of Três Pontas is a D3 structure. Sometimes a crenulation cleavage related to this phase is developed in micaceous rocks. Quartz grains at D3 hinges commonly show wavy extinction and deformation bands. Recrystallization was apparently rare at the end of this phase. Mica grains at D3 hinges exhibit wavy extinction and rarely evidence of kink band boundary migration. The third group of rocks, belonging to the Andrelândia Group, contains characteristically distinct metasediments, with immature character and with concordant amphibolitic bands never found in the underlying metasediments of the Carrancas Group. The Andrelândia Group was subdivided in two units. The first is formed by fine grained gneisses, locally containing garnet and biotite, testifying medium grade metamorphism. The second is formed by coarse banded gneisses, generally containing garnet and kyanite, and with evidence of the onset of anatexis, indicative of high grade metamorphism. The exact position of a possible pre-D3 thrust fault, responsible for the metamorphic jump between the two units of the Andrelândia Group, needs to be studied in more detail.

Malabarba, M.C.S.L. 1986. Santosichthys mafrensis n.g., n.sp., a new Palaeonisciform from the lower Permian of Santa Catarina, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 806 1986 Date of presentation:

Maria Cláudia de S. L. Malabarba

Advisor(s): Barberena, M.C.

Richter, M.

Committee:

Subject of thesis: Palaeontology

State: SC

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

This dissertation deals with the description of a new genus and species of fossil fish: *Santosichthys mafrensis* (Elonichthyidae, PALAEONISCIFORMES).

The fossil fish is represented by a single specimen preserved as a skull and trunk cast in a silica concretion coming from shales of Rio do Sul Formation, Lower Permian of Santa Catarina State, Brazil.

Main differences between the new form and other Elonichthyidae are seen mainly in the morphology of cranial bones.

Allied to the description, some taxonomic and biostratigraphic comparisons with related palaeoichthyofaunas are brought into consideration.

Mandetta, P. 1986. Geological and petrogenetic aspects of the mafic-ultramafic associations of Caraíba region, Vale do Rio Curaçá, Bahia state. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 957

1986

Date of presentation: 20/12/1986

Pérsio Mandetta

Advisor(s): Fujimori, S.

Committee:

José Caruso Moresco Danni - IG/UnB

José M. U. Munhá -

Subject of thesis: Metallogenesis and Mineral Exploration

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

The mafic-ultramafic associations of Caraíba (South of Curaçá River Valley, Bahia State) are related to high degree metamorphic terrains, probably from the archaean age. They constitute meta-igneous bodies, elongated in the north-south direction, which have been metamorphosed and deformed in five phases developed in the granulite/high amphibolite/greenschist facies during the Archean to Lower Proterozoic. The country rock is a banded mafic gneiss with tonalitic composition, probably of igneous origin. These mafic-ultramafic associations are individualized in two types: 1) mafic-ultramafic mineralized association and, 2) olive ultramafic association. The Mineralized Association is formed by one basal ultramafic unity (biotites, pyroxenites) and one top mafic unity (norite, gabbro-norite). These are disseminations and massive concentrations of chalcopirite-bornite-magnetite related to the basal ultramafic unity. The chemical variations between the base and the top unities indicate: MgO, 10%--23%; Ni, 200 ppm--1400 ppm; TiO₂, 0.1%--2.0%. The Olivine Association is formed by a core of pyroxenites, olivine-pyroxenites and peridotite surrounded by gabbroic rocks. It comprised lithologic types in which occur the following variations: MgO, 30%--40%; Ni, 2000 ppm--4000 ppm; and TiO₂ around 0.2%. Field relationships and the petrographical and petrochemical data indicated that these two metaigneous associations are different and distinguished. The mineralized association is similar to metamorphosed layered complex, and its derived of a tholeiitic basaltic magma, poor in magnesium contents. The Olivine Association is similar to the ultrabasic nodules, associated to high degree metamorphic terrains which probably occur as solid intrusive igneous bodies in the tonalitic sequence.

Maranhão, M.S.A.S. 1986. Contribution to the knowledge of the malacofauna of the Corumbatai formation (Permian) basal beds, São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2159

1986

Date of presentation: 29/10/1986

Maria da Saudade Araujo Santos Maranhão

Advisor(s): Landim, P.M.B.

Committee:

Subject of thesis: Stratigraphy

State: SP

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

Mattar, A.S. 1986. Archaeogastropoda (superfamilies Pleurotomariacea Swainson, 1840 and Fissurellacea Fleming, 1822) from the Brazilian continental shelf. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 809

1986

Date of presentation:

Angélica Stobäus Mattar

Advisor(s): Esteves, I.R.F.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

In this dissertation archaeogastropods of the Superfamilies Pleurotomariacea Swainson, 1840 and Fissurellacea Fleming, 1822 are studied. They were collected during the REMAC Project, along the Brazilian Continental Shelf, from Amapá to Rio Grande do Sul.

Twelve species were identified: *Scissurella* (*Anatoma*) *aedonia* Watson, 1886; *Emarginula* *phrixodes* Dall, 1927; *Emarginula* *pumila* (A. Adams, 1851); *Emarginula* *luberculosa* Libassi, 1859; *Puncturella* (*Cranopsis*) *granulata* (Seguenza, 1863); *Diodora* *dysoni* (Reeve, 1850); *Diodora* *fluviana* (Dall, 1889); *Diodora* *jaumei* Aguayo & Rehder, 1936; *Diodora* *meta* (Ihering, 1927); *Diodora* *mirifica* Métié, 1972; *Diodora* *sayi* (Dall, 1889) and *Lucapinella* *limatula* (Reeve, 1850). The species *Puncturella* (*Cranopsis*) *billsae* Farfante, 1947 is described for the first time for the Brazilian coast, and *Sinezona* *brasiliensis* is described as a new species. *Scissurella* (*Anatoma*) *aedonia*, *Emarginula* *pumila*, *Puncturella* (*Cranopsis*) *granulata*, *Diodora* *dysoni*, *D. fluviana*, *D. jaumei* and *D. mirifica* have their geographic distribution amplified along the Brazilian coast.

Five of them, *Scissurella* (*Anatoma*) *aedonia*, *Emarginula* *pumila*, *Puncturella* (*Cranopsis*) *granulata*, *Diodora* *dysoni* and *D. mirifica* have their bathymetric distribution amplified too.

For the fourteen archaeogastropod species observed, only *Puncturella* (*Cranopsis*) *granulata*, *Diodora* *fluviana* and *D. mirifica* showed agreement in the relation species/substrate.

From all determined species, only *Scissurella* (*Anatoma*) *aedonia*, *Puncturella* (*Cranopsis*) *billsae*, *Puncturella* (*Cranopsis*) *granulata* and *Lucapinella* *limatula* were considered eurythermal, belonging to both Caribbean and Argentinian Provinces. The others occurred in areas considered as Caribbean Province.

The studied species, in their majority, are registered only for the Recent.

Meirelles, M.R. 1986. Geochemistry and petrology of the jaspilites and associated volcanic rocks, Grão-Pará Group, Serra dos Carajás, Pará state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M040

DataBase Ref.: 100 1986 Date of presentation: 22/12/1986

Marcelo Ribeiro Meirelles Advisor(s): Dardenne, M.A.

Committee: José Caruso Moresco Danni - IG/UnB
Mário Cesar Heredia Figueiredo - IGc/USP

Subject of thesis: Prospection and Economic Geology

State: PA 1/1,000,000 sheet: SB22 Centroid of the area: ' - 'W

Abstract

The N-4 and N-8 orebodies in the Carajás District are associated to the Archaean volcano-sedimentary Grão-Pará Group.

The volcanic portion of this group comprises mainly basalts and basaltic andesites with local basic to intermediate pyroclastic intercalations. Associated intrusive bodies are locally observed. The volcanic rocks were extruded in a subaqueous environment and were submitted to hidrothermal metamorphic event of the greenschist facies.

Geochemically the metabasid rocks are characterized by high contents of K, Ba and Rb and low Zr, Nb and Ti, which are typical of the shoshonitic series.

The chemical sediments are represented by banded, jaspilites. Mineralogically they are made of hematite, and jasper, with minor proportions of magnetite and pyrite.

Fet and SiO₂ make up more than 95% of the jaspilites. These rocks are geochemically characterized by high contents of V, positive anomaly of Eu and REE patterns comparable to those of the associated spilitic volcanic rocks. These features indicate a volcanic source of Fe and Si, which would be derived from hidrothermal fluids and submarine exhalations.

The absence of penetrative structure and the conspicuous occurrence of several preserve primary textures are important features of the volcanic and sedimentary rocks associated to the orebodies.

Melo, J.H.G. 1986. The Malvinokaffric Realm in the Devonian of Brazil - State of the art of the awarenesses. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 3.996/86-51

DataBase Ref.: 1462 1986 Date of presentation: 27/4/1986

José Henrique Gonçalves de Melo Advisor(s): Campos, D.A.

Committee: Ignacio Aureliano Machado Brito - DG/UFRJ
Rodi Ávila Medeiros - PETROBRÁS
- DG/UFRJ

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

During the Devonian the present Paraná Basin was the site of two centers of deposition (Apucarana and Alto Garças sub-basins). Different subsidence rates in the two sub-basins gave rise to distinctive lithosomes, different lithologic features. These lithologic

distinctions justify separate lithostratigraphic nomenclature for the synchronous rock units of each sub-basin. The Paraná Basin is the main locale for the Brazilian Devonian Malvinokaffric Realm. The Malvinokaffric Realm is recognized in Brazil and elsewhere by its high level of endemism, absence of many major, higher taxa, and overall low generic-level diversity. The Realm is most pronounced during the Emsian-Eifelian, particularly in the more recently studied trilobites and brachiopods, and probably represents cold, shallow seas in an area of high, Southern Hemisphere paleolatitude which included much of Peru, Bolivia, Paraguay, Argentina, Uruguay, Antarctica, and South Africa. Malvinokaffric elements are present in the Maecuru and Ereçê faunas (Amazon Basin), and probably also in the Pimenteiras, Cabeças, and basal Longá formations (Parnaíba Basin), but not in the Jatobá basin. Malvinokaffric elements are unknown in the upper part of the Paraná Basin Devonian (middle and upper São Domingos Shale and its biostratigraphic correlatives in the Alto Garças Sub-basin), Parnaíba Basin (bulk of the Longá Formation), and Amazon Basin (Curuá Formation). During the Late Middle Devonian the appearance of *Tropidoleptus* (an extra-Malvinokaffric Realm brachiopod) in areas previously dominated by Malvinokaffric Realm forms is interpreted to demarcate the irreversible decline of Devonian faunal provincialism in the southern seas. Presently meager Devonian faunal evidence from the Parnaíba Basin is inconsistent with the hypothesis of local glaciation during the deposition of the *Tropidoleptus* and *Mucrospirifer*-bearing Cabeças Formation.

Miranda, T.A.D. 1986. Application of geophysical well logs to the study of aquifers in the Camaçari petrochemical complex - An evaluation of the risks of pollution. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1558 1986 Date of presentation: 28/8/1986

Telma A. D. Miranda Advisor(s): Lima, O.A.L.

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

The upper portion of the São Sebastião Formation in the region of The Pólo Petroquímico de Camaçari-Bahia is a multi-layered aquifer system, composed of an alternating sequence of sandstones and shales, where the former predominate. Most of the water supply for usage in industrial activities as well as for the local population consumption comes from this aquifer system through deep well development. Electrical logs of 95 wells from the region, including spontaneous potential, electro-induction, short-normal and micro-logs, have been studied with the aim of defining the geometrical configuration and the geological characterization of the system as well as of estimating some chemical properties of the water. Temperature logs performed in 9 of the wells permitted the determination of vertical fluid velocities through shale layers in the order of 8.4×10^{-7} - 1.2×10^{-6} cm/s. The hydraulic data indicate a situation of excess exploitation of this aquifer system. This, together with the industrial contamination of the local surface water, imposes serious risks to this important groundwater reserve.

Mizusaki, A.M.P. 1986. Igneous mafic rocks of the Neocomian in Bacia de Campos basin - Characterization and behaviour as hydrocarbon reservoir. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1175 1986 Date of presentation:

Ana Maria Pimentel Mizusaki Advisor(s): Valença, J.G. Thomaz Filho, A.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Igneous basic rocks with thin intercalations of volcanoclastic and sedimentary rocks constitute the economic basement of Campos Basin. This volcano-sedimentary sequence has been a producer of hydrocarbons in three oil fields (Badejo, Linguado and Pampo) and is the subject of this study. Core analysis, petrography, scanning electron microscopy, X-ray diffraction and chemical analysis were the tools utilized for characterization of igneous basic rocks, volcanoclastic and sedimentary rocks. Petrophysical analysis and visual observation of cores provided information about the behavior of porosity and permeability values of these reservoir rocks. A classification for volcanoclastic rocks is here proposed based on the occurrence of these rocks in Campos Basin and on the nomenclature published in specialized literature. Autoclastic, pyroclastic and epiclastic rocks were recognized as a function of the fragmentation process. The study of these rocks and their association made possible the recognition of the volcano-sedimentary model for the study area. In Campos Basin, one can recognize areas with subaqueous volcanism and areas with subaerial volcanism, subaerial volcanism was marked by explosive episodes, and it is represented by volcanic tuffs. The red tuffs and the gradual passage of the chlorite of these rocks to the interstratified chlorite-smectite reflect exposure periods. Chemical analysis of igneous rock samples indicate that these rocks are associated with a subalkaline-transitional sequence of possible continental origin. Campos Basin basalts are good hydrocarbon reservoirs presenting fracture porosity, vesicular and matrix porosity. The permeability of these rocks is associated with megafaults and microfractures. The microfractures are typical of the vesicular zone. Dissolution of vesicular and fracture calcite cement is responsible for enlargement, and consequent increase in porosity and permeability values. Volcanoclastic and sedimentary rocks do not show good values of porosity and permeability, but friction breccias with dissolution of calcite cement can be good hydrocarbon reservoirs.

Monteiro, R.L. 1986. Geological, mineralogical, petrological and geochemical aspects of a basaltic body located in the Tanquinho municipality, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1821 1986 Date of presentation: 29/12/1986

Rubens Luiz Monteiro Advisor(s): Gomes, C.B.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Monteiro, R.L.B.P. 1986. The tungsten mineralization of the medium Jequitinhonha Valley, Northeast Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M038

DataBase Ref.: 98 1986 Date of presentation: 20/10/1986

Rui Luiz Baptista Pereira Monteiro Advisor(s): Leonardos, O.H.

Committee: Bhaskara Rao Adusumilli - IG/UnB
Horstpeter Herberto Gustavo - IGc/USP

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Psamo-pelites and calc-silicate rocks of the Salinas Group in the Rubelita-Coronel Murta region of the medium Jequitinhonha valley support a sedimentary environment of the stable continental margin type, which was disturbed by episodic reactivations, marked by deposition of orthoconglomeratic and quartzitic beds. Two well characterized folding phases are found all over the Rubelita area. The folding axial trends of the Fn isoclinal and the Fn+1 open asymmetric folds and likewise those of the crenulations related to the asymmetric folding show the same orientation according to NE and NNE. Regional metamorphism of Barrowian type was overprinted by subordinate thermal effects in aureoles of intrusive granitoid plutons. Mineral paragenesis of amphibolite-facies, sillimanite-type, suggest pressures ranging from 3,5 to 5 kb and temperatures from 6500C. The intrusive plutons, with foliated margins, are essentially homogeneous, alkali-potash late to post-tectonics two-micagranitoids of Brazilian age; they resemble those of northern and northeastern Coronel Murta, and are inferred to have been derived through anatexis of metasedimentary rocks. Metassomatism is widespread particularly at the margins and cupolas of plutons; at the cupolas, later pegmatoid granites do occur and pegmatitic veins indistinctly transect all country rocks.

Tungsten anomalies relate predominantly to the muscovitized facies of granitoid plutons with W concentrating in the neoformed muscovites generated from alkali-feldspar and biotite. Two-types of W mineralization occur in the region: (1) scheelite associated to thin layers of calc-silicate rocks hosted by the schistose country rocks; (2) scheelite plus wolframite related to quartz veins in the Jenipapo-Itinga district. This study suggests an epigenetic origin for type I and 2 of W mineralization, but with the metal originally associated to volcanic-sedimentary sequences which underwent anatexis, with W becoming 2n incorporated in the granitoid plutons, and concentrating-near the cupolas due to magmatic fractionation, with enrichment in muscovites in the more metassomatized facies of granitoid plutons.

Fluid inclusions data suggest that the mineralizing milieu were essentially aqueous fluids of low salinity. Other fluids were enriched in carbon species like CO₂ and CH₄. In the scheelite- wolframite a quartz veins at Itinga pure CO₂ inclusions indicate temperatures ranging from 3000C to 4500C, for a pressure of 2 kb. Fall of temperature and pH increase through neutralization of slight acid solutions via reactions with wall rocks and/or progressive loss of CO₂ by immiscibility of (metamorphic/meteoric ?) aqueous fluids, led to tungsten deposition. The metal was precipitated as scheelite when calcium was available and/or wolframite always when iron concentration exceed the wolframite solubility product. Thus both scheelite and wolframite are related to the end phases of the granitic magmatism as suggested by the late genetic nature of scheelite with undeformed features and association with retrogressive paragenesis of calc-silicate rocks.

Motta, J.A. 1986. Geophysics and Sedimentology of the Sapé-Santa Rita Area (State of Paraíba). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Geophysics, Magnetic anomaly

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 588 1986 Date of presentation: 29/1/1986

Joaquim Alves da Motta Advisor(s): Rand, H.M.

Committee:

Subject of thesis: Sedimentary Geology

State: PB 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The study made in the region of Cajá-Santa Rita (Paraíba State) comprises a sedimentological investigation of the Tertiary-Quaternary sediment cover (TQc), geophysical investigation using gravimetric, magnetometric and radiometric methods on a regional scale, execution of magnetic and gravimetric sections in detail on the radiometric anomaly of Cajá, and seismic refraction sections in the different lithostratigraphic units of the area.

Sedimentological studies based on analysis of statistic parameters and the method of Passega (CM-diagram), besides the seismic sections carried out in all occurrences of this sediment cover, showed a similar sedimentological behaviour between them, constituting only one lithostratigraphic unit.

The Bouguer and regional gravimetric maps defined a large circular anomaly found in the extreme NE of the studied area, corresponding to the southern part of the so-called Paraíba hot-spot. The use of trend surface analysis for the determination of residual gravimetric anomalies showed very good results, indicating this method to be of great value for this type of work.

The presence of small negative and circular magnetic anomalies caused by intrusions, containing magnetite and ilmenite, defined partly the association of the basic intrusions with the Paraíba hot-spot. The radiometric method, besides its use in the differentiation between lithologic types, discovered an anomalous point located NW of Cajá, where a detailed gravimetric and magnetometric research defined the geologic control of the mineral body.

Neves, S.P. 1986. Petrology and Geochemistry of the Serrita Granitic Stocks (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Granite stocks, Petrology, Geochemistry

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 619 1986 Date of presentation: 5/11/1986

Sérgio Pacheco Neves

Advisor(s): Sial, A.N.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet:

Centroid of the area: 07 40 's - 39 22 'W

Abstract

Three granitic stocks occur near the Serrita town, Pernambuco State, in an area limited by the coordinates 7°53'16" and 8°03'30" S and 39°16'30" and 39°27'30" W. The two larger ones have rounded outlines and the small one is elongated in SW-NE direction. They intrude medium-grade metasedimentary rocks of the Salgueiro Group.

A ring-structure is present in the two larger stocks, being better developed in the stock SW of Serrita. Their cores are constituted by epidote-bearing leucocratic biotite granodiorite and parts of the borders, usually in topographic relief, by aegirine-bearing granites in the stock SW of Serrita and amphibole-bearing granites in the stock of Serrita. The biotite granodiorites are meta- to peraluminous and many chemical analyses plot in the trondhjemite field in the Na-Ab-Or diagram, although the percentages of K₂O in these rocks are more elevated than in typical trondhjemites. The rare-earth pattern are fractionated, with an extreme impoverishment in the HREE, and a discrete positive Eu anomaly. The elevated Sr and Ba contents indicates a cumulate nature to these rocks. Whole-rock δ¹⁸O values range from +8.45 to +9.69‰ and increase towards the cores of the stocks, generating an elongate pattern in the SW-NE directions. A generation through partial fusion of altered basaltic rocks, where amphibole and garnet remain in the residual of partial fusion, and subsequent crystallization at pressures above 6 Kbar is compatible with the present data.

The aegirine granites are peralkaline and the amphibole granites are metaluminous to weakly peralkaline but their contents of Zr, Th, Ta, Nb, Hf, and Y are much lower than in peralkaline granites of other localities throughout the world; their rare earth patterns, lacking a negative Eu anomaly, are also distinctive. For the granites of the Serrita stock a derivation from the liquid which remained from the crystallization of the granodiorites, through the plagioclase effect, is consonant with their major element chemistry and the rare-earth patterns. Those of the SW Serrita stock might have been formed by partial fusion, in a small degree, of the same source of the granodiorites, leaving plagioclase in the residue.

Ostafiuc, G.B. 1986. Methodology for the ore cube calculation of the Jacaré peat bog and its physico-chemical characteristics. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2156 1986 Date of presentation: 30/5/1986

Gerson Bardichia Ostafiuc

Advisor(s): Ribeiro Filho, E.

Committee:

Subject of thesis: Economic Geology

State: SP 1/1,000,000 sheet: SF23

Centroid of the area: ' - 'W

Abstract

Pedroto, A.E.S. 1986. Geological-geotechnical mapping of the littoral low flat and neighbour massifs of the Saquarema sheet. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 003795/86-99

DataBase Ref.: 1602 1986 Date of presentation: 24/3/1986

Angelo Eurico Silva Pedreto Advisor(s): Antunes, F.S.

Committee:

Subject of thesis: Geotechnical Mapping

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The purpose of this work is to contribute to the study of some of the problems which make difficult the elaboration of engineering geological maps. In this regard, the results of the engineering geological mapping of a selected area encompassing the coastal plain and surrounding massifs of the Saquarema Sheet (IBGE - 1:50.000) are here discussed. Emphasis is particularly placed on the problems related to some features of the littoraneous belt of such an area, in the Rio de Janeiro State, namely, the scarcity of drinkable water supplies and absence of a public sewage system, and on the random settlement of the whole area itself, which in turns disturbs the environmental balance by means of water pollution, deforestation, erosion and silting of rivers and lakes. Based upon this engineering geological map and a map of declivity, another one was elaborated for land use planning, taking into account the analysis of the following natural parameters: drainage, suitability for septic tank, water supplying conditions, foundation conditions, soil erosion and declivity.

Picarelli, A.T. 1986. Palynology of boreholes 2TG69RS and 2TG99RS from the Santa Terezinha coal field, RS, Brazil - Permian of Paraná basin. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 805 1986 Date of presentation:

André Tonetto Picarelli Advisor(s): Purper, I. Marques-Toigo, M.M.

Committee:

Subject of thesis: Palaeontology

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

Sporo-pollinic assemblages from two boreholes of Santa Terezinha Coal Field, Rio Grande do Sul State, Brazil, were described in this paper. The sedimentary sequence includes four lithostratigraphic units: Itararé Group indivisible, Guatá Group (Rio Bonito and Palermo Formations) and Passa Dois Group (Irati Formation). The palynological content is marked by trilete and monolete spores, related to PTERYDOPHYTA, pollen grains (Monosaccites, Disaccites and Striatiti) related to GYMNOSPERMAE, ALGAE (Botryococcus braunii) and Microplankton (Acritarchas - Sub-group Acanthomorphae). Through quantitative and qualitative analyses as well as the study of botanical affinities, two palaeologic intervals were defined: Interval A, corresponding to the maximum occurrence of spores, reflecting a vegetation from an hygrophilous environment related to the bogs and to the lacustrine-paludal sedimentation of the Rio Bonito Formation; Interval B, related to the transgression which has driven the sedimentation of Palermo and Irati Formation, that is marked by an increase of pollen grains related to a mesophilous-xerophilous vegetation. At the middle part of Interval B, an acritarch-bearing horizon was identified, which points out the highest level of the transgression in the studied area. For the Interval A and for the first half of Interval B, it was determined a Lower Permian age. For the second half of Interval B, an Upper Permian age was determined.

Pinto-Coelho, C.V. 1986. The Serra do Carambeí granite and the associated uranium anomalies, Paraná state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M036

DataBase Ref.: 96 1986 Date of presentation: 20/6/1986

Cristina Valle Pinto-Coelho Advisor(s): Marini, O.J.

Committee: Othon Henry Leonardos - IG/UnB
Alberto Pio Fiori - DG/UFPR

Subject of thesis: Prospection and Economic Geology

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

The Serra do Carambeí Granite forms a pluton relatively homogeneous, covering about 33km², cropping out as an elongate rectangular body trending NE-SW, being emplaced in the Cunhaporanga Granitoid complex. Its characteristics indicate a kind of hololeucocratic granite, equigranular, medium to coarse-grained, consisting predominantly of micropertitic alkali-feldspar, quartz and a small amount of biotite (less than 1%), thus being classified as an alaskite.

Chemical data allows a classification in the group of granite with high contents of silica (74-76% wt.SiO₂), dominantly alkaline chemism and hypersolvus character, derived from a parental magma undersaturated in water with distinguished features of granitoids from the magnetite series and types I and A granites.

The pluton shows important chemical variations due to weathering processes.

However detailed chemical studies reveal the presence of anomalous concentrations of trace elements such as U, Sn, Nb, Y, Zr,

the Serra do Carambei Granite lacks economically important mineralizations because of the absence of well-developed tardi/post-magmatic processes that could concentrate them.

The SW side of the granite is cut by leucocratic rhyolite dykes that show same radiometric anomalies. These rocks, which are highly differentiated, were emplaced contemporaneously to the Serra do Carambei Granite.

Although petrographic and chronological similarities are found between the uraniferous alaskite of Rössing (Namibia) and the Serra do Carambei Granite anyhow it was not possible to establish any lateral continuity with the uraniferous Pan-African Province.

Ronchi, L.H. 1986. Geologic evolution and geochemistry of the Volta Grande fluorite deposit, Paraná state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M037

DataBase Ref.: 97 1986 Date of presentation: 14/8/1986

Luiz Henrique Ronchi Advisor(s): Dardenne, M.A.

Committee: Othon Henry Leonardos - IG/UnB
 Kazuo Fuzikawa - NUCLEBRÁS

Subject of thesis: Prospection and Economic Geology

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

The Volta Grande fluorite ore deposit is formed by two orebodies (I and II) associated with two metasedimentary (calc-dolomitic marble) enclaves within the Três Córregos granitic complex.

The orebody evolution was reconstructed from geologic, petrographic and geochemical (fluid inclusions and REE analyses), data which characterized five mineralization phases:

- Stratiform ore formation by carbonate rock substitution by silica and fluorite;
- Stratiform ore recrystallization by regional metamorphic fluids and granitic intrusions at the end of the "Brasiliano" event;
- Regional Wealdenian lineaments reactivation with low salinity and low temperature (80-160°C) hydrothermal fluids which recrystallized the fluorite and precipitated "cryptic" microcrystalline silica, barite and fluorite;
- High Salinity and temperature (320-360°C), CO₂ rich, hydrothermal fluid percolation linked to alkaline-carbonatitic pipes which precipitated carbonate and smoky quartz and, possibly, fluorite;
- Karstic breccia formation by dissolution and leaching of the former ores.

Sete Barras and Volta Grande fluorite REE patterns are characteristic of this type of deposit.

Santos, N.M. 1986. Sedimentology of the Custódias lagoon: A contribution to the study of coastal lakes. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 447 1986 Date of presentation:

Neida Maria dos Santos Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

The Custódias Lake pertains to the coastal lakes that represent one of the most typical sedimentary environment from the Coastal Dominion of Rio Grande do Sul.

With the purpose of studying the sedimentary model of Custódias Lake in detail, the textural aspects of the twenty-one superficial samples were analyzed.

The sedimentology and the sedimentation rate characterize the Custódias Lake as a coastal lake in accelerated depositional process.

Sato, K. 1986. Geochronological synthesis of the Bahia state and crustal evolution, based on the evolution diagram of Sr and Sr87/Sr86 initial ratios. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2157 1986 Date of presentation: 11/8/1986

Kei Sato Advisor(s): Kawashita, K.

Committee:

Subject of thesis:

State: BA 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Schultz, C.L. 1986. Partial osteology of the postcranium of *Scaphonyx sulcognathus* Azevedo 1982 (Lepidosauria, Rhynchocephalia, Rhynchosauridae). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 808

1986

Date of presentation:

César Leandro Schultz

Advisor(s): Barberena, M.C.

Araújo-Barberena, D.C.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This dissertation deals with the partial postcranial osteology of *Scaphonyx sulcognathus* Azevedo 1982, a rhynchosaur of the Brazilian Upper Triassic (Caturrita Formation, Rio Grande do Sul State). Several features, supporting the already stated diagnostic characters for the skull, are to be seen in postcranial elements such as cervical vertebrae, scapular girdle and humerus. *S. sulcognathus* had a light bony structure. Its limbs were more closer to the sagittal plan than in other rhynchosaurids, revealing its more advanced evolutionary degree. The species belongs to the Botucaraí Local Fauna, integrating an advanced paleoherpetofauna of thecodonts, cynodonts and dicynodonts, also found in the upper levels of the Argentinian Triassic. This indicates a Neoschigualastian to Eocoloradian (Norian) age for the sediments where *S. sulcognathus* is found (Caturrita Formation). The stratigraphic position of the Caturrita Formation, at the top levels of the Triassic sequence in southern Brazil, reinforces this geochronological evidence.

Siga Jr, O. 1986. Geotectonic evolution of the northeastern part of Minas Gerais state, based on geochronological interpretations. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 140 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1098

1986

Date of presentation: 29/10/1986

Oswaldo Siga Jr

Advisor(s): Cordani, U.G.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: MG

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Souza Filho, E.E. 1986. Faciologic mapping of the Itararé subgroup in the Campinas quadrangle (SP state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2160

1986

Date of presentation: 5/11/1986

Edvard Elias de Souza Filho

Advisor(s): Landim, P.M.B.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

Souza Filho, J.P. 1986. *Caiman brevirostris* n.sp., from the Pleistocene do Acre, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 810

1986

Date of presentation:

Jonas Pereira de Souza Filho

Advisor(s): Barberena, M.C.

Lavina, E.L.C.

Committee:

Subject of thesis: Palaeontology

State: AC

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The present dissertation deals with the osteologic description of fragmentary, though taxonomically diagnostic, materials (partial skull and jaw ramus) of *Caiman brevirostris* n.sp., an alligatorid crocodile of the Solimões Formation (Pleistocene of Acre State, Brazil).

It also deals with the taxonomical interpretation and comparisons of the new species with related forms in South America. Diagnostic differences in relation to other crocodilians are: a) Skull proportionally short and wider; b) maxilla entering ventrally between the pre-maxillae, until the level of the 5° maxillary tooth; c) the premaxillary-maxillary suture does not cut the fossa for the 4° mandibular tooth; d) orbits proportionally larger.

The morphologic characteristics of *C. brevirostris* do not show marked adaptation, to the point of suggesting a quite different habitus, in relation to the Caiman living species.

A brief review of the evolution of the crocodilian Suborders is also presented. Comments on the occurrence of giant crocodiles, in the Brazilian Amazonian area, area made.

Stevaux, J.C. 1986. Faciology and sedimentation environments of the Rio Bonito formation (P) of the Paraná basin. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2161 1986 Date of presentation: 22/10/1986

José Candido Stevaux Advisor(s): Landim, P.M.B.

Committee:

Subject of thesis: Sedimentology/Sedimentary Petrology

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Subacius, S.M.R. 1986. Biogeochemical and micropaleontological study of the black silex of the Sete Lagoas Fm, Bambui group (Upper Proterozoic), São Gabriel (GO state), Brazil. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2153 1986 Date of presentation: 10/1/1986

Sandra Maria Rodrigues Subacius Advisor(s): Fairchild, T.R.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: GO 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Toledo, P.M. 1986. Description of the syncranium of *Eremotherium laurillardi* Lund, 1842. Taxonomy and paleobiogeography. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 807 1986 Date of presentation:

Peter Mann de Toledo Advisor(s): Barberena, M.C. Ferigolo, J.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The present dissertation deals with the osteological description of the syncranium of *Eremotherium laurillardi* (Lund, 1842), a megatheriid of late Pleistocene to early Holocene from the State of Rio Grande do Sul, Brazil.

The specimen shows characteristics similar to *E. laurillardi* and to *E. rusconii*. It is proposed here that *Eremotherium* is monospecific, being the species name *E. laurillardi* (Lund, 1842).

The most meridional occurrence of *Eremotherium* is registered, and it implies the need to carry out more accurate studies about the palaeobiogeography of this group, and of *Megatherium* as well. This new occurrence calls our attention to the necessity of a taxonomic review of the material ascribed to the Pleistocene megatheres in the Southern Region of Brazil and Northern of Argentina and Uruguay.

Yamamoto, J.K. 1986. Spatial graphic representations in geology - applications in the Anitapolis alkaline complex. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1904 1986 Date of presentation: 16/6/1986

Jorge Kazuo Yamamoto Advisor(s): Amaral, G.

Committee:

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: SC 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Zarpelon, P.R. 1986. Structural geology, stratigraphy and petrology of a part of the Cerrito do Ouro "greenstone belt", São Sepé municipality, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 492 1986 Date of presentation:

Paulo Ricardo Zarpelon

Advisor(s): Jost, H.

Committee:

Subject of thesis: Geochemistry

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

The Bossoroca Mine region, São Sepé municipality, State of Rio Grande do Sul, is apparently made up of a fraction of a greenstone-belt fragment.

Structural, stratigraphic, petrographic and geochemical studies have revealed the existence of two large and distinct units, probably of Archean age, Vila Nova Complex and Bossoroca Volcano-Sedimentary Complex (Cerrito do Ouro Greenstone-Belt). The Vila Nova Complex is formed by Quartz-Feldspathic Gneiss and by two suites, Gabro-Tonalite-Trondjhe-mite and Granitoid. These units are partially milonitized due to transcurrent faults associated with the first deformation phases of Bossoroca Complex. The Bossoroca Complex is constituted by the Arroio Lajeado and Campestre Sequences. The first one is formed of serpentinites, different magnesian schists, some of them being komatiitic volcanoclastic rocks, and basic schists (rhythmic tuffs, basalts and volcanoclastic toleitic rocks). These rock units exhibit, apparently, a cyclic succession and indicate a volcanic submarine environment. Lenses and layers of cherts and iron formations (oxide and sulfide facies) occur intercalated in these units, and correspond to quiescence periods of the volcanic activity. The Campestre sequence is formed, predominantly, by andesitic, dacitic, riodacitic and rhyolitic metavolcanoclastic rocks, with calco-alkaline composition. They are, apparently, transitional to the preceding toleitic magmas. Intercalated with these volcanic rocks occur deposits of chemical (cherts and iron formations) and clastic (metasiltites and metarenites in rhythmic succession) origin; the latter is formed by the destruction of volcanic deposits, mainly the felsic ones. In both sequences, volcanic structures and textures are preserved in some places. The volcano-sedimentary pile was submitted to successive phases of deformation. The first two (D1 and D2) showed isoclinal folds that are probably associated with thrust faults. In these phases, general metamorphic recrystallizations occurred under conditions of greenschist facies at high geothermal gradient ($>50^{\circ}\text{C}/\text{km}$). The third deformation (D3) reoriented the supracrustal units toward the current NE position and, by means of transcurrent and/or thrusting reactivated faults, put the Arroio Lajeado and Campestre sequences in contact. In some lithologies, granodioritic intrusions, synkinematic to D3, gave rise to contact metamorphism of hornblende-hornfels facies. It is suggested that this deformation is related to efforts originated during the Brasiliano Cycle in the State. D4 and D5 deformations are discrete and related to crustal up-lifts, D4 being followed by granitic intrusions from Brasiliano Cycle that originated dome-like arcs in the greenstone. In spite of the intensive tectonic activity, it is still possible to recognize the stratigraphic arrangement, which is oriented in a NE-SW direction.

Previous models considered the Bossoroca Complex as being an ophiolitic sequence. Nevertheless, petrological, petrochemical and stratigraphic characteristics allow to compare this Complex to greenstone-belt structures.

Zouain, R.N.A. 1986. Aspects of the sedimentary dynamics in the outer Rio de la Plata and adjacent inner shelf. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 448 1986 Date of presentation:

Ricardo Norberto Ayup Zouain

Advisor(s): Martins, L.R.S.

Villwock, J.A.

Committee:

Subject of thesis: Marine Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Rio de La Plata is an important regional element in the South American platform. Its hydrodynamic conditions and sedimentary aspects are important for characterizing the conditions of sedimentary exchanges with the adjacent continental shelf. By developing a method adequate for assessing the complex continental shelf estuary, analytical data of ambient factors, geological and morphological information, samples of superficial bottom sediment and suspended sediment were obtained. Different elements interacting in the environmental dynamics and different estuarine circulation, patterns conditioning the behaviour of suspended sediments as well as sedimentary transport and deposition in the continental shelf were studied. The information thus obtained will permit the designing of a sedimentary model drawn from the suspended load that modifies the internal sedimentary conditions in the Rio de la Plata and adjacent continental platform.

The estuarine tidal cycle appears as an important factor for the displacement of "turbidity bodies" in the estuary. Estuarine circulation patterns favour the sedimentary deposition in the inner and southern parts of the Rio de la Plata Estuary while the northern part shows complex mechanisms for sediment deposition, resuspension and suspended transport. The suspended transport observed in superficial waters (pluma) and/or in bottom waters ("turbidity current") reaches the continental shelf and distributes the transported sediment.

Present sedimentary contribution of the Rio de la Plata in the continental shelf ranges from 19.9 to 70.4×10^6 tonne/year with an average of 59.13×10^6 tonne/year. The sedimentary average deposited in the Rio de la Plata originating from this basin is about 70×10^6 tonne/year; this brings about changes within the morphological characteristics and sedimentary facies of the system. Transport conditions created by "turbidity current" suggest present sedimentary contribution in the Uruguayan and South-Brazilian continental slope to be probable.

Alheiros, M.M. 1987. Sedimentology of the Cabo Formation (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Cabo Formation, Facies analyses, Petrography, Diagenesis, Depositional model

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 591 1987 Date of presentation: 1/7/1987

Margareth Mascarenhas Alheiros

Advisor(s): Mabesoone, J.M.

Ferreira, M.G.V.X.

Committee:

Subject of thesis: Sedimentary Geology

State: PE 1/1,000,000 sheet: SC25 Centroid of the area: ' - 'W

Abstract

The Cabo Formation, cropping out in the sedimentary basin South of Recife (Pernambuco State), represents the Cretaceous continental sedimentation associated to the rifting which resulted in the opening of the south Atlantic Ocean. Field and laboratory studies made on the area, provided new petrographic, sedimentological, stratigraphical and structural evidence permitting a better characterization of this Formation.

Microscopic study revealed different stages of diagenesis in the immature arkoses: locomorphic, indicated by the presence of a carbonate cement, and redoxomorphic, which may be obscured by the deep chemical weathering suffered by the studied area. The recognition in the field of depositional processes typical for environments in which high gradients occur together with semiarid climates, enable the individualization of typical facies such as alluvial fans and lakes. Thus, the depositional model proposed for the Cabo Formation is that of a system of coalescent alluvial fans, controlled by tectonic pulsations, prograding into a lake.

New paleontological and stratigraphical data suggest that the Cabo Formation was deposited during the late Alagoas Aptian age, probably by the same depositional cycles which produced the Carmópolis Member of the Muribeca Formation in the Sergipe-Alagoas basin.

The Estiva Formation is an individualized lithostratigraphic unit deposited unconformably upon the Cabo Formation during the Late Cenomanian to Early Turonian.

Almeida, A.R. 1987. Petrology of the Tauá-Independência Subvolcanic Province (State of Ceará). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Tauá sub-volcanic province, Petrographic composition, Geochemistry, Magmatism

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 621 1987 Date of presentation: 16/2/1987

Afonso Rodrigues de Almeida

Advisor(s): Sial, A.N.

Committee:

Subject of thesis: Mineralogy and Petrology

State: CE 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

The volcanic province of Tauá and Independência is integrant part of the Volcanic-Plutonic Province with the same name. It occurs in the SW of Ceará State and is constituted by sub-parallel, linear, Cambrian dike swarms. With a preferential trend 130 AZ it cuts orthogonally the structures of the Pedra Branca, Nordeste and Itatira Complexes. Swarm dykes of Independência municipality are composed by dacites, trachytes, riebeckite-rhyolites and chlorite-rhyolites. In the swarm dykes of Tauá municipality are found rhyolites, quartz-syenites and granites. Riebeckite is present, sometimes, in the last three types. All analysed types are porphyritic. It displays contents of SiO₂ that ranges from 63 to 78.1wt%; high contents of alkalis (Na/(K+Na), 0.56- 0.66) and low contents of CaO, FeO, MgO, and P₂O₅, mainly in types with high SiO₂. Their I.D.s. ranges from 82.2 to 97.04. Presence of modal riebeckite is expressed by agpaite indices that reach to 1.271 and at normative compositions where acmite and, sometimes, Na-metasilicate are present. Oxygen isotopes (+8.2 - +9.92 ‰), zircon typology and initial ⁸⁷Sr/⁸⁶Sr ratios = 0.704 ± 0.001, suggests an I-type source, mantle-derived or with short time of crustal residence. Mathematical modeling using Rb-Ba suggests an origin by fractional crystallization from the dioritic source, where the "plagioclase effect" in the Independence dike set, and an combination of the "plagioclase and orthoclase effects", in the Tauá dike swarm, had been the mechanisms active in the genesis and evolution of this magmatism.

Amaral, R.F. 1987. Sedimentology and Geomorphology of the Lower Goiana River (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Sediments lower course, Sedimentological study, Geomorphology

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 592 1987 Date of presentation: 3/7/1987

Ricardo Farias do Amaral

Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

A study about the geomorphological and sedimentological features of the lower Goiana river valley and neighbouring areas, including the coastal zone near the river mouth has been made. The geomorphological investigation comprised an analysis of transverse and longitudinal topographical sections along the river, as well as horizontal analysis of relief forms and a subsequent integration of the data obtained. The sedimentological analysis included grain-size determination of the loose clastic sediments with the result plotted in triangular diagrams and those of Passanga. The used method permitted to define terrace levels between 110 and 100 m, 70-60 m, 40-30 m, 10 and 5 m, and a lowermost one somewhat below 5m. Basement faults could be interpreted through their reflection in the relief, suggesting a probable activation of these zones yet in Tertiary-Quaternary. Three sedimentary domains have been distinguished: (1) fluvial, constituted by the sediments in the valley and some pluvial tributaries; (2) beach, along the littoral zone, including ancient coastal terraces; (3) mixed, composed of sediments occurring in the Goiana river mouth and in the former confluence of this river with that of Megaó.

Archanjo, C.J. 1987. Petrostructural Organization of the Seridó Belt Southern Segment, E of Santa Luzia (State of Paraíba). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Seridó belt, Stratigraphy, Tectonics, Metamorphism

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 624

1987

Date of presentation: 26/8/1987

Carlos José Archanjo

Advisor(s): Brito Neves, B.B.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

A petrostructural study of the Seridó belt, N of Patos Lineament was undertaken. Their stratigraphy comprises: (from top) metapelites of Seridó Formation with abrupt contact at base to Equador Formation. The former is a distal turbidite facies frequently intercalated by silicious-carbonate material, whereas the latter is a platform facies. The Equador Formation has a transgressive character overlying the gneissic basement of the Caicó Complex through an unconformity. The Jucurutu Formation in this region is constituted by psammite-pelite and carbonate rocks showing an intimate relationship with the basement. At the top, continuity to the Equador Formation was not observed, although it is anticipated in the central and northern regions of the belt.

The tectonometamorphic evolution showed a plurifacial metamorphism: an intermediate pressure facies with kyanite, staurolite and garnet, superposed by a high temperature/low pressure (HT/LP) metamorphic regime, with andalusite, cordierite, sillimanite and, garnet in metapelites, chondrodite and forsterite in marbles. The principal tectonic fabric in the region is related to HT/LP metamorphic event, effecting deeply the basement as well as the supracrustals.

The tectonic regime that constrained the rocks was constrictional, as interpreted by structural studies in metaconglomerates. An important stretching lineation has low dip in NE-SW always parallel to regional fold axis. This shows a deformation in a ductile level with partial rotation of structural linear elements to NE-SW extension direction.

In the latest deformation stages the region was affected by a transcurrent shear zone, developed in the contact between micaschists of the Seridó Formation and the gneissic basement the Serra dos Quintos hill. Fibrolite and muscovite to this event are observed. A study of quartz c-crystallographic axis fabrics in quartzites indicates a simple-shear regime with dextral movement. The evidence of anatexis during the HT/LP metamorphism apparently shows a Brasiliano evolution (c.a. 600 m.y.), forming the penetrative deformational and metamorphic structures in the region.

Barbosa, P.A.R. 1987. Geology and mineral resources of the supracrustal sequences, east of Mossamedes town, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pp.

Instituto de Geociências - Universidade de Brasília

Reference: M041

DataBase Ref.: 101

1987

Date of presentation: 13/7/1987

Paulo Afonso Ribeiro Barbosa

Advisor(s): Fuck, R.A.

Committee: Ariplínio Antonio Nilson

- IG/UnB

Eduardo Antonio Ladeira

- IGC/UFMG

Subject of thesis: Prospection and Economic Geology

State: GO

1/1,000,000 sheet:

SE22

Centroid of the area: ' - 'W

Abstract

Supracrustal rocks occurring eastwards from the town of Mossamedes may be grouped into three chronologically distinct sequence. The Anicuns-Itaberai Sequence is the oldest, occurs in the easternmost part of the area, and is constituted by two units disposed in thrust sheets named Pelito-Tufaceous and Chemical. Volcanic terms occurring in the former have an intermediate to acid calc-alkalic composition, while the later is made up of metacherts with marble and mafic to ultramafic lenses

with komatiitic composition. The Anicuns-Itaberai Sequence is considered as a part of the Goiás Velho Greenstone Belt thrust on the younger Araxá Group. Supracrustal rocks correlated to the Araxá Group are informally named Mossâmedes Sequence which comprises four units named, from base to top, as Southern Amphibolitic, Ribeirão Isidoro, Pelitic and Upper Metavolcanic. Volcanic terms of the Sequence vary from low-K tholeiitic to calc-alkalic, ranging from metabasalts to metarhyolites interlayered with metapelites. The youngest Serra Dourada Sequence, occurs in the NW part of the area and is constituted by a basal tourmaline-mylonite schist, quartzites with intercalations of lenticular conglomerates and a top marked by fine grained metapsamites and metapelites.

The Anicuns-Itaberai Sequence occurs as a major thrust sheet in which three major deformation phases and green schist metamorphic conditions have been recognized, mostly ranging within the chlorite zone. The Mossâmedes Sequence is structurally more complex, having six deformation phases and metamorphic conditions varying, from north to south, between the biotite zone of the green schist facies to lower amphibolite. The Serra Dourada Sequence shows only three deformation phases and metamorphic assemblages of the chlorite zone of the greenschist facies and is underlying the Mossâmedes Sequence through a transcurrent fault.

Two granitic intrusive events have been recognized, of pre and post-orogenic as related to the Mossâmedes Sequence deformation. Their composition ranges from sub-alkalic to peralkaline. Intermediary dikes of younger age also crosscut the area. The occurrence of subaqueous volcanic rocks both in the Anicuns-Itaberai and the Mossâmedes Sequences, added to the common occurrence of pyroclastics and cherts, and geochemical exploration data recommend 9 gold and base metal targets related to classical volcanogenic models. Additional research are recommended for Sn in the granitic-plutons, emerald and Ni in the ultramafics, Sb and W in volcanics of the Mossâmedes Sequence, and diamond and Au in the Serra Dourada Sequence, where mineralization controlled by faults is suspected.

Bertachini, A.C. 1987. Study of the hydrogeological characteristics of crystalline terrains at humid climate, in the Jundiá region, São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1949 **1987** Date of presentation: 11/12/1987

Antonio Carlos Bertachini Advisor(s): Szikszay, M.

Committee:

Subject of thesis: Hydrogeology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Chaves, M.L.S.C. 1987. Geology of the sulfide mineralizations in Lídice region (Rio Claro - RJ state). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1172 **1987** Date of presentation:

Mário Luiz de Sá Carneiro Chaves Advisor(s): Cassedanne, J.P.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Regional and detailed geological mapping and studies on drill hole samples and their polished sections were carried out on the sulphide ore of the Lídice region, Rio Claro, south of Rio de Janeiro State. The deposit is known since the 1930's, when a pyrite mine was opened on the principal sulphide occurrence at that time. The geology of the region consists of two lithostratigraphic sequences of Proterozoic age, individualized in regional scale (the "Metasedimentary" and "Igneous" sequences), which may be correlated to Paraíba do Sul and Serra dos Órgãos groups, respectively. The Metasedimentary Sequence was subdivided in nine mapping units, of which the Lídice Unit is the host of the sulphide mineralization. By the study of the drill holes, the Lídice Unit can be subdivided into two rock series as follows: an upper series, consists of quartzites, calc-silicatic rocks and quartzose marbles, and the lower series, consists of biotite gneisses, quartzites and calcitic marbles. The mineralization was concentrated in the marbles at the base of the Upper Series. The mineral assemblage found in the deposit is very simple: pyrite, pyrrhotite, sphalerite, galena and chalcopyrite, which occur disseminated in conformity with the quartzose marbles or removed from them by quartz veins. The sulphides were described according to their four occurrences in the region: Córrego Paraguaí, Colenga, Rio das Canoas and Córrego Passa Dezoito. Some considerations about the distribution, zoning and mineral succession of the ore, are also discussed. The deposit is of the stratiform type and its possible genesis was by a syngenetic sedimentary process, without associated volcanic activity. Even though the remobilized mineralization is concentrated in the same lithologic horizon, the mineralization may be considered of the stratabound type. The sphalerite, the main sulphide ore of the area, weighs around 1600 ton (950 ton of zinc) and 9200 ton (55000 ton of zinc), provable and inferred reserves, respectively. The deposit wasn't considered of economic interest.

Coelho, C.E.S. 1987. Contribution to the genetic study of the fluorite mineralizations of the Tanguá district, Itaboraí municipality, Rio de Janeiro state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M043

DataBase Ref.: 103

1987

Date of presentation: 21/9/1987

Carlos Eduardo da Silva Coelho

Advisor(s): Dardenne, M.A.

Committee:

Hardy Jost

- IG/UnB

Jean Claude Touray

- Univ_Orleans

Subject of thesis: Prospection and Economic Geology

State: RJ

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

The Tanguá fluorite vein-type deposits are related to an alkaline complex, of the same name and situated in the District of Itaboraí, in the State of Rio de Janeiro.

The plutonic body of nepheline syenites (Tanguá Massif) intrudes the local basement rocks (essentially biotite-gnaisses). Trachitic and phonolitic dykes and sills of hundreds of meters in length and centimeters to tens of meters in thickness are associated structures. Both the pluton and dykes are of Cretaceous age.

The fluorite veins are emplaced both in gneisses and alkaline rocks (plutonic body and dykes) in NE-ENE structures created and/or reactivated during the opening of the South Atlantic Ocean.

The structural control of the veins may be divided in at least three stages, with the formation of pre-, syn-, and post-mineralization fractures and faults, the pre-mineralization stage represent reactivations of N50E regional old shear zones through tensional movement, and were filled with alkaline intrusions. The syn-mineralization fractures and faults are also reactivating of the N50E set and cut all rock types of the area, and were formed by two distinct mechanisms which operated in superposition in different times: (a) strike slip faults and (b) extension faults, with formation of open fractures, both resulting from tensional faults. These types of mechanisms are responsible for different textures of the fluorite veins, especially the banded and brecciated ones. The last stage comprises essentially normal and reverse faults that cause the downthrow and up-throw of blocks.

The geochemical study of rare earth elements reveals, that these mineralizations show very low contents in these elements and a relatively high fractionation specters. From REE geochemistry four mineralizations phases may be recognized in deposit environment: the first is suggested to represent the initial solution; the second is characterized by a new europium rich-solution; the third, representing the evolution of this new solution, but in reducing environment, with precipitation of pyrite; and the last one, representing a new batch of the initial solution.

The fluid inclusions study reveals a well defined cooling

trend of the hydrothermal solutions, with the concentration of the homogenization temperatures around 155 °C, 130 °C and 105 °C, characterizing thus, low temperatures solutions. Salinities are invariable lower than 2,5% equivalent NaCl.

As a consequence of the realized studies it is suggested that the formation of the fluorite mineralizations of Tanguá may be explained by weathering of country rocks through percolation of surficial meteoric solutions along faults and fractures, further heating in depth environments and leaching of silica, fluorine and calcium. Precipitation of fluorite and chalcedony occurred as the solutions circulated in the open fractures halted.

Corbellini, L.M. 1987. Outer shelf and upper slope foraminifera of Santa Catarina: Qualitative and quantitative analyses. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 816

1987

Date of presentation:

Laura Maria Corbellini

Advisor(s): Sanguinetti, Y.T.

Bertels, A.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

The benthonic and planktonic foraminiferal associations included in 8 superficial bottom sediment samples of the outer shelf and upper slope from the continental margin of Santa Catarina State, Brazil (GEOMAR XIV), were analyzed.

The species diversity (Fisher's and Shannon-Wiener indices) was calculated as well as the planktonic/benthonic ratio, the proportion of Textulariina, Miliolina and Rotaliina, the frequency, the dominance, and the constancy.

These parameters allowed to propose an ecological model for this region, defined as follows: samples located in the outer shelf (100m deep) show lower H' values, higher proportion of Rotaliina, values of Shannon-Wiener index under 3, and higher benthonic proportion. On the other hand, the upper slope samples present higher H' values, slightly higher proportion of Miliolina and Textulariina, the Shannon-Wiener index over 3, and also an increase in the planktonic proportion. 217 species grouped in 81 genera and 11 superfamilies were identified of which 194 belong to the benthonic and 23 to the planktonic fauna.

In the first group the following species occur more frequently: Angulogerina jamaicensis, Cassidulina bradshawi, Bulimina marginata, Buliminella elegantissima, Planulina foveolata, Uvigerina auberiana, Textularia pseudogramma, Globocassidulina subglobosa, Gyroidina parva, Bolivina ordinaria, Bolivina albatrossi, Cibicides aff. C. pseudoungerianus, Cassidulina curvata, Bolivina fragilis, Uvigerina peregrina parvula, Hanzawaia bertheloti, Cassidulina norcrossi australis, Uvigerina peregrina and Discorbis advenus.

The most frequent planktonic species are: Globigerinoides ruber s.l., Globigerina bulloides, Globorotalia scitula, G. tumida, G. crassaformis, G. truncatulinoides and Globigerinita glutinata.

Correia, P.B. 1987. Geophysics and Sedimentology of the També (State of Pernambuco) and Pedras de Fogo (State of Paraíba) Areas. MSc Thesis, Department of Geology, University Federal of Pernambuco,

pp.

Geophysics, Sediments, Facies study

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 590

1987

Date of presentation: 27/2/1987

Paulo de Barros Correia

Advisor(s): Rand,H.M.

Committee:

Subject of thesis: Sedimentary Geology

State: PE

1/1,000,000 sheet:

Centroid of the area:

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PB

Abstract

An integrated sedimentological and geophysical study of the Tertiary sedimentary covers in the vicinities of També, Pernambuco State and Pedras de Fogo, Paraíba State, was undertaken in order to further understanding of the depositional environments of the coastal basin in northeastern Brazil.

Sedimentological studies were made on the "sedimentological Tertiary/Quaternary spots", here called A1, A2 and A3, in which several methods of identification of depositional environment were applied. According to Passega's diagram it has been interpreted that these sediments were deposited in high energy environment. As the three spots constitute a mixture of coarse, medium and fine material, as seen in the analysis of the cumulative curves, it is assumed that this material comes from a continental environment with a detrital flow.

Seen from a geophysical point of view, applying radiometric method, five lithological units were identified, according to the classified radiation levels. The gravimetric method identified five structural features of which most prominent one is in the center-east of the area. This anomaly, of 26 mgals was observed in the E of the area. The value of the Bouguer anomaly, diminishing to the W down to a minimum of -4 mgals, suggests the occurrence of a granitic intrusive body of lower density, enclosed in a gneissic-migmatic complex of higher density. On the other hand, this granitic body provokes a magnetic positive anomaly with a variation of about 150 gammas, which is explained here as being the result of the lower magnetic susceptibility of the granitic body in relation to its surroundings.

Dalem,A.M.P. 1987. Characterization of the paleoenvironments of the Chico-Lomã coal basin, RS state, Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1423

1987

Date of presentation:

Angelina Maria Parente Dalem

Advisor(s): Rodrigues,M.A.C.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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'W

Abstract

The present paper deals with a paleoenvironmental analysis of samples from 24 drilling holes, distributed in four profiles, strategically located and representatives of the sedimentary basin of Chico-Lomã. The Author has adopted as his objective the basin paleoenvironment definition, trying also a correlation of the drilling holes. Finally, presents a map, in which he summarizes the defined paleoenvironments. Preliminarily, the general aspects of the area were defined, its geographic situation and its main physiographic features, like climate, vegetation, geomorphology and hydrography. The previous investigations on the area referred, and given the geological and geophysical data as well as its structural aspects. For a better understanding of the micro-basin, the Author has completed a comprehensive bibliographic analysis, presenting the historical evolution of the geological knowledge on the huge Paraná sedimentary basin. This bibliographical summary is presented as a framework to the paleoenvironmental studies of Chico-Lomã. Besides describing the applied methodology, the stratigraphy of the basin is described, with references to the igneous and metamorphic rocks (crystalline embasement), and sedimentary rocks of the area. The local stratigraphical column is also presented. As conclusions, the Author summarizes the defined paleoenvironments, and concludes, among other things, the existence of a fault west of the area. Concludes, also, that the southern sedimentary border of the basin is different of the northern one. In this, the coal beds lay over siltstones, while in the southern border the embasement is constituted by conglomerates, which predominate in the pre-carbonaceous sequence. As conclusion, it is inferred that the subaqueous environment, responsible for the coal beds and the carbonaceous materials, was developed mainly in an east-west line. In the northern border occur predominantly the deltaic environments, while in the southern border dominate the fluvial environments, with meandrine canals.

Diniz,J.A.O. 1987. Fissural Aquifer of Western Pernambuco: Hydraulic and Hydrochemical Aspects. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Fissural aquifer, Well characteristics, Drilling depth

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 549

1987

Date of presentation: 28/7/1987

João Alberto Oliveira Diniz

Advisor(s): Costa,W.D.

Committee:

Subject of thesis: Hydrogeology

State: PE

1/1,000,000 sheet:

SC24

Centroid of the area:

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Abstract

With the objective to contribute to the study of the behaviour of the fractured aquifer in the semi-arid area of NE Brazil, this type of aquifer has been studied in detail in the western part of Pernambuco. The studied region, comprising a total area of about 25.000 square kilometers, shows different geological features and small climatologic changes, representing an extremely dry area with some variations in degree of drought. Thus, the combination of these natural elements, associated with human intervention, represents a composition of its environmental units, sufficiently representing all of the crystalline rocks of the drought polygon of the Northeast. 180 hydrogeological well data and 108 hydrochemical analyses have been used with to evaluate the relations between the two principal characteristics (quantity and quality) of the groundwater: the specific discharge and total dissolved solids as measured in the wells. Furthermore determinant factors as well depth, number of water containing fractures, type of rock, desintegrated cover and climate were included in the study. The study is chiefly based on the application of geo-statistical methods as simple and multiple regression, trend surface analysis and cluster analysis. The results indicate the great influence of the climate in the aquifer characteristics, considered here as the well productions and the quality of the groundwater. It has been demonstrated, that the application of multiple regression is more convenient for this type of study than simple regression, as was indicated a.o. by the inclusion of the disintegrated cover in the multiple regression analysis. The ideal well depth has been discussed, resulting in 40m, considering technical, economical as well as social parameters. Finally are proposed homogeneous lithological, structural and climatological zones for the whole semi-arid drought polygon, from which it must be possible to deduce a potential hydrochemical zoning of the aquifer

Feitosa,M.C. 1987. Sedimentary Facies and Deposition Model of the Cariri Valley Basal Sandstones (State of Ceará). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Cariri Valley, Basal sandstones, Facies study, Depositional environment, Diagenesis

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 593

1987

Date of presentation: 8/7/1987

Mirtes Costa Feitosa

Advisor(s): Mabesoone,J.M.

Committee:

Subject of thesis: Sedimentary Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

Field and laboratory studies of the lower sandstone sequence of the Cariri Valley enables to recognize three chief sedimentary facies, informally termed A, B and C, and one subfacies B1. Facies B dominates in the studied area and is characterized by a braided fluvial system, with incursions in the proximal parts of alluvial fans, possibly caused by periodic torrents and represented by conglomeratic intercalations and lenses. Evidences of eolian reworking has been observed in subfacies B1. Facies A presents characteristics related to alluvial fans and facies C may possibly be related to torrents from which the sediments would have been deposited in a standing water body. The sandstones are chiefly subarkosic, medium to conglomerate-sized, with some clayey-ferruginous matrix, subangular to subrounded sand grains, immature to submature and poorly sorted. They came from plutonic rocks and rocks of low grade metamorphism, under high-energy conditions in the depositional environment. Diagenesis is rather advanced.

Fraga,C.G. 1987. Introduction to the zoneography of the Serra Geral aquifer system in the Paraná state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2166

1987

Date of presentation:

Carlos Gilberto Fraga

Advisor(s): Rebouças,A.C.

Committee:

Subject of thesis: Hydrogeology

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

' -

'W

Abstract

Giannini,P.C.F. 1987. Quaternary sedimentation in the Peruíbe-Itanhaém coastal plane (SP state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2165

1987

Date of presentation:

Paulo César Fonseca Giannini

Advisor(s): Suguio,K.

Committee:

Subject of thesis: Coastal and Sedimentary Geology

State: SP 1/1,000,000 sheet: SG23 Centroid of the area: ' - 'W

Abstract

Gonçalves, M.L. 1987. Geology of Santana do Garambéu area, south of Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1171 1987 Date of presentation:

Monica Lopes Gonçalves

Advisor(s): Trouw, R.A.J.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

In the Santana do Garambéu area, in the southern part of Minas Gerais State, two distinctive rock sequences have been geologically studied. The basement sequence is composed of banded gneiss, microcline gneiss, granodioritic gneiss, amphibolites, tal schist and granulite (Mantiqueira Group). The sequence representing the metasedimentary cover comprises two lithologic units: the São João del Rei and Andrelândia Groups. The first is characterized by a sequence of finely banded gneiss, muscovite schist, quartzite and biotite schist. The Andrelândia Group exhibits finely banded gneiss with intercalations of quartzite and phyllite, homogeneous biotite gneiss with intercalations of coarse quartzite and a stratified sequence of muscovite biotite schist, amphibolite, calcsilicate rock, coarse quartzite, homogeneous biotite schist and metaultramafic rocks. The structural history of the metasedimentary cover records three deformation phases. The last one, D3, produced open folds and crenulations. In the area, a large gentle sinform and an antiform are attributed to this phase. Their axes are subhorizontal or have a gentle plunge towards the south, with vertical axial surface along a N-S strike. The phase immediately before the latter one, D2, produced large recumbent folds with asymmetrical parasitic folds in the limbs, varying from open to tight. The axial surface, S2, is parallel to the principal schistosity, dipping at low angles towards SE and SW. The fold axes, E2, plunge gently towards SE or SW. On the map the D2 folds appear a sequence of overturned D2 antiforms and sinforms. A thrust fault that separates the São João del Rei from the Andrelândia Groups has been attributed to D2. The first and the oldest deformational phase, D1, produced tight, almost isoclinal folds. The axes exhibit low dips but with considerable variations in direction; the axial surfaces are subhorizontal. In some outcrops, interference patterns between D1 and D2 folds occur. The main metamorphism that affected the metasedimentary cover attained the amphibolite facies of intermediate pressure-type as indicated by the general appearance of garnet, kyanite, staurolite and locally sillimanite. Detailed microscopic observations show evidence of a second late-to post D, pulse of metamorphism, accompanied by growth of white mica, chlorite and chloritoid. Diabase dikes intruded both basement and metasedimentary cover rocks in a N-S direction. They are not deformed nor metamorphosed. The main contribution of this thesis in a regional scope is the elucidation of the nature of the contact between the São João del Rei and the Andrelândia Groups. This contact appears to be represented by a thrust fault along which the Andrelândia Group was thrust towards NNW over the São João del Rei Group. Other contributions of this thesis are a proposal of a stratigraphic subdivision of the Andrelândia Group and a detailed study of the structural geology of the area.

Guimarães, I.G. 1987. Petrology of the ferriferous formation in the Salobo 3a area - Mineral Province of Carajas, PA state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2171 1987 Date of presentation:

Igneiz Gomes Guimarães

Advisor(s): Girardi, V.A.V.

Committee:

Subject of thesis: Mineralogy and Petrology

State: PA 1/1,000,000 sheet: SB22 Centroid of the area: ' - 'W

Abstract

Horn Filho, N.O. 1987. Geology of the Torres, Três Cachoeiras, Arroio Teixeira and Maquiné quadrangles, northeastern Rio Grande do Sul. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 450 1987 Date of presentation:

Norberto Olmiro Horn Filho

Advisor(s): Villwock, J.A.

Committee:

Subject of thesis: Marine Geology

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: 29 30 's - 49 52 'W

Abstract

The results of the geomorpho- logical-geological mapping executed in the northeast region in Rio Grande do Sul Coastal Plain, between the 29°15' and 29°45' south latitudes and the 49°30' and 50°15' west longitudes, including the planialtimetric charts of the Army's Geographical Service of Torres, Três Cachoeiras, Arroio Teixeira and Maquiné's Quadrangles, are presented. The main outcropping surface units on the mapped area consist of shallow marine, aeolian, lagoonal, deltaic, fluvial and alluvial fan sediments, that overlie the Gondwanic formations of Paraná Basin, represented by aeolian sandstones of the Botucatu Formation and by basaltic rocks of the Serra Geral Formation. These sedimentary facies identify depositional systems of the lagoon/barrier type, characterizing two sandy barriers, III and IV, associated, respectively, to Upper Pleistocene and Holocene transgressive-regressive events, and inserted in the Multiple Complex Barrier proposed by Villwock (1972).

Karmann, I. 1987. Rio Pardo Group (middle to new proterozoic) : A paraplateformal cover in the southeastern margin of the São Francisco Craton. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1833 1987 Date of presentation: 3/9/1987

Ivo Karmann

Advisor(s): Trompette, R.R.

Committee:

Subject of thesis: Geotectonics

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Lazzari, M.L. 1987. The metabasite of Pirapora do Bom Jesus, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2019 1987 Date of presentation: 21/7/1987

Maria de Lourdes Lazzari

Advisor(s): Coutinho, J.M.V.

Committee:

Subject of thesis:

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Lins, F.A.P.L. 1987. Geophysics Applied to the Tectonic Framework of the Sedimentary Basins between the Potiguar and Rio do Peixe Basins (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Geophysics, Tectonic framework, Sedimentary basins, Basement structure

Advisor: Helmo M. Rand

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 595 1987 Date of presentation: 14/7/1987

Fernando Antônio Pessoa Lira Lins

Advisor(s): Rand, H.M.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The present thesis deals with geophysical and sedimentological studies carried out in the Western Potiguar region. The most important structural feature present in the area is the "Portalegre shear zone" which, was mainly responsible in setting up the interior basins of the region. Gravimetric and magnetometric studies display the structural arrangement of the Portalegre shear zone, with three main features: NE, NE-E and NW-SE lineaments, a large body of equigranular granites, and dome-and-basin interface patterns associated with undulation of NE-SW folds (F3 and/or F4) by later folding (F5) with NW-SE direction. Sedimentological studies reveal a clastic, continental terrigenous sequence deposited in the Rio Nazaré Basin (Rio Grande do Norte), correlated with the sediments of the Rio do Peixe Basin (Paraíba). The structural framework of the interior basins of the region are grabens cutting through the crystalline rocks, and limited by high-angle normal faults, generated during the Phanerozoic due to dextral transcurrent mechanisms. Taking into account the litho-structural features of these basins, it is concluded that their age is lower Cretaceous, correlatable to the Potiguar and Rio do Peixe basins.

Lopes, L.M. 1987. The mineralogic, micromorphologic and chemical evolution of bauxite and correlated materials of the northeastern region of Mirai, Minas Gerais state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2169

1987

Date of presentation:

Luciana Maria Lopes

Advisor(s): Carvalho, A.

Committee:

Subject of thesis: Mineralogy and Petrology

State: MG

1/1,000,000 sheet:

Centroid of the area:

'

-

'W

Abstract

Naime, R.H. 1987. Geology, geochemistry and petrology of the granitic Ramada complex and of the Cerro da Cria granite. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 493

1987

Date of presentation:

Roberto Harb Naime

Advisor(s): Nardi, L.V.S.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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'W

Abstract

The Ramada Granite Complex and Cerro da Cria Granite, situated in the western portion of Sul-Rio-grandense Shield, are intrusive in the lithologies of Cambaí Complex, Vacacaí and Maricá Formations, and are associated with extensive volcanic activity, presently represented by the Acampamento Velho Formation.

The Ramada Granite Complex includes monzogranites, sienogranites and chilled portions, with transitional types. Field evidences suggest they are intimately associated to volcanic rocks occurring in the southern part of this area.

Radiometric data determined an age of 463.5 ± 12 Ma for Ramada Granite Complex rocks, and an initial ratio close to 0.710.

The Cerro da Cria Granite occurs as a small and elongate pluton, intrusive in rocks belonging to the Vacacaí Formation, and crosscut by a prominent fault that displaces the southeastern portion of the pluton. These rocks are hypersolvus granites aging 563.7 ± 4.3 Ma.

Geochemically they are high SiO₂ granites, alkaline, metaluminous, and probably differentiated by thermo-gravitational diffusive mechanisms associated with fractional crystallization and emplaced in high crustal levels. They have been produced by magmatic activity related to cratonic margin reactivation at the final stage of the Brasiliano Cycle.

Negrão, F.I. 1987. Hydrogeochemical characterization and vulnerability of the karstic hydrogeologic system of the Irecê region-Bahia state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2168

1987

Date of presentation:

Francisco Inacio Negrão

Advisor(s): Szikszay, M.

Committee:

Subject of thesis: Hydrogeology

State: BA

1/1,000,000 sheet:

SC23

Centroid of the area:

'

-

'W

Abstract

Noce, C.M. 1987. Geologic-structural study of the São João del Rei group in Tiradentes - Barroso - Barbacena region (Minas Gerais state) and considerations on its basement. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1174

1987

Date of presentation:

Carlos Maurício Noce

Advisor(s): Trouw, R.A.J.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

The mapped area, situated between Barbacena and Tiradentes, Minas Gerais state, contains a Proterozoic sequence of metasediments (São João del Rei Group) overlying a probably granite-greenstone terrain. This basement consists of migmatites and banded gneisses, greenstone belt remnants and plutonic bodies of granodioritic composition. Greenstone remnants (Barbacena Group) are mainly composed of metamafic rocks (metabasites, schists with actinolite, chlorite and epidote), but metaultramafic and metasedimentary rocks also occur. Lithological types are serpentinites, tremolite, talc schists, and quartz-mica schists, graphite schists, goudites, quartzites, conglomerate. Chemical analyses indicate a komatiitic composition for ultramafic and some mafic rocks, favouring a comparison between the barbacena Group and other Archaean volcano-sedimentary sequences. The São João del Rei Group has been subdivided into seven units, but only the uppermost three units occur in the area. From bottom to top, the unit E consists of banded phyllites, carbonate schists and limestone megalenses. The unit F is composed of quartz-mica schists, gray phyllites and quartzites. The unit G has a rather homogeneous lithological composition, with quartz-biotite schists. The units E and F wedge out southwards; thus the unit G was deposited directly on top of the basement in the southern part of the area. Three deformation phases have been distinguished in the São João del Rei Group. D1 and D2 are related possibly to one progressive deformation with an important simple shear component. The most representative D1 structure is a well developed slaty cleavage. During D2 a crenulation cleavage and important meso and macrofolds developed. D2 folds plus stratigraphic wedging and repetition are responsible for the general map pattern of the São João del Rei Group. The last deformation phase, D3, was weaker than the former ones. D3 structures are open folds, crenulations and a less common spaced cleavage. The peak of metamorphic conditions was attained during D2. Greenschist facies metamorphism (biotite zone) is recorded all over the area, except for the extreme south, where almandine has been found. The São João del Rei Group may have been developed in an ensialic environment. So far, no ophiolitic sequence has been reported. Fracturing of an ancient platform, probably of Early Proterozoic age, may have led to the evolution of the fold belt.

Nolasco, M.C. 1987. Carbonatic constructions in the northern coast of Bahia state (from Salvador to Subaúma).. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1292 1987 Date of presentation: 2/10/1987

Marjorie C. Nolasco Advisor(s): Leão, Z.M.A.N.

Committee: Abílio Carlos S. P. Bittencourt, - IG/UFBA
 Paulo Tibana - PETROBRÁS

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

Three different types of carbonate buildups occur along the northern coast of the State of Bahia: coral reefs, surficial coral-algal buildups and algal crusts. They extend for approximately 100 km from the city of Salvador to the village of Subaúma, to the north, forming isolated elongate structures parallel to the coastline.

The coral reefs form poorly developed fringing reefs adjacent to the beaches, and isolated bank reefs off the coastline. The Holocene sequence of these reefs is constructed by few coral species, hydrocorals and crustose coralline algae, and has a substrate composed of Precambrian metamorphic rocks. The surficial coral-algal reef is well developed in its southern part, where it grows above two kinds of substrate: Quaternary sandstones and Precambrian metamorphic rocks; toward the north it is thinner, subaerally exposed during low waters, partially covered by sand, and has a sandstone substrate up to 3.0 m thick. The algal crust cover metamorphic and sandstones rock outcrops. In shallow zones, they are exposed, and drowned by sands, whereas in deeper areas they are mixed with corals heads forming incipient reefs. Associated with the carbonate buildups are two lines of sandstones: the external well lithified belt shows well developed trough cross-beds, and is located below the limit of the low water level; and the internal poorly cemented belt shows sedimentary structures of the intertidal zone.

Siliciclastic sediments dominate the whole studied area. Up to 30% of carbonate constituents, originated from the breakdown of reef organisms, occur around the coral reefs and the southern part of the surficial coral-algal reef.

The initiation of the coral reef growth, on the metamorphic rocks, occurred between 7100 and 4100 years B.P., when Holocene sea level reached a high of 5 m above its present position. In the same time, in open beach areas, the external sandstones bodies were formed. Later, during the other high water stands, (3 and 2 m above today's level) first, the surficial coral-algal reef initiated its growth above the external sandstone belt of Jauá, and later, most of the algal crusts covered the available substrates. At the same time until the present time, the internal sandstone belt was depositing in the protected beaches. The distribution and the time relation between the growth of carbonate buildups and the sandstone belts formation are controlled by the relief of the Precambrian basement, along with the late Quaternary history of sea level, along the coast of the State of Bahia.

Oliveira, C.G. 1987. Gold mineralizations of Diadema, Pará state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pp.

Instituto de Geociências - Universidade de Brasília

Reference: M044

DataBase Ref.: 104 1987 Date of presentation: 28/12/1987

Claudinei Gouveia de Oliveira Advisor(s): Leonardos, O.H.

Committee: Marcel Auguste Dardenne - IG/UnB
 Hardy Jost - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: PA 1/1,000,000 sheet: SB22 Centroid of the area: ' - 'W

Abstract

The gold occurrences in the Diadema prospect lie in the central block of the Sapucaia belt in Southern Pará within acid to intermediate metavolcanic rocks. The area was subjected to a main phase of ductile shear which has been responsible for the development of shear zones in which protomylonites to highly deformed ultramylonites are present. The metamorphic assemblages formed under these conditions are within the greenschist facies, varying locally to amphibolite facies. The shear zones have a general N500 W strike which has resulted from a high angle reverse movement generated by a N-S initial compression. The continuous displacement among the mylonitic surfaces has generated transtension and transpression zones. The pressure gradients between such zones have favored the migration and accumulation of metamorphic fluids to the interior of the transtension zones and consequently hydraulic fracturing, hydrothermal alteration and metal (including gold) precipitation. The mineral assemblages formed by hydrothermal alteration processes were grouped into initial, intermediate and advanced alteration stages. Progressive alteration is characterized by chloritization, carbonatization, albitization, muscovitization, silicification, pyritization and tourmalinization. The increasing $\text{Fe}^{2+}/(\text{Fe}^{2+} + \text{Fe}^{3+})$ values along with the intensity of alteration reflects the reducing nature of the fluid that percolated along the shear zones. The gold mineralization of the Diadema anomaly has a geometry of rods and boudins with the long axis parallel to lineation caused by the first deformation phase. Gold is concentrated along the central portions of the ductile shear zones where the mylonitic foliation (S-surface) becomes subparallel to the brittle shear surface (C-surface). Two types of gold ore were studied: One type is formed by an advanced stage of hydrothermal alteration in intermediate to basic metavolcanic rocks and it is composed of quartz-muscovite-albite-chlorite II-carbonate and pyrite. The non visible gold is apparently associated to euhedral pyrite grains. The other ore type comprises tourmaline rich quartz veins with minor carbonate. The veins are often brecciated with micro-saccharoidal texture; the gold coating the surface of tourmaline grains. Gold precipitation is accompanied by a strong enrichment of alkalis, CO_2 , As, B, Ba and Sb.

Perinotto, J.A.J. 1987. Stratigraphic analysis of the sequence containing coal in the Cerquilho region (SP state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2162 1987 Date of presentation: 21/12/1987

José Alexandre de Jesus Perinotto Advisor(s): Rösler, O.

Committee:

Subject of thesis: Stratigraphy

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Rolim Filho, J.L. 1987. Statistic Analysis of the Hydrochemistry of the Recife Aquifer (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Recife aquifer, Statistic analysis, Hydrochemistry

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 551 1987 Date of presentation: 29/7/1987

José Lins Rolim Filho Advisor(s): Honijk, W.J.

Committee:

Subject of thesis: Hydrogeology

State: PE 1/1,000,000 sheet: SC25 Centroid of the area: ' - 'W

Abstract

Samples of hydrogeological variables from the coastal plain of Recife in the State of Pernambuco, collected from specialized literature, were studied by means of computer processing and statistical analysis, to characterize the hydrochemical qualities of the use of groundwater for human as well as industrial consumption.

This procedure permitted the localization of critical areas as to groundwater extraction in regions of groundwater overexploitation close to the tidal fluxes. These locations show elevated concentrations of seawater hydrochemical components, as well as other polluting agents (natural and others), percolating from the surface water.

This thesis will help hydrogeologists and hydrochemists to obtain information concerning water quality, during the initial phase of projects dealing with groundwater extraction in the Recife area reducing the possibility of having wells in contaminated aquifers.

Sampaio, O.S. 1987. Study of fractures as an aid to underground water research in Sergipe state: An approach using remote sensing data. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1351 1987 Date of presentation: 1/4/1987

Oswaldo Souza Sampaio Advisor(s): Mattos, J.T. Veneziani, P.

Committee:

Subject of thesis: Remote Sensing

State: SE 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

Santos, J.F. 1987. Tipology and genesis of the Pedra Preta tungsten deposit, PA state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2163 1987 Date of presentation: 18/5/1987

Juarez Fontana dos Santos

Advisor(s): Ribeiro Filho, E.

Committee:

Subject of thesis:

State: PA 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Santos, M.I.F. 1987. The genus Actinocythereis (Ostracoda) in the Brazilian continental shelf - Taxonomy, geographic and bathymetric distributions, ecological relationships. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 811 1987 Date of presentation:

Maria Inês Freitas dos Santos

Advisor(s): Ornellas, L.P.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This study is a survey on the presence of the genus Actinocythereis Puri 1953 (TRACHYLIBARIDAE) in the Brazilian Continental Shelf.

The obtained data revealed the presence of a single species of the genus, Actinocythereis saccharis n. sp., herein described. The limits of its geographic (between 16°49' and 35°06' of southern latitude) and bathymetric (from 22 to 164m) distributions were determined; species belonging to other genera and found in association with A. saccharis were identified.

An account on the ecology, and the stratigraphic and geographic distributions of the species of the genus Actinocythereis throughout the world is also presented.

Santos, R.P. 1987. Foraminifera and tecomoeba associations at the Rio Itajaí-Açu river mouth, SC state, related with deposition subenvironments. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2170 1987 Date of presentation:

Rosa Penha dos Santos

Advisor(s): Petri, S.

Committee:

Subject of thesis: Palaeoecology

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Silva, C.G. 1987. Study of the geologic and geomorphologic evolution of Lagoa Feia lagoon region - RJ state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1173 1987 Date of presentation:

Cleverson Guizan Silva

Advisor(s): Gorini, M.A.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: RJ 1/1,000,000 sheet: SF24 Centroid of the area: ' - 'W

Abstract

The geological and geomorphological evolution of the Feia Lagoon, Rio de Janeiro State, Brazil is associated with the eustatic changes of sea level during the Late Tertiary and Early Quaternary. The evolution was conditioned by the Paraíba do Sul River, a major feature in this area, which developed its delta until at least 5.000 years B.P. along the direction of Campos - São Tomé cities. An integrated study of all the available data on the Paraíba do Sul delta complex, including the adjoining continental shelf, with the description of obtained vibracores and manual auger drills in the Feia Lagoon region, has allowed the identification of the main geological events that have influenced the Quaternary sedimentation on this area. Based on this study a geologic evolutionary model is here proposed for the Feia Lagoon and for the Paraíba do Sul deltaic complex, with the following main phases: a) drowning and partial erosion of flat-topped continental deposits (alluvial fans and fluvial sediments) during a major transgression, forming sea-cliffs. b) formation of a coastline consisting of prograding beach ridges, parallel to the sea-cliffs, during a subsequent regressive phase. c) erosion of the former beach ridges a new transgressive phase. This process is responsible for the origin of Feia Lagoon. Possibly this marine transgression corresponds to the Cananéia Transgression which occurred at 120.000 years B.P. (Martin and others, 1984a). d) development of a new beach ridge system orthogonal to the B phase's beach ridges, as a consequence of a new regressive phase (15.000 years B.P., Martin and others, 1984a). e) drowning of most of the beach ridges formed during the previous phase forming an extensive lagoon responsible for the origin of Feia Lagoon. Also during this phase occurred the development of a transgressive barrier beach system, which is presently migrating towards the continent over the coastal lagoons. This event occurred during the last Holocene transgression, with a maximum at 5.100 years B.P. (Martin and others, 1984a). Also during this phase, the Paraíba do Sul River changed direction reaching its present position. Secondary sea-level oscillations, which happened after the 5.100 years B.P. maximum, caused the partial erosion of the beach ridges formed during phase D. and were responsible for the generation of single sand bodies, by the reworking of the Feia Lagoon sediments, mainly on its west margin. The Lagoon has been progressively buried by fluvial sedimentation, mainly on its north and northeastern margin, as is demonstrated by the existence of several lacustrine deltas. This burial and progressive drying up of the Lagoon is noted on several drills and cores, which have showed the transition from lagoon and mangrove environments to swamp, and peat-forming environments.

Silva, H.F. 1987. Petrography and Geochemistry of the Quixadá Batholith (State of Ceará). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Geologic mapping, Petrographic aspects, Geochemistry

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 625 1987 Date of presentation: 21/9/1987

Heliene Ferreira da Silva

Advisor(s): Beurlen, H.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The Quixadá intrusive body, with an area of 240 km², cropping out in the central part of Ceará State, presenting an ellipsoidal shape, and lengthened according to a NE-SW orientation, is constituted dominantly by a group of mesocratic porphyritic rocks containing equigranular and mesocratic enclaves and also by late granitic rocks with localized pegmatitic portions. A detailed mapping (scale of 1:40.000) permitted the recognition of three groups of rocks that were characterized descriptively as: the porphyritic facies, the equigranular mesocratic enclaves and the late equigranular facies. The porphyritic facies formed by monzonites quartz-monzonites and rarely quartz-monzodiorites containing megacrysts of alkaline-feldspar and plagioclase. These rocks crop out with a sharp-pointed shape, mentioned in the literature as Inselberg. (e). On the Q-A-P diagram a "trend" of calcic, monzonitic character to these rocks is clear. They intruded high-grade metamorphic rocks of the amphibolite facies and represent magmatic events synchronous to the Brasiliano orogenesis. This facies contains equigranular enclaves of variable shapes and of quartz-monzodioritic, quartz-dioritic and mainly dioritic composition that maintain close chemical and mineralogical similarities with the porphyritic rocks, and are constituted mineralogically, by plagioclase, alkaline-feldspar, hornblende, biotite and few quartz. The porphyritic facies and the microgranule enclaves are chemically characterized by intermediate SiO₂ values between 56.9 a 65% with lower values in the enclaves. High Al₂O₃ was observed in these enclaves (with an average of 16.3%) decreasing to the porphyritic rocks (with an average of 15.4%). In two analysed samples of the enclaves the Na₂O overcomes the K₂O values, and in the porphyritic facies, the values are approximately. High CaO values characterize these rocks (an average of 6.5% to the enclaves and 5.6% to the porphyritic facies). High Ba, Sr values were noticed in these two facies. The presence of diopside in the norm, the Na₂O overcoming the value of 3.2% and the high proportion of Fe³/Fe²+Fe³ are indicative criteria of Type-I granitoids. The late equigranular facies represented by plentiful "normal" granites and rarely granodiorites characterized by fine and medium granulation and Color Index dominantly leucocratic. They intruded the porphyritic facies, that present features of inclusion (centimeter xenoliths), indicating that the last petrographic variety is the latest of the batholith. Mineralogically they are composed of quartz, plagioclase, alkali-feldspar and biotite. Chemically they are characterized by high SiO₂ values (average of 71.3%) and low CaO. The average of Al₂O₃ is 15.3% and K₂O overcoming the Na₂O in two analysed samples. Some rocks of this facies show certain chemical characteristics such as the value of Al₂O₃/(Na₂O+CaO+K₂O) > 1.1, high SiO₂ values and biotite as the dominant mafic phase, suggestive of S-type granitoids.

Souza, J.A. 1987. Characterization of seismic answer in the Barreiras formation when superposed to karstic surfaces. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1557 1987 Date of presentation: 9/12/1987

José A. Souza

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

As a general rule, offshore seismic reflection surveys generate data good enough to produce final sections of reasonable quality. In the case of a similar geological structure, the final section obtained from land data are poor, if compared with the marine ones. Generation of surface noise, S wave recording, strong transformation of initial energy in inelastic processes and the introduction of static displacements are factors that deteriorate the seismic quality of land data. The Barreiras Formation, consisting of surface deposits and which is frequently encountered in Northeast of Brazil, is frequently named as the principal factor responsible for the poor quality of land seismic sections. This Formation is not physically competent and is quite heterogeneous, main reasons accounting for poor data quality. But the association of poor seismic quality and Barreiras Formation is not absolute. In the areas where the quality is critical, the geologic structure includes the presence of limestones at shallow depths. In these areas, the irregular contact between the Barreiras Formation and the limestones (carstic surface) is the main factor degrading the seismic reflection response. Due to the high acoustic impedance and the roughness of the contact surface, there is generation of strong energy multiples, a penetration window too short, strong P to S wave conversion at small offsets, scattering and time delays. The time delays appear as buried statics. As a consequence, the energy been propagated is imprisoned inside the Barreiras Formation, producing thereby more amplitude distortions and changes in the expected recording time of the primary reflections. These conclusions were obtained by doing computer simulations based on the acoustic and elastic wave equations. Most of them were done in common shot domain, what make possible the simulation of synthetic stacked sections. The forward modeling approach used was the "REM" (Rapid Expansion Method), by Dan Kosloff. This method is based on the numerical solution of wave equation given by H. Tal Ezer (1986).

Souza, L.C. 1987. Geology and Petrochemistry of an Area N of Equador (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Stratigraphy, Tectonics, Metamorphism, Precambrian terrains

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 623

1987

Date of presentation: 7/7/1987

Laécio Cunha de Souza

Advisor(s): Legrand, J.M.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Precambrian rocks mapped within an area of approximately 130 km² N of the Patos Lineament, were informally divided into four units as follows:

Unit A – is the oldest one, comprising orthogneisses and amphibolites correlated to the Caicó complex; Unit B – is made up of epidote-bearing hornblende-biotite banded gneiss, with lenses of marbles, amphibolites, calc-silicates and quartzites. It is intruded by clinopyroxene-bearing gneissic monzonites and metanorthites-plagioclase felsites, being correlated to the Jucurutu Formation. Unit C – comprises pure to arkosic quartzites with muscovite and lenses of metaconglomerate, correlated to the Equador Formation. Unit D – consists of garnet – and/or cordierite-bearing micaschists, with calc-silicate lenses close to its base, and correspond to the Seridó Formation.

Five deformation phases, Fn, Fn+1 ... Fn+4, were characterized, the oldest being present only in unit A. The subsequent phases, time continuous, are of generalized occurrence in the area, and the Fn+2 phase is highly penetrative and developed the main (regional) schistosity associated to tight folds and transposition. Four metamorphic phases Mn, M1, M2 and M3, were identified. Mn is restricted to Unit A and reached an anatexis isograd. The M1, M2 and M3 affect all the rocks sequences in a generalized way and had a continuous evolution in time, the M2 metamorphic peak being syn to late-Fn+2 in the upper amphibolite facies.

Petrochemical results, based on major and fifteen trace elements, allows a conclusion that the banded gneisses of Unit B were immature sediments of greywacke type and that the micaschists of Unit D represented the final phase of continuous deposition with argillaceous greywackes and argillites.

Valença, L.M.M. 1987. Sedimentology of the Araripe Plateau Sandstone Cover (States of Ceará and Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Araripe tableland, Upper sandstones, Facies study, Petrography, Depositional environment

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 594

1987

Date of presentation: 9/7/1987

Lúcia Maria Mafra Valença

Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: CE 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W
PE

Abstract

Field and laboratory studies of the Early Cretaceous sedimentary rocks which cover the Araripe plateau, Northeast Brazil, have led to the identification of five sedimentary facies: facies A – small scale cross-bedded sandstones; facies B – large scale cross-bedded sandstones; facies C – clayey sandstones; facies D – rhythmites and facies E – planar and trough cross-bedded sandstones and paleo-pebble levels. The A, B and C facies are represented at the eastern flank of the plateau while the D and E facies are found at its western flank.

The A, B, C and E facies indicate through their litho-structural properties (texture, grain size, maturity and structures), a deposition in a braided fluvial environment. The thick bodies of rhythmites of the D facies, characterized subaqueous sedimentation, likely in a low-energy, shallow lake. The study of the facies set, permits to establish a sedimentary model, initially lacustrine evolving into a fluvial domain, in the context of a new continuous depositional event, controlled by reactivation of a regional tectonic process.

All of the studied sandstones are classified as quartz-sandstones and show a matrix of predominantly clay and iron oxide minerals, independently from their facies characterization, done from the primary sedimentary structures. They exhibit subrounded to subangular grains and are poorly sorted, indicating probable low-energy conditions prevailing in the depositional environment. They are immature sandstones with weak diagenesis.

Viana, S.F. 1987. Hydrochemistry of the Jatobá Basin (Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Jatobá basin, Hydrochemical analysis, Water quality

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 550 1987 Date of presentation:

Sebastião Fernando Viana

Advisor(s): Honijk, W.J.

Committee:

Subject of thesis: Hydrogeology

State: PE 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The sedimentary basin Jatobá is situated in Pernambuco State with 5.600 km² of area. Here, the climate is mainly of Bshw and As types, being 25.0°C its average annual temperature. The relief in the region is essentially of two types: - irregular hills, mountains and scarps, and Mesozoic sediments covered with a thick sand layer resulting in flat-shaped surface. The basin stratigraphic sequence is formed by sedimentary rocks from Silurian to Quaternary age, being conglomerates, sandstones, siltstones, shales, limestones, alluvia and eluvia. Based on hydrogeochemical studies, it was possible to define the main chemical facies families of the groundwaters. The chemical composition of the groundwaters is characterized by the predominance of chloride, bicarbonate or a mixture of both. These waters can be divided into sub-families according to the predominant ions. By means of statistical interference tests it has been stated that in all the groundwater sub-families, the dominating cation was Na (+K). These waters are the most mineralized and they have the highest evaporation residues. Not only climate elements influence the groundwater behaviour and evolution in this basin but also the chemical composition in the infiltration area, the topography, the drainage basin, the rock permeability, and other less important factors. Thus, it is not possible to consider only one element but only the whole, acting each of these factors with more or less intensity according to the conditions. In relation to the use of these groundwaters for human use, one may state that they are drinkable (good to tolerable). These waters may be employed in all types of soil with little risk of salinization because 87.6% of a total of 131 analysed samples give a SAR < 10.

Wanderley, M.D. 1987. Study of a Cretaceous section in the Potiguar basin in base of calcareous nanofossils. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1440 1987 Date of presentation:

Maria Dolores Wanderley

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This thesis proposes a biostratigraphic zonation of the Late and Middle Cretaceous from the Potiguar basin, Northeastern Brazil. It's the first biostratigraphic approach of the basin based on calcareous nanofossils. It was given emphasis to the study of guide fossils from the Cenomanian-Turonian interval, whose relatively abundant presence, in the basin, contrasts with their scarce to quite absent occurrence on other Brazilian marginal basins. A comparative correlation with biozones of foraminifers and palynomorphs was done in order to obtain a more precise chronostratigraphic situation of the units. A catalogue with the systematic classification of the genus and species identified on this work, including pictures and descriptions of them, was also elaborated.

Weska, R.K. 1987. Diamond placers at the Agua Fria region, Chapada dos Guimaraes, Mato Grosso state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pp.

Instituto de Geociências - Universidade de Brasília

Reference: M042

DataBase Ref.: 102 1987 Date of presentation: 28/8/1987

Ricardo Kalikowski Weska

Advisor(s): Danni, J.C.M.

Committee: Marcel Auguste Dardenne - IG/UnB
Armando Márcio Coimbra - IGc/USP

Subject of thesis: Prospection and Economic Geology

State: MT 1/1,000,000 sheet: SD21 Centroid of the area: ' - 'W

Abstract

A sequence of sedimentary rocks of Cretaceous up to Quaternary age predominate the stratigraphic column in the region north and north-west of Chapada dos Guimarães, MT and are host rocks of diamonds.

From the base to the top these units are redefined as following: Bauru Group (Quilombinho, Cachoeira do Bom Jardim and Cambambe Facies), deposited between the lower and upper Cretaceous; Cachoeirinha Formation and the Estiva Facies of Tertiary age; and Quaternary alluvial deposits represented by Pebas and Água Fria Facies.

The depositional environments of these units can respectively be considered as those pertaining to the alluvial fan models of arid and semi-arid climate, of tropical humid regions, culminating in repeated sequences of fluvial origin of tropical nature which are preserved till today.

The climatic conditions were responsible for disappearance of primary registers of the source area with the exception of the highly resistant diamonds which were reconcentrated in much younger units whose conditions and traps are described here.

Rocks of basic compositions of Quilombinho Facies and intrusive and extrusive rocks of Serra Geral Formation, were studied to check up the possibility of these igneous rocks being related to primary source of diamonds (kimberlites and lamproites).

These data together with faciological, geomorphological and structural and other studies are presented and discussed, characterizing a series of important criteria for diamond prospecting and research.

Xavier, R.P. 1987. Fluid inclusions study of the Fazenda Brasileiro gold mine, Rio Itapicuru Greenstone Belt, Bahia state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2164 1987 Date of presentation: 1/6/1987

Roberto Perez Xavier

Advisor(s): Valarelli, J.V.

Committee:

Subject of thesis: Mineralogy and Petrology

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract**Zanardo, A. 1987. Petrographic and microstructural analysis of the rocks from the Águas de Lindóia quadrangle. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp**

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2167 1987 Date of presentation:

Antenor Zanardo

Advisor(s): Oliveira, M.A.F.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract**Zimbres, E. 1987. Panning prospection in the Canaã alkaline massif and neighbourhood, Duque de Caxias municipality - RJ. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.**

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 994 1987 Date of presentation:

Eurico Zimbres

Advisor(s): Cassedanne, J.P.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

In this work was used panning over a Precambrian basement complex area with alkaline rocks (Canaã Massif). In the field phase, alluvional and elluvional samples were systematically collected according to a 500 meters grid. These samples were, then, submitted to a routine laboratory work (heavy liquid and isodynamic separation etc.). Heavy minerals were determined by optical examination under a binocular microscope and a polarizing microscope and chemical methods. The results obtained from the work above were plotted on 12 minerals distribution maps which allow to examine the source and mineralogical association of each of these minerals. This study permitted to find the following mineralogical associations: 1. Corundum, spinel and zircon, related to alkaline rocks. 2. Ilmenite, sillimanite, almandine garnet and monazite, related to granitic migmatites. Three blue gem corundum occurrences related to alkalines pegmatites were discovered. Chemical compositions of zircon and titanites were described.

Amaral, C.P. 1988. Geological-geotechnical mapping of the southern part of the Santa Cruz (1:50.000) sheet. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1601 1988 Date of presentation:

Claudio Palmeiro do Amaral

Advisor(s):

Committee:

Subject of thesis: Geotechnical Mapping

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The purpose of this work is to contribute to the development of the methodology of engineering geological mapping applied to very densely occupied areas of Rio de Janeiro. In this regards, the results of engineering geological mapping of a selected area in the west zone of Rio de Janeiro (M. Ex. - 1:50.000) are here discussed. This area has been suffered an intense and troublesome process of occupation, liable for the disturbs of environmental balance and rapid growth of urban problems, well represented by absence of a public sewage system, problems in drainage systems, foundations, water supplies and environmental discharges. Based upon this engineering geological map, a map of declivity and a map of actual land-use, another one was elaborated for land-use planning, taking into account the analysis of natural parameters (drainage, instability for septic tank, water supplying conditions, foundations conditions, soil erosion and declivity) and the pointing out and valuation of environmental discharges.

Azevedo, I. 1988. The genus *Urocythereis* Ruggieri, 1950 (Ostracoda) in the Brazilian continental shelf. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 814 1988 Date of presentation:

Inês Azevedo

Advisor(s): Ornellas, L.P.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This dissertation presents the systematic study, with the bathymetric and geographic distribution, of the species of the genus *Urocythereis* Ruggieri, 1950, on the Brazilian Continental Shelf. These data allowed to identify six new species: *Urocythereis vicinicosata* n. sp., *U. alatus* n. sp., *U. biformis* n. sp., *U. sculpturis* n. sp., *U. muralis* n. sp., *U. tenuis* n. sp. and an indeterminate one.

These species occur in the Brazilian Coast from the meridional boundary of the Rio Grande do Sul State until the south of Bahia State, forming a characteristic group of the Southern Shelf, although *U. alatus*, *U. biformis*, *U. muralis* and *Urocythereis* sp. exceed this boundary, reaching a region where Coimbra (1984) established the Zone of Fauna Transition, South-Eastern Shelf.

Bergmann, M. 1988. Stratigraphic and structural characterization of the São Roque group volcanosedimentary sequence in the Pirapora do Bom Jesus region - São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1943 1988 Date of presentation: 7/7/1988

Magda Bergmann

Advisor(s): Sadowski, G.R.

Committee:

Subject of thesis: Tectonic and Structural Geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Brod, J.A. 1988. Geology of the volcano-sedimentary rocks of Indaiaópolis region and adjacent lineaments, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pp.

Instituto de Geociências - Universidade de Brasília

Reference: M045

DataBase Ref.: 105 1988 Date of presentation: 28/3/1988

José Affonso Brod

Advisor(s): Jost, H.

Committee:

Onildo João Marini - IG/UnB
Vicente Antônio V. Girardi - IGc/USP

Subject of thesis: Prospection and Economic Geology

State: TO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

Tectono-stratigraphic associations of the Indaiaópolis region, state of Goiás may be grouped into rigid blocks and shear zones. The -former comprise the Serra dos Borges Plutonic Association, the Coitezeiro Volcano-Sedimentary Sequence, the granite-gneiss basement and to late Proterozoic meta-sediments. The latter are major mylonite zones and comprise the Rio Traíras, the Niquelândia -and the Serra do Aranha-Morro do Mateus lineaments.

The Serra do Borges Plutonic Association consists of amphibolite facies deformed gabbros and anorthosites. The Coitezeiro Sequence comprises basic to felsic volcanics, metapelites and chemical sediments (BIFs) metamorphosed to greenschist facies. The . Rio Traíras Lineament is a large, NNE-trending, dextral, transcurrent fault with minor westerly upthrust and separates the Serra dos Borges Association, to the east, front the Coitezeiro Sequence, to the west. Two magmatic suites (the Fazenda São João and the Baunilha Suites) are intrusive in the fault zone. The Niquelândia Lineament is a major thrust fault with minor transcurrent displacement and marks the southern limit of the Coitezeiro Sequence , Rio Traíras Lineament and Serra dos Borges Association. A suite of intrusive granites occurs within the fault zone. The Serra do Aranha-Morro do Mateus Lineament is a low-angle thrust fault underlying the mid to late Proterozoic metasediments.

No satisfactory correlations between the Coitezeiro Sequence and other volcano-sedimentary sequences bordering large basic-ultra basic complexes of Goiás state has been observed. However, fine-grained amphibolites of the western border of the Serra dos Borges, within the Rio Traíras Lineament, are chemically similar to other volcano-sedimentary sequences such as those of Palmeirópolis and Juscelândia.

Lithological and geochemical properties of the Coitezeiro sequence and the Serra dos Borges Association suggest that they are parts of an oceanic crust but evolved under different tectonic regimes, as suggested by the hawaiian style alkalic volcanics of former and the tholeiitic style of the latter.

Campos, H.C.N.S. 1988. Contribution to the hydrogeochemical study of the Bauru group in the São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1983 1988 Date of presentation: 13/1/1988

Heraldo Cavalheiro Navajas Sampaio Campo Advisor(s): Szikszay, M.

Committee:

Subject of thesis: Hydrogeology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Dani, N. 1988. Supergenic alteration of alkaline rocks in the region of Lages, Santa Catarina - bauxite formation. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 494 1988 Date of presentation:

Norberto Dani Advisor(s): Formoso, M.L.L. Menegotto, E.

Committee:

Subject of thesis: Geochemistry

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

The purpose of this dissertation is to study the bauxite deposits located in the Lages region, Santa Catarina State. An unique characteristic of these deposits is their geographical position, in the southern portion of Brazil, under climatic conditions unfavorable to the lateritization process.

The Lages Dome or Alkaline District of Lages represents an important structure in the context of the Brazilian Geology; the city of Lages is situated in the Southwestern portion of that structure.

The weathering material was studied from the point of view of mineralogy, petrography and geochemistry, complemented by the geomorphology of the landscape - important aspects for the description and characterization of the weathering.

The Alkaline District of Lages has a surface of 2,000 square kilometers and includes rocks of the Paraná Basin sequence as well as alkaline rocks. Among the alkaline rocks, phonolite is the most common. It is important to say that alkaline rocks are like protore of bauxite generation, although in Lages economically significant deposits of this material are concentrated in a restricted portion - Farinha Seca area. In this, are the typical profiles which have a thickness of 10 meters and can be divided in horizons: a rock/weathered rock level in the base of the profile, overlain by a lower clay horizon, bauxite horizon, an upper clay horizon, and the recent organic soil on the top. Microscopy and microprobe data showed that, among the studied minerals, nepheline dissolves completely with weathering leading to the increase of porosity. The orthoclase weathers slower than nepheline and originates an amorphous plasma of silico-aluminous composition, that subsequently can evolve directly to gibbsite or to 10 Å halloysite. The pyroxenes concentrate the iron in the rocks, and generate aluminous goethites and secondary gibbsite by weathering processes. General aspects show that lateritization is not an isolated phenomenon in the area; it is, conversely, spread and associated with different rocks, such as diabase in the Lages region, or correlated with the weathering profile developed in the basalt rocks of Vacaria region, Rio Grande do Sul State. Thus, probably not only the rock susceptibility was the responsible mechanism for the bauxite formation, but also geomorphological factors were important to preserve this accumulation of succeeding erosive events.

Daoud, W. El K. 1988. Tin bearing granites of Pitinga, Amazon state-Brazil: Geological context and associated mineral deposits. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M048

DataBase Ref.: 108 1988 Date of presentation: 2/9/1988

Walid El Koury Daoud Advisor(s): Fuck, R.A.Committee: Onildo João Marini - IG/UnB
Roberto Dall'Agnol - CG/UFGA

Subject of thesis: Prospection and Economic Geology

State: AM 1/1,000,000 sheet: SA20 Centroid of the area: ' - 'W

Abstract

The Pitinga mine in the Amazon region is one of the largest tin mines in the world. It is genetically linked to the Água Boa and Madeira granites. Both granites are complex multiphase intrusions with distinct crystallization and injection stages followed by late to post-magmatic changes. These granites have a Rb-Sr isochron age of 1689 ± 19 My and intrude volcanic and pyroclastic rocks of the Iricoumé Group (Uatumã Supergroup) and the sedimentary rocks of the Urupi Formation.

The granites are isotropic, alkali-feldspar rocks of the hypersolvus type. The early intrusions show a characteristic rapakivi texture. Their main petrochemical features are represented by high SiO₂, F and Zr contents and low CaO and MgO. Their overall characteristics are consistent with those of shallow anorogenic intraplate granites. Petrological data indicate crystallization in the range of 600 to 700 °C and depth about 1 km.

The Água Boa tin deposit is associated to a greisen cupola. The greisen and ultragreisen are enriched in cassiterite, columbite-tantalite and topaz in the Madeira granite the deposits are associated with albite granites formed by quartz, potassic feldspar and albite with accessory biotite, lepidolite, arfvedsonite, magnetite, cassiterite, columbite-tantalite, pyrochlore, xenotime, fluorite, cryolite, galena, sphalerite, thorite, beryl and samarskite. The alluvial deposits are large and lie close to the granitic source areas. The emplacement of the granites took place under an extensional tectonic regime, within deep seated fractures through a stoping and subsequent cupola collapse. The petrological features suggest a magmatic evolution under fractional crystallization of a deep seated basic magma generated by partial melting of the mantle and remained at the mantle-crust interface during differentiation and thus possibly submitted to crustal contamination.

Dillemburg, S.R., 1988. A contribution to the quaternary paleogeographical evolution of the Rio Grande do Sul continental shelf. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 451 1988 Date of presentation:

Sérgio Rebello Dillemburg Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: RS 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This dissertation deals with the study of the morphologic features and the sediments of the surface of the continental shelf-edge zone as well as its shallow subsurface depositional features, with the purpose of identifying and detailing the depositional model established in this zone during the last Wisconsinan lowstand of sea level.

The morphologic features, the sediments, and the sedimentary subsurface features observed permitted to divide the study area into three sectors: the southern, the northern and the central sectors.

Evidence obtained from bathymetric, high resolution reflection seismic, and sedimentologic data (textural composition, mineralogic maturity, and sediments morphoscopic characteristics) pointed to the occurrence of a high rate of sedimentation associated with a deltaic system in the southern sector of the study area during the last lowstand of the sea level.

The deltaic system established in this sector was related with the Rio de la Plata fluvial system, which influenced the shelf-edge sedimentation, approximately until the Rio Grande Cone during the last sea level lowstand. In the northern sector, it was observed a major influence of the Uruguai and Rio Grande do Sul highlands fluvial drainages, mainly marked by the presence of sandy sediments of higher values of mineralogic maturity than those observed in the southern sector.

The central sector shows intermediary sedimentologic characteristics in reference to the southern and northern sectors. However, it was verified a major influence of the Rio de la Plata fluvial system in the sedimentation of the sector.

The identification of a deltaic depositional system permitted to conclude that during the sea level lowstand, other sedimentary environments of the transitional type were developed in the shelf-edge zone.

The presence of pyroclastic materials (Volcanic glass) was observed in the surface sediments that cover the outer continental shelf, mainly in the southern and central sectors.

The present study contributes to a better knowledge of the evolutionary aspects of the Rio Grande do Sul continental shelf in the Quaternary.

Eilert, V.M.P. 1988. Polycystina radiolarians (Collosphaeridae family) in Pleistocene/Holocene sediments from the southern Brazilian continental margin. Systematics, general considerations on ecology, palaeoecology and geographic and geologic distributions. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 812

1988

Date of presentation:

Valesca Maria Portilla Eilert

Advisor(s): Esteves, I.R.F.

Kotzian, S.C.B.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This study deals with the family Collosphaeridae (Polycystina, Spumellaria), which comprises the species of colonial radiolarians bearing simple siliceous shells. The main purpose of this dissertation is the systematic study of the group. In addition, other relevant topics were studied, resulting in a synthesis of the current knowledge of the collosphaeridae, including aspects of their biology, ecology, geographical and geological distribution.

The results of this research add new data to the more ample study of the Subclass Radiolaria, which has been developed throughout this decade in the sector of Micro-paleontology of this University.

The analyzed material, represented exclusively by isolated shells, was obtained in 4 samples of superficial sediments and 13 cores from the South Brazilian Continental Margin.

Different methods of sample preparation have been tested (4 altogether), with the aim of improving current procedures. It was verified that the radiolarian groups presented different reactions to each technique. The more fragile forms, which include collosphaerids, are best preserved by using the more simplified methodology.

From the 6 genera presently related to the family Collosphaeridae, 4 have been found in these sediments: *Acrosphaera* Haeckel, 1881; *Collosphaera* Müller, 1885; *Siphonosphaera* Müller, 1858 e *Trisolenia* Ehrenberg, 1860a. Individuals of the genus *Acrosphaera* were the most frequent and abundant, followed by *Collosphaera*. *Siphonosphaera* and *Trisolenia* are very rare, specially the latter, from which only 5 individuals were found.

The following taxa were identified: *Acrosphaera lappacea* (Haeckel, 1887); *Acrosphaera monodon* (Haeckel, 1887); *Acrosphaera spinosa* (Haeckel, 1862); *Collosphaera huxleyi* Müller, 1855 (presenting 2 distinct morphotypes: *Collosphaera huxleyi* (forma *huxleyi*) and *Collosphaera huxleyi* (forma *tuberosa*)); *Collosphaera macropora* Popofsky, 1917; *Siphonosphaera polysiphonia* Haeckel, 1887; *Siphonosphaera tenera* Brandt, 1885; Gen. et sp. indet. A; *Trisolenia megalactis* Ehrenberg, 1860a and *Trisolenia tenuissima* (Hilmer, 1906).

The species *A. monodon*, *S. tenera*, and *T. tenuissima* were found for the first time in the South Atlantic, having not been previously registered in this oceanic sector either for sediment or plankton. Furthermore, this is also the first worldwide register of *T. tenuissima* in sediment samples, since this species had only been found in the plankton of the Pacific and North Atlantic (Sargasso Sea).

Since colonial radiolarians are good indicators of warm superficial waters, an attempt was made to determine possible temperature changes during the Late Pleistocene-Holocene in the sediments of core T 15. This preliminary investigation was based on the comparison between warm water assemblages, in this case represented by the collosphaerids, and a cold water assemblage, cited by Eilert (1985). It was found out that, in certain intervals, the behaviour of the assemblages was significant, in the same way as the results obtained in Palynology by Lorscheitter & Romero (1985) for the same core. The predominance of warm water species within the interval of 4.60m to 5.80m (with slight oscillations) coincides with section II, related to the Interstadial Würm by the already mentioned authors.

Throughout the development of this study it was noticed that there are gaps concerning a great deal of information and data, which would certainly be of complementary value. Thus, it was considered as appropriate to include suggestions of studies that might be carried out in the future, aiming at the improvement of the knowledge about this group of microorganisms in the South Atlantic, from the bioecological as well as paleontological and biostratigraphical point of view.

Guimarães Netto, R. 1988. Paleoichnology of the basal sediments of Rio do Rasto formation in Rio Grande do Sul state. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 813

1988

Date of presentation:

Renata Guimarães Netto

Advisor(s): Araújo-Barberena, D.C.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This dissertation presents an analysis of the ichnofauna occurring at Serrinha Member, Rio do Rasto Formation, Rio Grande do Sul State, Brazil. The ichnofossils belong to the Cruziana ichnofacies, which includes the ichnogenera *Coclichnus*, *Helminthopsis*, *Isopodichnus*, *?Oldhamia*, *Planolites*, *Teichichnus*, *Thalassinoides* e *Unarites*. This assemblage is shared by two ichnocoenoses, A and B, characterizing high and low energy, respectively. With the other sedimentary structures they suggest a deposition on subtidal and intertidal facies. The A ichnocoenose, which is rich in traces with protrusive spreiten, reveals a quick and continuous sedimentation, in contradistinction to B ichnocoenose, whose grazing traces show slow sedimentation.

Kahn, H. 1988. Mineralogic and technological characterization of the phosphate deposit of the Anitópolis alkaline Massif, SC state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1812 1988 Date of presentation: 1/9/1988

Henrique Kahn Advisor(s): Ulbrich, H.H.G.J.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Leite, J.A.D. 1988. Geologic setting and geochemistry of the mafic lavas of the volcanosedimentary Quatro Meninas sequence, Indaiá municipal, MT. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 495 1988 Date of presentation:

Jayme Alfredo Dexheimer Leite Advisor(s): Jost, H.

Committee:

Subject of thesis: Geochemistry

State: MT 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The geology of the southwestern portion of Mato Grosso State is constituted by rock associations that characterize an evolution similar to the one found in granite greenstone terrains. The Quatro Meninas Volcano Sedimentary Sequence is a good example of these rock associations. This Sequence has three units, from bottom to top: a Mafic Volcanic Unit, a Chemical Unit, and the Felsic Volcanic Unit. The Mafic Volcanic Unit is the most important and occurs in 85% of the studied area.

The petrographic data identify one metamorphic event of greenschist facies conditions. The geochemical characteristics presented by the Mafic Volcanic Unit lead to the division of these lavas into two groups: one, characterized by komatiitic affinity and represented by komatiitic basalts; the other is characterized by tholeiitic affinity and represented by normal tholeiites and iron rich tholeiites. The magma generation of these two groups was of the same source, by means of different episodes of partial melting of different amount. These lavas spread only under subaqueous conditions.

Mano, V.G.T. 1988. Geologic and geotechnical studies of the rocky discontinuities, "pillow lavas" and paleochannels in the basalts of the foundations of the Nova Avanhandava dam, Rio Tietê river (SP state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2175 1988 Date of presentation: 17/6/1988

Vinicius Gomes Taveira Mano Advisor(s): Farjallat, J.E.S.

Committee:

Subject of thesis: Engineering geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Matos, F.M.V. 1988. A structural and petrographic study of the Ambrósio granite-gneissic dome, in the rio Itapicuru "greenstone belt", Bahia state, Brazil. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 959 1988 Date of presentation: 11/3/1988

Fernando M. V. Matos Advisor(s): Davison, I.

Committee:

Shiguemi Fujimori - IG/UFBA

Michel H. Arthaud - DG/UFCE

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The Rio Itapicuru greenstone belt consists of a series of N-S trending synclinoria filled with tholeiitic basalts, calcalkaline volcanics and vulcanogenic sediments. This supracrustal sequence is surrounded and intruded by mafic and felsic bodies as well as granite gneiss domes. The latter occupy asymmetric anticlines and constitute the lateral boundaries of the greenstone. This granite-greenstone terrain is surrounded by granite-gneiss and migmatites which represent the high grade terrain of the São Francisco Craton.

The Ambrosio Dome is situated in the central part of the supracrustal sequence. It is composed of a central nucleus of weakly deformed granodiorite and highly deformed margins of granodiorite, pegmatites and tonalitic gneisses. The contact between the granodiorite and the highly deformed gneisses can be transitional, or abrupt, where weakly deformed granodiorite intrudes the gneisses producing gneiss xenoliths. The gneisses are thought to represent the sialic basement of the greenstone. Previous authors have presented conflicting ideas on the Dome, considering it either as basement to the greenstone or an intrusion. The following evidence support this interpretation:

- 1) presence of an intense flattening finite strain fabric around and parallel to the dome margins;
- 2) late stage tourmaline-rich pegmatites are injected at the dome margins and intrude the supracrustals as well;
- 3) contact metamorphism which reaches partial melting conditions affected the supracrustals at the dome contacts;
- 4) deformation of the supracrustals was coeval with the contact metamorphism.

Trace element patterns suggest the Dome belongs to a Post-collisional group with I type characteristics. It shows a calcalkaline trend of major elements and is believed to be derived from partial melting of subducted oceanic crust. Magma crystallisation is thought to have occurred at about 20 km depth with a water pressure of 4 kb.

The supracrustal country rocks exhibit contact metamorphism up to 500 metres from the dome contacts. Metamorphic grade rise from greenschist facies to upper amphibolite with temperatures up to 550-650°C and maximum pressures of 3 or 4 kb, indicating a geothermal gradient in excess of 200°C/km perpendicular to the contact of the dome.

The most characteristic structure of the dome is the highly deformed border with an intense flattening fabric developed parallel to the dome margins. This fabric is interpreted to be the product of forceful intrusion with flattening produced in the zone of the diapir. A banded iron formation occurs around the margin of the dome suggesting that the diapir was arrested at this level by this unusually competent lithology. Folding is thought to have occurred during intrusion producing the elongated outcrop form of the dome. The Ambrosio Dome occupies an asymmetric pericline with an N-S axial plane dipping 60°W. This suggests that the greenstone belt was deformed by diapirism along with an E-W compression.

Mello, G.A. 1988. Sedimentary processes in the Brazil basin: Southeast-southern sector. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1424

1988

Date of presentation:

Gilberto Andrade de Mello

Advisor(s): Gorini, M.A.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Recent sedimentation processes have been studied in the Brazil Basin, with special attention to the region between Rio Grande Rise and Vitoria-Trindade seamounts. The analysis of seismic reflection profiles, 3.5 and 12 kHz echograms, piston cores and bottom photographs demonstrates that downslope and alongslope processes have influenced both sediment distribution and bedforms. Across slope sediment transport were found to have occurred in two areas. First, downslope flows occur on the relatively steep continental slope and the São Paulo Plateau, within a depth range from 200 to approximately 3,200 meters, between the shelf break and the scarp of the São Paulo Plateau. Some of these downslope flows bypass the scarp of the plateau and extends to abyssal depths (3,200 to 5,500 meters). Second, downslope movements were noted on the flanks of Rio Grande Rise at depths ranging from 1,000 to approximately 4,200 meters. The evidence of downslope transport in these areas was found in close relationship with the several canyons and downslope channels. Downslope mass movement in the area was recognized by the bottom micromorphology, as revealed on 3.5 - 12 kHz echograms, and by the sedimentary structures found in the sediment cores. Rough topography and acoustically transparent sediments, characteristic of slide material, and strong, prolonged and/or hyperbolic echoes associated with turbidity flow pathways were commonly found on the continental slope and rise, and on São Paulo Plateau. Surface sediments recovered in cores in these areas show evidence of transport and redeposition, from chaotically mixed terrigenous and carbonate materials to turbidites. A downslope gradation of microtopographic features, from slumped blocks, scarps, irregular hyperbolic echoes, etc., to prolonged and/or more regular hyperbolic echoes downslope was observed on the continental margin. This gradation suggests that the submarine gravity flows in this area were initiated by slumps in the shallower upslope areas and have developed or triggered turbidity currents, that have incised turbidite pathways in the deeper areas downslope. In the deeper areas of the continental rise and abyssal plain, beyond the limits of the São Paulo Plateau, ocean bottom appears to be more influenced by alongslope sediment transport, deposition and scouring by the flow of Antarctic Bottom Water. The flow paths of this bottom current were determined by the analysis of orientation of bedforms on echograms and bottom photographs. Sediment waves, thought to have been formed by settling of fine sediment particles brought in by bottom currents, are widespread on the continental rise at depths greater than 3,400 meters. These sediment waves, in turn, decorate the tops of extensive acoustically transparent or semi-transparent sediment accumulations, recognized on seismic reflection profiles, that are usually greater than 100 kilometers long and often exhibiting a crest which is elevated 80 - 200 meters above the surrounding area. Such characteristics suggest that these extensive accumulations of sediment are drift deposits. These sedimentary features were noted from the southern end of the area near the Rio Grande Rise to as far north as 24 degrees south, where turbidity processes associated with the Columbia Channel seems to have inhibited the development of drift morphology. Drift deposits are bounded by extensive alongslope channels carved by the Antarctic Bottom Water (e.g.: Vema and Rio de Janeiro channels). Also, on the flanks of the drift deposits and on the continental rise and abyssal plain areas where the bottom current spreads, the ocean bottom is decorated by erosional and/or depositional furrows. These furrows are inferred from regular hyperbolic echoes, which apexes are tangent to the surface or to subbottom reflectors. Bottom photographs in these areas confirm the presence of furrows, and they also show other current-created bottom features (e.g. ripples and linacons). These microtopographic features, therefore, suggest the site of the bottom current axis, where the current is inferred to be stronger. Bottom photographs also show that the bottom surface is occasionally covered by massive manganese nodules and crusts in the vicinity of hyperbolic echo zones. The nodules also attest to contour current activity. The presence of these

manganese nodules has been noted mostly in the Vema Channel area, whereas they seem to be less abundant in the areas beyond the channel.

Menezes, M.G. 1988. Geology and gold occurrences on the Maquiné Belt, south of the Capanema Quadrangle, "Quadrilátero Ferrífero", Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M049

DataBase Ref.: 109 1988 Date of presentation: 3/10/1988

Messias Gilmar de Menezes Advisor(s): Leonardos, O.H.

Committee: Hardy Jost - IG/UnB
Eduardo Antonio Ladeira - IGC/UFMG

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The aim of the study is to describe the main controls of gold occurrences within a large scale shear zone in the State of Minas Gerais named the Maquiné Belt. The belt is characterized by a complex assemblage of mylonites arranged into two main petrographic domains: sericite quartzites and quartz-sericite mylonite-schists. The first deformation phase is attributed to the formation of the shear zone whose major expression is the NW-SE trending Fundão Fault. During this phase the regional rocks have been submitted to a ductile deformation responsible for the prominent mylonitic foliation S1, that gives place to a later ductile-ruptile deformation with the development of stretching lineations with a SE plunge. A first gold-sulfide assemblage, mostly represented by ullmanite, associated to microscarcoidal quartz, siderite, and aluminum silicates (chloritoid and kyanite), is formed when the ductile deformation is replaced by the ductile-ruptile deformation and dynamic metamorphism of greenschist facies gives place to conditions transitional to amphibolite facies. The second deformation phase is characterized by a crenulation cleavage and formation of asymmetric folds with an easterly vergence. A second phase mineralization is related to the opening of late D2 decompression fractures. This mineralization event is represented by a quartz-siderite freibergite assemblage, in general very low in gold content. The studied gold occurrence is, thus, represented by a sulfide paragenesis lacking arsenopyrite and related to Cu.

The most important pathfinder is Sb which occurs in most of the sulfides within the shear zone. Elements which specifically indicate gold are Sb when the gold zone is enriched in ullmanite or Cu when it occurs in the later quartz-carbonate-ullmanite veins.

Morales, N. 1988. Litho-structural evolution of precambrian rocks of the São João da Boa Vista region. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1892 1988 Date of presentation: 2/5/1988

Norberto Morales Advisor(s): Almeida, F.F.M.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Nogueira Jr, J. 1988. Possibility of chemical filling of the filters and drains of the Porto Primavera dam (SP state) by ferric components. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2177 1988 Date of presentation: 15/8/1988

Jehovah Nogueira Junior Advisor(s): Suguio, K.

Committee:

Subject of thesis: Engineering geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Pereira Filho, J.S. 1988. Holocene depositional model for the outer shelf, shelf break and upper slope of the Rio Grande do Sul continental margin, from Rio Grande to Torres. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 454 1988 Date of presentation:

Josemar Santos Pereira Filho

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

Centroid of the area:

' -

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Abstract

The area in point lies on a reasonably steady continental border of which stratigraphical evolution and structuring result from the separation of South American and African plates. The paleogeographic evolution of the most modern areas covering the external shelf, cliff zone and upper slope is consequence of glacio-eustatic changes which took place from the Upper Wisconsinian known as Holocene Transgression. The horizontal distribution of the textural characteristics of size of the particles shows the mainly reliquian nature of these sediments, where one can note a concentration of coarses or biotica in the external shelf and cliff zone, reflecting a Pre-Holocene level of stabilization. Of the same reliquian nature, the thin material of the middle shelf is probably covering ancient channels and valleys related, regarding the meridional area, to the ancient drainage system of Rio da Prata; the fines of slope, also relics, result from an intense gathering of material which comes from Rio da Prata and from the drainage of the highlands of Rio Grande do Sul flowing into the neighborhood of this area. The action of prograding depositing mechanisms with hemi-pelagic characteristics, as well as typical sequences produced by gravitational flows of sediments are clearly recognized from the evidences collected about the cliff zone and upper slope. In some instances, however, it's possible to identify typically reliquian sequences in the external shelf, which result from littoral features as bars, sandbars, etc. The coarse material, of mainly quartzons nature, aggregated to a round formation with a polished saccharoidal superficial aspect, mostly found in the external shelf and cliff zone, reflects on average to high level of reworking taken place in a fluid milieu. This fact confirms once again an energetically significant depositing environment in a Pre-Holocene abated sea level.

Pineiro, S.O. 1988. Geology and petrology of the chromite deposits of Piumhi, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M050

DataBase Ref.: 110

1988

Date of presentation: 9/12/1988

Stelamaris de Oliveira Pineiro

Advisor(s): Danni, J.C.M.

Committee:

Ariplino Antonio Nilson

- IG/UnB

Maria Angela F. Candia

- IGc/USP

Subject of thesis: Prospection and Economic Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

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Abstract

La région étudiée est constituée de trois unités lithostratigraphiques:

a. séquence volcano-sédimentaire des "Serras da Gabiroba et Lava-Pés".

b. Granite intrusif.

c. Unité métasédimentaire.

La séquence volcano-sédimentaire des "Serras da Gabiroba et Lava-Pés" est constituée de roches métavolcaniques acides à basiques et de pétrochimie semblable à celle de la base du "greenstone-belt" de Pium-hi. Un sill métamorphique de direction N-S est inclus dans cette séquence. Il est constitué de peridotite à serpentine et talc avec des restes de cumulates d'olivine et piroxène différenciés en roches basiques, représentées par des schistes à trémolite et actinote. A la base de l'unité métamorphique, existent des dépôts de chromite. Leur pétrochimie les caractérise comme stratiformes et liés au milieu du "greenstone-belt".

La séquence volcano-sédimentaire correspond à la partie supérieure du "greenstone-belt" de Pium-hi d'âge probablement archéen, de même que le granite intrusif.

L'unité métasédimentaire d'âge probablement protérozoïque moyen repose sur les unités archéennes par un contact de chevauchement.

Ramos, R.G.N. 1988. Analysis of the Bostick-Niblett transform in the interpretation of magneto-telluric soundings : Application to Paraná basin data. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1556

1988

Date of presentation: 6/7/1988

Reinaldo G. N. Ramos

Advisor(s): Sampaio, E.E.S.

Committee:

Subject of thesis: Geophysics

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

The MT inverse problem for 1D geoelectric models can be dealt with approximation techniques which are based on the analytic properties of the induction response function. At present, there are three approaches in use by professionals whose interest lies on the conductivity structure of the earth: Niblett (NIBLETT & SAYN-WITTZENSTEIN, 1960); Schmucker (SCHMUCKER, 1970) e Bostick (BOSTICK, 1977). The Bostick-Niblett transformation term is proposed to designate the inversion in which the resistivity

computation is based on inclination $m(T)$ of apparent resistivity curve without utilization of phase data to estimate this inclination. The results of the comparative analysis between the Bostick-Niblett transformation and Schmucker approximation, through synthetic models, indicated that the former is better than the latter principally related to the approximation obtained for resistivity and top of resistant layers. The Bostick-Niblett transformation was applied to SMT data already processed from a detailed survey in Paraná Basin area. The analysis of its performance was made by comparison with well data existent in the area and also with automatic inversion. This analysis showed that the quantification of the parameter thickness, of the geoelectric model when Bostick-Niblett curves are utilized, is facilitated by simple computation of their respective derivative curves. Through the obtained maximum and minimum points, it is possible to correlate accurately the inflection points of the Bostick-Niblett curves corresponding to the contact between the geoelectric layers. The larger power of resolution of this transformation technique lays on the determination of basalt basis. The conclusion from the obtained results is that the application of this technique must not be limited to an initial model for the automatic inversion program. The comparison between the observed Bostick-Niblett curves and the corresponding curves of the final model established by automatic inversion indicates little deviations between both curves which are not observable in the comparison between the apparent resistivity curves. This permits to reduce the ambiguity of resolution of automatic inversion. Furthermore, the correlation sections of Bostick-Niblett and derivative curves, include the main information about the 1D configuration, and permit an evaluation about 2D configuration of geoelectric structure and present a better resolution for basalt basis and top of deep conductor than the automatic inversion. Thus, in cases where MT survey is carried out to attend geothermal application or structural recognition, a geoelectric section based on correlation section of Bostick-Niblett and derivative curves can be considered as a final result.

Rego Neto, C.B. 1988. Morro da Cruz hill - Florianópolis - SC state: Geological-geotechnical constraints to the use of the soil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1600 1988 Date of presentation:

Cândido Bordeaux Rego Neto Advisor(s): Barroso, J.A.

Committee:

Subject of thesis: Geotechnical Mapping

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

This work tries to develop a new methodological approach to the integrated analysis of environmental factors. In this research, environmental characteristics and conditions are evaluated according to their impact on the urban occupation of "Morro da Cruz" slopes, in Florianópolis, Santa Catarina state, Brazil. This place was chosen because of the disaster risks its unplanned occupation poses to a large number of squatters. After an analysis of geologic-geotechnical & geomorphological conditions and of the existing vegetation and occupation a "qualitative overlay" technique is applied to the data till achieve a map of recommended land uses, which can thus support a rational planning of the area.

Reinhardt, M.C. 1988. Litho-structural controls of the gold mineralization in shearing zone of the Mina Fazenda Brasileiro mine, Bahia state. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 960 1988 Date of presentation: 29/11/1988

Mário C. Reinhardt Advisor(s): Davison, I.

Committee: Maria da Glória da Silva - IG/UFBA

Michel H. Arthaud - DG/UFCE

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The Fazenda Brasileiro mine is situated in the southern part of Rio Itapicuru greenstone belt. It is an hydrothermal quartz-gold vein deposit hosted by iron-rich chlorite schist and associated with a ductile-brittle poly phase shear zone and extensive hydrothermal alteration.

The structural relations suggest a primary control of mineralization by a ductile simple shear zone (F1) of kilometric extension. The shear zone developed contemporaneously with granitic diapirism and greenschist-grade metamorphisms. This represented favourable conditions for an effective system for generating, transporting and channelling of hydrothermal fluids in the shear zone. The main mineralization occurred during reactivation of the zone by transpressive ductile-brittle shearing (F2) with progressive quartz-veining associated with albitization, carbonation and dissemination of pyrite, arsenopyrite and microscopic gold. The dispersion of subeconomic anomalous gold content (50 to 300 ppb) throughout the sheared "magnetic schist" (XM) even in the absence of veining, suggests that the ductile simple shear zone (F1) provided the first anomalous gold concentration. The mineralization exhibits a hydrothermal alteration zoning on the scale of a single vein and of a whole orebody, with a mineralogical zonation of quartz-arsenopyrite-iron carbonate-pyrite-albite-calcite-chlorite-magnetite from the central part to the borders.

The configuration of veining and the hydrothermal alteration zone was controlled by the anisotropy of the host rock, high fluid pressure shearing and folding. There were at least four periods of fracturing with sequential emplacement of mineralized veins. An increase in competence by precipitation of quartz-albite in the previously altered zones of the XM, changing from a

lepidoblastic texture to a granoblastic-cataclastic texture, in conditions of high fluid pressure and preprogressive deformation, favoured the continuity of episodic repetitive fracturing in the same zone. Thus a highly competent and mineralized orebody developed, with a network of superposed veins.

Occasionally there are veins with low gold content (<0.05 ppm) and without visible alteration, hosted in the carbonate-chlorite schists with low iron content. These same veins can be traced into highly mineralized veins (>20 ppm) in the iron-rich "magnetic-schist" which show well-developed alteration haloes. The gold content has a positive correlation with pyrite and arsenopyrite, probably indicating the importance of the chemical control by the iron-rich host rock.

The chemical trap ("magnetic" schist) and the development of the main shear zone along a lithologic contact bordered by incompetent and less permeable sediments, favoured the stratabound form of the orebodies. Other lithologies (the gabbros and pelites) also show F2 veining. Close to the XM they have low gold contents (<0.05 ppm), however, in the longitudinal continuity of the shear zones they can also develop highly fractured and mineralized zones.

The ore shoots have their long dimension down the plunge of L2 stretch lineation, parallel to a pencil type intersection lineation and a quartz rod lineation. This results from the syn-tectonic F2 emplacement and development of the main mineralized veins in dilation zones. Other controls, like ore shoots related to axial zones of late-F2 folding, ore shoots conditioned by sensitive fracturing interpreted as result of F1 shearing, and the longitudinal shortening by F3, cause interferences to the down-plunge L2 control of the ore shoots.

The structural relations of veins and the variable physical-chemical control of host rock lithology on the form and mineralogy of the veins, suggests that vein formation hosted by the "magnetic schist", and the quartz-gold lodes hosted in other lithologies of the area, occurred at the same time.

Riedel, P.S. 1988. Study of the alteration overburden of part of the center-east portion of São Paulo state through remote sensing data. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1350

1988

Date of presentation: 19/12/1988

Paulina Setti Riedel

Advisor(s): Mattos, J.T.

Rueda, J.R.J.

Committee:

Subject of thesis: Remote Sensing

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

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Abstract

Rohn, R. 1988. Biostratigraphy and palaeoenvironments of the Rio do Rasto formation in the eastern border of the Paraná basin (Upper Permian, Paraná state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2178

1988

Date of presentation: 5/8/1988

Rosemarie Rohn Davies

Advisor(s): Rösler, O.

Committee:

Subject of thesis: Stratigraphy

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

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Abstract

Santos, A.M.M.M. 1988. Petrologic characterization of the basic granulites of the Guaranésia quadrangle (MG state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2174

1988

Date of presentation: 10/5/1988

Angela Maria Martins Marques dos Santos

Advisor(s): Oliveira, M.A.F.

Committee:

Subject of thesis: Mineralogy and Petrology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

Santos, R.V. 1988. Geology and geochemistry of the fluorite deposit of the Mato Preto alkaline-carbonatite complex, Paraná state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M047

DataBase Ref.: 107

1988

Date of presentation: 6/6/1988

Roberto Ventura Santos

Advisor(s): Dardenne, M.A.

Committee: José Caruso Moresco Danni - IG/UnB
Abrahão Issa Filho - CBMM

Subject of thesis: Prospection and Economic Geology

State: PR **1/1,000,000 sheet:** SG22 **Centroid of the area:** ' - 'W

Abstract

The Mato Preto carbonatitic complex consist of by four main circular structures, each one measuring 1 km diameter. Three of these structure, which are located at the north side of Mato Preto river, are composed mainly by fenitized syenites and in less proportion of calcitic carbonatites, fonolites and ultramafic alkaline rocks. The carbonatites occurs like dikes or associated with breccias. The fourth structure comprises mainly fonolites and explosive breccias. Potassic fenitization associated with volcanic breccias and volcanic rocks suggests a low erosion level of the complex.

Fluorite occurrence are widespread in the complex, although they are more common at the north side of Mato Preto river. The most important fluorite concentration, Clugger ore body, occurs in the northwest part of the complex. It consists of four main lens parallel to the Morro Agudo fault zone. Silicification and argilization are the most important hidrothermal alterations.

Among the six most important fluorite generations, the more commons are the colorless- microcristaline and the purple varieties. The first one substitutes the carbonates and also the latter one.

The rare earth elements concentration and patterns of the colorless-microcristaline fluorite, the purple fluorite, and the carbonatites are very similar. It was also observed a general decrease in the total REE concentrations and in the LREE/HREE ratio from early to the late fluorites generations.

The carbonatites near the Clugger ore body show high values of DELTA (I3 C) and DELTA (I8 O) stable isotopes when compared with other carbonatite areas of the complex. This is probably a consequence of the higher reactivity of the light isotopes with the mineralizing fluids.

Fluid inclusions data indicate a low fluorite temperature formation, with homogenization temperatures around 1500 C. The only exception is the colorless-microcristaline fluorite, in which was observed decipitated inclusions, suggesting that they a fluid with low ebullience were composed originally by a fluid with low ebullience temperature.

It is probably that the Morro Agudo Fault zone may had played a very important role in the fluorite concentration, increasing the reactivity of carbonates with the mineralizing solutions.

Seixas, L.A.R. 1988. Geology and gold metallotects of part of the Congonhas lineament, Minas Gerais state- Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M051

DataBase Ref.: 111 **1988** *Date of presentation:* 19/12/1988

Luís Antônio Rosa Seixas *Advisor(s):* Jost, H.

Committee: Bhaskara Rao Adusumilli - IG/UnB
Fernando Flecha de Alkmim - DEGEO/UFOP

Subject of thesis: Prospection and Economic Geology

State: MG **1/1,000,000 sheet:** SE23 **Centroid of the area:** ' - 'W

Abstract

Results of a 1:25.000 scale geologic mapping of an Archean area south of the Quadrilátero Ferrífero, State of Minas Gerais, Brazil, are presented. The area contains four lithostructural units, Alto Maranhão Gnaisses, greenstone-type supracrustals, a mylonitic Transition Zone and the Congonhas Granitoid. Field, chemical, textural and mineralogical characteristics of these units described and interpreted.

The Alto Maranhão Gneisses are hornblende-bearing, mesocratic, polideformed, xenolith- rich orthogneisses of high Al₂O₃, CaO, total Fe and MgO tonalite and trondhjemites. The greenstone supracrustals occur in a narrow (3km x 40km) NW-trending NE-dipping tectonic slice confined between the southern Alto Maranhão and northern lightgray tonalitic gneisses block. The greenstone supracrustals are represented by komatiities, small peridotitic intrusions, basalts, banded iron and manganese formations, graywackes and pelites that underwent several deformations and were metamorphosed under greenschist facies. The Transition Zone is a 2-3km wide mylonite zone derived from the northern metatonalites and supracrustal and was intruded by a polyphase dolerite and pyroxenite swarm. The Congonhas Granitoid intrudes the supracrustals and consists of a low Al₂O₃ and trondhjemite rich in xenoliths and supracrustal roofendants.

All units have been transposed by a NW-trending and NE-dipping prominent structure, the Congonhas Lineament, which is represented by the Transition Zone plus a part of the supracrustals, and is made up of a wide zone of several types of mylonites. Gold metalotects are grouped into four main types which are distinguished by their host rocks, hydrothermal alteration products and structural features, but all are proposed to be related to the Congonhas Lineament.

Suita, M.T.F. 1988. Geology of the Luanga area with emphasis on the petrology of the Luanga Basic-ultrabasic Complex and associated chromite deposits, Pará state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M046

DataBase Ref.: 106 **1988** *Date of presentation:* 28/3/1988

Marcos Tadeu de Freitas Suita *Advisor(s):* Nilson, A.A.

Committee: José Caruso Moresco Danni - IG/UnB

Maria Angela F.Candia - IGC/USP

Subject of thesis: Prospection and Economic Geology

State: PA 1/1,000,000 sheet: SB22 Centroid of the area: ' - 'W

Abstract

The Luanga Basic-ultrabasic Complex, located in the homonymous area of Carajás Mineral Province, is a sin-volcanic layered, deformed and metamorphosed body, of Archaean age, emplaced in high level in the Rio Novo Sequence. It comprises a sequence of cumulitic rocks composed of forsteritic olivine (+ Cr-spinel), bronzitic orthopyroxene (+ Cr-spinel), and plagioclase cumulus which forms dunites, harzburgitic peridotites, bronzitic orthopyroxenites and norites (ranging from mela- to leuco- norites anorthositics).

In whole rock, TiO₂, alkalies, P₂O₅ and incompatible elements are low, and SiO₂, Al₂O₃, MgO and CaO are relatively high. Compared to "medium rocks" of Skaergaard, ultramafic rocks are more magnesian than "hidden zone" rocks and that noritic are more calcic-aluminous than the gabbroic rocks of Skaergaard.

The olivine is a chrisolite (Fo: 84-87 %), the orthopyroxene is a bronzite (En: 76-78 %) and the plagioclase is bitownitic (An: 65-79 %) and poor in K₂O. The filiation of this layered complex is tholeiitic, with FeO/MgO close to unity, of possible calc-alkaline transitional nature.

This complex hostess a stratiform chromite deposits, deformed and metamorphised together with their host rocks. The chromite presents an exsolved chromium rich phase (chromite, s.s.) and another rich phase (Fe-chromite), which by reaction with silicatic framework forms Cr-chlorite (?) + serpentine. The generation of fechromite it is a function of metamorphic degree, tectonism and quantity of framework and silicate inclusions in the original ore.

The structural control of chromite deposits is related to the main phase of deformation in the Luanga area. The lithologic-stratigraphic control concerns to the top of medium ultramafic section (peridotites and pyroxenites) and the base of upper mafic section (norites).

The Rio Novo Sequence represents a probable greenstone belt, with minimum age of 2.76 B.a., characterize by widespread mafic rocks. It is polideformed-metamorphized, with higher metamorphism near its contacts with the granite- gnaiss terranes.

The Xingu Complex, of minimum age upper Archaean 2.6 B.a., it is represented in the area by two groupments, one of gabbro-dioritic nature, with relict of granulites (s.l.) and another one tonalitic- trondhjemitic, both with cataclastic-mylonitic facies. The contact with the mafic-ultramafic complex occurs by thrust faults.

The Grão Pará Group, of upper Archaean age - 2.74 B.a., is represented by "bifs" of oxide facies, possibly correlated to "greenstones".

The metamorphism was widespread in the area, in amphibolite and greenschist facies in the Xingu Complex, Rio Novo Sequence and Luanga Complex. This one of greenschist facies occurred by domains associated to main deformational phase of the area, function of probable thrust of Xingu Complex block's over the another rock units, in a tectonic style like "slices". At the metamorphism is associated, in zones of strong deformation, the mobility of trace elements little mobile, in a special way with great enrichment of light rare earth elements in rocks of Luanga Complex by Ca-metassomatism and tremolite or actinolite formations

The main stage of metamorphism and deformation is related to ends of Transamazonian Cycle (~ 1.85 B.a.). The cratonic stabilization was happen near 1.6 B.a.

The tectonic environment suggested to the Archaean, in the Luanga Area is of an island arc neighboring to protocontinental masses.

Trindade, L.A.F. 1988. Stratigraphy and geochemical correlations in Espírito Santo basin. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1425 1988 Date of presentation:

Luiz Antônio Freitas Trindade

Advisor(s): Rodrigues, M.A.C.

Cardoso, Y.N.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Twenty-three oil-samples, recovered from several oil fields of the Espírito Santo Basin, and rock samples collected from twelve wells located in the onshore area of the basin have been analysed. Carbon isotopic ratio and biomarkers (steranes and terpanes) of source-rock extracts from the pre-Aptian section allowed the identification of four depositional sequences throughout the basin. In this section, paleontological, seismotratigraphic or log correlation methods did not attain any results in the stratigraphic subdivision. The sequences herein proposed were named O, N, M and L, from bottom to top. Three oil types have been characterized: the oils classified as Type A are accumulated in Cretaceous and Tertiary turbiditic reservoir rocks, located in the Regência and Fazenda Cedro Paleocanyons, and in the Albion reservoir rocks located in the Regência Shelf. Type B and Type C oils are accumulated in Aptian reservoir located in the São Mateus Shelf. These oils have been submitted to different stages of microbiological degradation. Temperature has played an important role in the control of this process. The correlation of oils and source rocks points to the generation of types A and B from L and M sequences, while Type C oil is considered mixed, resultant of a mixture from all depositional sequences.

Varajao, A.F.D.C. 1988. Genesis of the Vargem dos Óculos kaolinite and bauxite deposits, Quadrilátero Ferrífero, MG state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2180 **1988** Date of presentation: 4/8/1988

Angelica Fortes D. Chicarino Varajao Advisor(s): Melfi, A.J.

Committee:

Subject of thesis: Mineralogy and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Vasconcellos, A.C.B.C. 1988. Andrelandia group in the northern region of Ouro Fino, MG state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2181 **1988** Date of presentation: 29/8/1988

Antonio Carlos Buzolin Cabral de Vasconcell Advisor(s): Figueiredo, M.C.H.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Zucolotto, M.E. 1988. Metallic meteorites, An overview. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 995 **1988** Date of presentation:

Maria Elizabeth Zucolotto Advisor(s): Wiedemann, C.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

A metallographic investigation of macro and microstructure, supported by microprobe and X-ray examination, has been made in five Brazilian iron-meteorites. The Soledade is lightly shocked coarse octahedrite, Og, rich in carbides. Bandwidth 2-4 mm, HV 225 (15, Neumann bands, subgrains, rhabdites, cohenite, polycrystalline troilite type 3. Belongs to group IAB, with 6.78% Ni, 98.5 ppm Ga, 420 ppm Ge, and 3.9 ppm Ir. This meteorite was briefly artificially reheated. Pirapora is a shocked and reheated hexahedrite, H, formed by clear and frost etching kamacite, with decorated and fresh Neumann bands, rhabdites (giant, plate, clusters and microrhabdites), chromite and remelted troilite type 5. Belongs to group IIA, with 5.38% Ni, 59.5 ppm Ga, 190 ppm Ge, 28 ppm Ir. Nova Petropolis is a shocked and annealed medium octahedrite, Om, Bandwidth 1.1 (0.1 mm, L/W (25, HV 170 (20. It presents annealed and decorated Neumann bands, rhabdites, schreibersite and recrystallized troilite type 4. Belongs to group IIIA, with 7.65% Ni, 19.7 ppm Ga, 36.5 ppm Ge and 19.3 ppm Ir. Itutinga is a shock hardened, medium octahedrite, Om. Bandwidth 1.0 (0.1 mm, L/W (25, structure, presenting hardness range from HV 230 to 340. Neumann bands, subgrains, rhabdites, carlsbergite and twinned troilite type 2. Belongs to group IIIA, with 7.2% Ni, 18.6 ppm Ga, 36 ppm Ge and 13 ppm Ir. Sanclerlândia is a lightly shocked medium octahedrite, Om, Bandwidth 1.0 (0.1 mm. It can be found Neumann bands, HV 250 (20, subgrains, rhabdites, carlsbergite and lamellar troilite daubreelite of type 1. Group IIIA, with 7.47% Ni, 11.6 ppm Ga, 36.4 ppm Ge and 7.5 ppm Ir. Comparing the meteorites studied with other known Brazilian irons, we verify that: the Itutinga, Nova Petrópolis and Soledade are independent irons. On the other hand, Sanclerlândia is closely related with the Veríssimo (Go) iron. However a cross examination should be carried out to determine if these two meteorites are a paired fall. Despite of the fact that Pirapora and Angra dos Reis Iron are chemically and structurally closely related, there are some mineralogical differences (the presence of cohenite in Angra dos Reis chromite in Pirapora) that put the paired fall hypotheses in question.

Abreu, P.A.A. 1989. geology of the Onça and Cuibá quadrangles (Gouveia - MG state) - Central median region of the Serra do Espinhaço Meridional range. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1169

1989

Date of presentation:

Pedro Angelo Almeida Abreu

Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

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Abstract

The present thesis presents the results of a geological mapping from the of Cuibá and Onça (Gouveia - MG), on a 1:25.000 scale. Three main units were recognized: The infracrustal Sequence (crystalline basement), the Rio Paraúna Supergroup (supracrustal Sequence, Volcano-sedimentary Sequence of Archean age, with its groups Pedro Pereira and Costa Sena, with the Barão de Guaicuí Formation being an outcrop of the latter); and the Espinhaço Supergroup with its three Lower formations (São João da Chapada, Sopa-Brumadinho - including the Campo Sampaio Member - and Galho do Miguel). The two large supercrustal units are dominated by metamorphosed sediments in greenschist facies (lower grade). The Rio Paraúna supergroup shows a complex structure tectonically imbricated with the basement and highlighted by a schistosity-mylonitic foliation in the NNW direction with ENE dips. The main sedimentary features are well preserved in the rocks of the Espinhaço Supergroup which are formed structurally with wide asymmetrical folds in the westerly direction and axis in the direction North-South. Secondly there is a shearing which cuts through the flanks of the large folds, aligned in the North direction. Metabasic rocks cut the whole litho-stratigraphic appearing as dikes and sills. Cenozoic deposits (alluvion, colluvion and elluvion) complete the stratigraphic units of the region. The main mineral resources of the area are quartz and the alluvional deposits of gold and diamond.

Aguirre, H.R.B. 1989. Gravimetric surveying, automatic bi-dimensional modelling and interpretation in the Baixada de Jacarepaguá occidental region- RJ state - Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1584

1989

Date of presentation:

Hugo Richard Bertete Aguirre

Advisor(s): Lotze, W.F.

Committee:

Subject of thesis: Geophysics

State: RJ

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

The aim of the present investigations enclose three principal aspect: 1) gravimetry survey, 2) methodology development of automatic two-dimensional modelling, and 3) interpretation of gravity anomalies. The chosen area for the application was the occidental region of the "Baixada de Jacarepaguá-RJ". Based on geological and geomorphological data of the area, and on the gravity interpretations results was possible to detect: a) maximum depth of the sediments, which is approximately of 150 m; b) regions where the basement is practically emerging; c) possible secondary paleo-canals with an average depth of 70-80 m. The area presents gravity anomalies bigger than the one initially expected. The maximum amplitude verified was 2.7 mgal. Computers programs were developed in the present thesis for the gravimetry reductions, preferentially to the automatic two-dimensional gravity modelling. The original algorithm (Qureshi, 1971) was modified in this work to improve the convergence and reliability of the results.

Amaro, V.E. 1989. Geology and petrology of the Jaupaci meta-volcanic sequence and associated lineaments. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M055

DataBase Ref.: 115

1989

Date of presentation: 31/8/1989

Venerando Eustáquio Amaro

Advisor(s): Fuck, R.A.

Committee:

Hardy Jost

- IG/UnB

Umberto Raimundo Costa

- IG/UFBA

Subject of thesis: Prospection and Economic Geology

State: GO

1/1,000,000 sheet:

SE22

Centroid of the area:

' -

'W

Abstract

The Fazenda Nova-Jaupaci-Israelândia area in western Goiás, Brazil, is underlain by Proterozoic granite-gneiss terrain flanked to the west by a narrow north-south striking belt of metavolcanic rocks - The Jaupaci Sequence. Several post-orogenic Eopaleozoic granites intruded both metamorphic associations, which are unconformably overlain by Devonian sedimentary beds to the south, and covered by Cenozoic lateritic soils and alluvial deposits to the north. The gneiss terrain comprises deformed felsic plutonic rocks, largely of granite-granodiorite composition, and several small lenticular bodies of ultramafic rocks, metamorphosed under

amphibolite facies conditions. The Jaupaci sequence is made of mafic and felsic metavolcanics, locally intercalated with metachert, and intruded by small felsic subvolcanic plugs. Mafic rocks are metabasalts with relict porphyritic and vesicular textures and chemical affinity with low-K island-arc tholeiites. Felsic metavolcanics are mainly pyroclastic deposits of dacite to rhyolite compositor and calc-alkaline affiliation.

Metamorphic mineral paragenesis are typical of greenschist-amphibolite facies transition to amphibolite facies conditions. Temperatures between 5200C and 6000C were obtained by plagioclase-amphibole and amphibole-garnet geothermometry. Four deformation phases were recognized within the metavolcanic belt and neighboring gneiss terrain, which correlate well with three lineament systems identified through SLAR imagery photo-analysis. One of these systems coincides with the 600 My old Fazenda Nova shear zone, which is a NNW trending right-lateral strike-slip fault zone. Geologic, petrographic, geochemical and geochronologic evidence suggests the metavolcanic belt and the adjacent gneiss terrain formed in an island-arc-type environment around 900 - 1000 My ago.

Argolo, J.L. 1989. Faciologic studies of the medium to superior Espinhaço supergroup metasediments in the Lençóis region, Chapada Diamantina, Bahia state, Brazil. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1297 1989 Date of presentation: 28/6/1989

João L. Argolo Advisor(s): Vilas Boas, G.S.

Committee: Arno Brichta - IG/UFBA
Francisco C. Pontes - PETROBRÁS

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

This paper is a study of the metasedimentary rocks that occur in the Lençóis area, in the physiographic region of Chapada Diamantina, State of Bahia, Brazil.

These rocks comprise the Middle and Superior Groups of the Espinhaço Supergroup, of Pre-Cambrian age. The Superior Group is formed from base to top, by Tombador-Lavras, Caboclo and Morro do Chapéu formations.

The lithologic association, primary sedimentary structures and the interpretation of depositional processes involved in the genesis of the facies individualized in each formation allowed to conclude: The middle Group is formed by terrigenous marines deposits accumulated in tidal flats during a transgressive period of sea level. The Tombador-Lavras Formation is originated in braided rivers channels associated with alluvial fans, while the Caboclo and Morro do Chapéu Formation are formed during a new transgressive episode. The first was formed by beach and deltaic deposits and the second by meandering channels, in bar fingers.

Avena Neto, R. 1989. Platinoids in the mafic-ultramafic body of Fazenda Gulçari - Alvo A Maracás - Bahia state. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 961 1989 Date of presentation: 12/5/1989

Rafael Avena Neto Advisor(s): Sá, J.H.S.

Committee: Shiguemi Fujimori - IG/UFBA
Irlton V. Leão -

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The occurrence and distribution of platinum group elements were studied in a segment of the Rio Jacaré mafic-ultramafic complex, in Maracás, state of Bahia. This complex consists of a 400km long mafic-ultramafic sill. It hosts four deposits of vanadium-rich magnetite, with contents up to 6.5% V₂O₅ and an estimated reserve of 80,000 tons of V₂O₅. Well defined zones are geologically comparable to those of the great stratified intrusions known over the world.

The Rio Jacaré mafic-ultramafic complex presents lithological and textural variations which define two zones: the lower one gabbro-dioritic composition, and the upper one, stratified zone, containing gabbros, pyroxenites and magnetites. Both zones do occur in the area of this study (Target A) but the gabbro-dioritic zone is dominant. This zone is considered as the basal part of the outcropping sill. Its main feature is the presence of massive mottled gabbros with subordinate gabbroic anorthosite and plug-and pipe-like bodies.

The investigation for platinoid elements started with detailed geological reconnaissance, specially in the area around the pipe, as well as sampling of the main existing trenches. Then, eight representative drill holes were sampled along the intervals that were more likely to contain platinoid elements.

The drill holes had gone through gabbros, aphanitic to phaneritic pyroxenites, pegmatoidal pyroxenites, magnetite-pyroxenites (disseminated ore), banded magnetites, and massive magnetites. The levels of platinoid elements ranged widely, from values as low as 0.01 (detection limit) to as high as 1.620 ppm for platinum, 1.432 ppm for palladium and 2.288 ppm for platinoids as a group.

There was a good correlation between platinum and palladium as well as between platinoids and copper and a plain fair correlation between platinoids and nickel.

On the other hand, using the normalized chondrite method, with data from individual samples, and plotting the regions in diagrams similar to those used for rare elements, the normalized value from Gulçari showed comparatively good figures, surpassing other world-famous deposits specially for platinum and palladium. The platinoid elements showed values higher than the average content in chondrites regarding to Pt and Pd, they showed lower values regarding to osmium, ruthenium, rhodium and iridium. When chemically compared to the great platinum deposits of the world, the Fazenda Gulçari deposit is strikingly similar to the stratiform deposits of the Bushveld and Stillwater complexes. These data are preliminary, considering that it was not the subject of this work the exact determination of platinoid elements average content, nor the definition of formation and origin of these elements in the Fazenda Gulçari mafic-ultramafic complex. These objectives would require much more data, deep drilling and microprobe analyses. Nevertheless, the main purpose of this research was attained, namely, to prove that the area has a potential for platinoid mineralization, and some working hypotheses have been raised about the formation and origin of the Fazenda Gulçari deposits.

Bachi, F.A. 1989. Contribution to the geology of the Barra do Ribeiro region. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 455

1989

Date of presentation:

Flávio Antônio Bachi

Advisor(s): Villwock, J.A.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

'

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'W

Abstract

A geologic-geomorphologic-sedimentologic study of depositional environments, their products and relations with the determinant events of their current morphology was developed in an area located in the western margin of Patos Lagoon and mapped on the scale of 1:50,000.

These environments are represented by deposits of alluvial fans, barrier, lagoonal and fluvial facies. They comprise geomorphologically four basic units: Basement, Barrier I, Araçá-Guaíba Lagoon System, and Holocene Lagoon Margin.

Their paleogeographic evolution is directly related to the changes of the sea level in the Quaternary, represented in the area by nine evolutive stages.

Bittar, S.M.B. 1989. Geologic-structural mapping of the Caxambu quadrangle and of the southern part of the Luminárias quadrangle, Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1168

1989

Date of presentation:

Sheila Maria Bretas Bittar

Advisor(s): Trouw, R.A.J.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

A geological survey was carried out in an area of 900 km², located in the neighbourhoods of the cities of Caxambu, Cruzília, Baependi and São Tomé das Letras, south of the Minas Gerais State. In this research two discordant rock sequences are described. The Lower Sequence comprises the embasement. It has been subdivided in three lithodemic units, namely, unit 1, mainly constituted by banded gneiss with lenses of metaultramafic rocks; unit 2, composed by metaultramafic rocks associated with granodioritic gneiss; and unit 3, formed by mafic to ultramafic schists with metasedimentary rocks associated. These units are interpreted as probable granite-greenstone association. The rocks of the Lower Sequence belongs to the amphibolite facies and, to some extent, locally show evidence of anatectic processes during its evolution. The Upper Sequence is represented, in the north, by the Carrancas Group, which is mainly composed of schists and quartzites unites, interlayered with gneiss. In the south, this sequence is represented by the Andrelândia Group, which is mainly formed by schists and gneiss with a few quartzites at the base. The Carrancas Group is here interpreted as representing a transitional lithological facies between the São João del Rei and Andrelândia Groups. The rocks of the Upper Sequence belongs to the amphibolite facies of intermediate pressure-type. An increase of metamorphic grade from north to south can be observed in the sequence. In the north, in the Carrancas Group, garnet, kyanite, staurolite, quartz and muscovite assemblage were recorded while in the south, sillimanite was found in the Andrelândia Group. In the Upper Sequence three deformation phases can be defined, with the metamorphism culmination during the second phase. The NE-SW thrust faults are associated with the end of the second deformation phase, with a NW sense of relative movement. A NE-SW vertical shear-zone, with dextral character is associated with the third deformation phase.

Bordignon, C.V.M. 1989. Sedimentologic study and pedologic characterization of the autochthonous and allochthonous tertiary surficial formations of the Itaberaba region - Bahia state. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1294 1989 Date of presentation: 17/3/1989

Clara V. M. Bordignon Advisor(s): Oliveira, J.J.

Committee: Geraldo da Silva Vilas Boas - IG/UFBA
 Arno Brichta - IG/UFBA

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

A sedimentary and petrological study of the Tertiary and Quaternary surficial formations of autochthonous and allochthonous nature in the Itaberaba region permit establishment of hypotheses on the origin and evolution of these formation. They are probably linked to climatic changes since the Tertiary. It is concluded that alternating periods of wet and dry climates are responsible for the evolution of the topographic relief and the structuring of a "pediplane" with some residual emergent highs (inselbergs). The area is principally composed of extensive plateaus forms by the Capim Grosso Formation which is the oldest allochthonous formation which is similar to the Guararapes Formation and Riacho Morno Formation which form the Barreiras Group in Pernambuco.

Bosetti, É.P. 1989. Paleontology of the Lingulida (Brachiopoda, Inarticulata) from the Ponta Grossa formation, Devonian of the Paraná basin. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 815 1989 Date of presentation:

Élvio Pinto Bosetti Advisor(s): Purper, I.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The exposures of the Devonian sequence in the eastern-central region of Paraná State are composed of the Furnas and Ponta Grossa Formations. Regional unconformities mark the bottom and top of this sequence. Thirty outcrops within the area were prospected; it was found that the fossiliferous levels belong to the Ponta Grossa Formation. The fossil fauna is composed of brachiopods, echinoderms, coelenterates, anellids, pelecypods, gastropods, cricoconarids, ostracodes, calyptomatids and fossil traces, with predominance of brachiopods. The lingulids mentioned by Clarke (1913), as well as some new forms, were the subject of a systematic revision, leading to the adoption of new taxonomic interpretations, as follow: *Lingula sagittalis* n. sp., *Lingula sagittalis* var. *quadrata* n. sp., *Lingula liliata* n. sp., *Lingula* (?) sp. A, Morphotype A, Morphotypes B1, B2, B3, B4, Morphotypes C1, C2, C3, C4 and Morphotype D. Systematic criteria utilized in reference to the fossil lingulids are discussed; *Lingula* paleocommunities present in the studied area are characterized.

Câmara, L.M.J.R. 1989. Use of chemical markers in the stratigraphy of cenozoic continental deposits. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 34.515/80

DataBase Ref.: 984 1989 Date of presentation: 16/12/1980

Lindalva Maria José dos Reis Câmara Advisor(s): Cassedanne, J.O.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Research comprises the development of quantitative chemical analyses of some meaningful elements such as: Sodium, Potassium, Calcium, Iron, Aluminum and Silica. The applied methods were satisfactory and proposed, throughout their results, a new metodological option toward characterizing and individualization of lithostratigraphic units and its application as a paleoenvironmental indicator. It's a research that comprises analyses of sediments of the terciary and pleistoceno from Taubaté, Espírito Santo and Volta Redonda Basins.

Carmo, A.M.S. 1989. Carbon isotopic composition of the total organic matter in the shales of Gomo member - Candeias formation - Recôncavo basin. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1555 1989 Date of presentation: 13/11/1989

Ana M. S. Carmo

Advisor(s): Azevedo,A.E.G.

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

The goal of this work was to analyse the carbon isotopic composition of the total organic matter in shales from Gomo Member of the Candeias Formation, Reconcavo Basin, considered to be one of the main petroleum sources of the basin. To develop this study three wells called 7-FBM-22-BA, 1-FAV-4-BA and 1-FAO-1-BA were chosen in the Northeastern part of the basin, and 129 samples were analysed. For isotopic analysis the samples were burnt at 520 °C after being powdered and acid washed. The CO₂ yielded was analysed in a Nuclide 6-60-RMS mass spectrometer and the results were reported in delta C13 per mil (‰) deviations in the PDB scale.

The delta C13 values varied between -24.8 and -31.8 ‰ and characterized two deposition phases of Gomo Member, one of them composed of turbidites. The 1-FAV-4-BA showed uniform isotopic composition in its whole extension, with delta C13 values around -28 ‰. In this well the Gomo Member is mainly composed of shales, and there isn't much

lithologic variations. The isotopic composition in the other two wells is very variable, showing delta C13 around -26 ‰ near sandstones deposited by turbidity currents, and delta C13 around -28 ‰ in sections composed basically of shales only.

As the delta C13 values in oils from Reconcavo Basin found in literature aren't higher than -28 ‰, the organic matter in the turbidite sections, which shows delta C13 values around -26 ‰, must not have been the petroleum source. Because its composition seems to indicate that it is a reworked and oxidized material, that kind of organic matter must have been brought by the turbidity currents. On the other hand, the organic matter of the shales in sections where there weren't much interferences of that kind of currents, shows delta C13 values between -28 and -31 ‰, compatible with the isotopic composition of the petroleum of the basin, which is approximately in the same range.

Ending this study, stratigraphic correlation was made between the analysed wells, by the identification of the turbidite section, characterized by delta C13 rich organic matter in their isotopic profiles.

Carvalho e Silva,M.L.M. 1989. Chemical and mineralogical characterization of the intemperic alteration products of the Nazaré Paulista metabasitic rocks - SP state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1763 1989 Date of presentation: 1/12/1989

Maria Luiza Melchert de Carvalho e Silva Advisor(s): Oliveira,S.M.B.

Committee:

Subject of thesis: Metallogenesis

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The studied area belongs to bauxite deposit series of the Serra do Itaberaba located 45 km NE of the city of Sao Paulo in a region of humid tropical climate. In this ridge a volcano-sedimentary sequence of Proterozoic age was defined. The bauxite profiles are developed at the top of the amphibolite hills and become more argillaceous down slope. Five pits were dug at different topographic positions yielding 50 samples of bauxite, clay and fresh rock. With microscopic examinations of thin sections and X-ray diffractograms of fresh rock and weathering material it was possible to conclude that the bauxitization was direct with preservation of parent rock textures, while argillaceous weathering not always showed this conservation. The geochemical processes involved were: ferrallitization at the top and middle slopes that developed bauxite, and monossialitization at low slopes and less intense drainage regions that developed clays. The main bauxite and clay mineral constituents are gibbsite, kaolinite, goethite with quartz, opaques and manganese concretions in minor amounts. ICP analysis were made for 24 elements: Al, 8, Ba, Be, Ca, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, P, Pb, Si, Sn, Sr, Ti, V, Y, Zn, Zr and REE. In order to investigate similarities in the behaviour of the elements during weathering the obtained data were submitted to correlation, principal component and factorial analysis, besides geochemical balance. The REE behaviour was analysed with the utilization of fresh rock normalized diagrams. These studies enabled the separation of groups of elements with similar behaviour showing their fractionation between bauxite, clay and manganese concretions during weathering. They also showed the depletion of REE in this processes. Some comparisons were carried out between these results and the geochemical anomaly maps obtained in previous geochemical exploration programs. These results indicate that the study of weathering profiles is a necessary and useful tool for this kind of exploration.

Carvalho,I.S. 1989. Continental icnocenoses: Sousa, Uiraúna-Brejo das Freiras and Mangabeira basins. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1463 1989 Date of presentation:

Ismar de Souza Carvalho Advisor(s): Rodrigues,M.A.C.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The few body fossils at sedimentary basins whose sedimentation had occurred in continental environments, become difficult the correct paleogeographic interpretation. The use of ichnofossils - biogenic structures that are controlled by the physical-chemical conditions of the sedimentary environment - is the best way to analyse the paleoenvironmental conditions that had originated a stratigraphic sequence. At Brazilian northeast, occurs some Cretaceous basin that evolved during the transcurrent displacement of the fault system Patos-Paraíba (E-W) and Portalegre (NE-SW), at the beginning of South America-África drifting. The sediments of these areas are micro and macroclastic material of fluvial and lacustrine source. Although the rare body fossils found at these basins, it is expressive the occurrence of invertebrate and vertebrate ichnofossils. The ichnocoenoses of Sousa, Uiraúna-Brejo das Freiras and Mangabeira Basin were very important to the depositional sequence interpretations, allowing a detailed paleoenvironmental reconstruction. The biogenic activity of aquatic earth-worms, clam shrimps, snails, beetles and insect nymphs, attest a diversified fauna of aquatic and terrestrial invertebrates. In the same way, sauropods, teropods and ornithischian footprints, are evidence of paleozoological groups that do not have representation by skeletal remains. An interaction of organisms and depositional interface, leads to the destruction of lamination and the origin (or control) of new sedimentary structures. The ichnological data of Sousa, Uiraúna-Brejo das Freiras and Mangabeira Basin, had showed its usefulness to a detailed paleoenvironmental interpretation. The ichnofossils contribution to paleontology, sedimentology and stratigraphy are very significant, carrying them out in elements of real importance to the biostratigraphy study of sedimentary areas

Castelo Branco, R.M. 1989. Geology and geophysics of the Redondão diatreme, SW of Piauí state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 151 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1242 1989 Date of presentation: 30/5/1989

Raimundo Mariano Castelo Branco

Advisor(s): Brito Neves, B.B.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: PI 1/1,000,000 sheet: SC24

Centroid of the area: ' - 'W

Abstract

Chieregati, L.A. 1989. Mineralogic, genetic and economic aspects of diamantiferous occurrences in the northeastern of Paraná state and southern of São Paulo state region. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2004 1989 Date of presentation: 16/10/1989

Luiz Antonio Chieregati

Advisor(s): Svisero, D.P.

Committee:

Subject of thesis: Economic Geology

State: PR 1/1,000,000 sheet: SG22

Centroid of the area: ' - 'W

SP

Abstract

Ciguel, J.H.G. 1989. Biostratigraphy of the tentaculitoidea in the oriental flank of the Paraná basin and their occurrence in South America (Ordovician-Devonian). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2009 1989 Date of presentation: 29/5/1989

Jose Henrique Godoy Ciguel

Advisor(s): Rösler, O.

Committee:

Subject of thesis: Stratigraphy

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Couto, L.F. 1989. Petrologic studies of the Campo Alegre de Lourdes mafic-ultramafic complex and genesis of the associated Fe-Ti(V) deposit, Bahia state-Brazil. MSc Thesis, Institute of Geosciences,

University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M057

DataBase Ref.: 117 1989 Date of presentation: 8/12/1989

Lúcia Furukawa Couto Advisor(s): Nilson,A.A.Committee: Jose Carlos Gaspar - IG/UnB
José Haroldo da Silva Só - IG/UFBA

Subject of thesis: Prospection and Economic Geology

State: BA 1/1,000,000 sheet: SC23 Centroid of the area: ' - 'W

Abstract

The Campo Alegre de Lourdes Complex is a small layered mafic-ultramafic pluton, and hosts a Fe-Ti(V) deposit. It is located within a country rock sequence of gneisses and migmatites of the Basal Complex, and Proterozoic metasedimentary rocks, in the northern most part of the São Francisco Craton, Bahia state, Brazil.

The rock sequence consists of pyroxenite, gabbro + anorthosite, and ilmenite-magnetite (Fe-Ti(V) ore), and the mineral sequence consists of clinopyroxene (+ orthopyroxene) - plagioclase - pargasitic hornblende - apatite + ilmenite + magnetite. The parental magma was probably tholeiitic (transitional to alkalic), as inferred by the clinopyroxene (augite) composition and by the presence of rocks with ol-hy normative compositions. The determination of the equilibration temperature (600 to 650 C) and oxygen fugacity (log fO₂: -18.9 to -21.8), of ilmenite-magnetite pairs probably represents the spinel- phase subsolidus oxidation. Although tectonically deformed (milonitized and folded, showing subvertical rhythmic layering), the Complex still preserves relict igneous cumulate textures. Metamorphism associated with milonitization caused hydration of the original silicates, for instance, alteration of augite to actinolite, and alteration of calcic plagioclase to albite + epidote.

There are two types of rhythmic layering in the ilmenite-magnetite: the first is "inch-scale" layering, and the second is large-scale (average 20 meters); the last one requires a quiet tectonic environment during magmatic crystallization.

Dias Brito,D. 1989. Occurrence of Pitonelóides (calcareous Dinoflagelata) in the albian calcilutites and calcissiltites da Bacia de Campos: Stratigraphic and paleoenvironmental implications. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1441 1989 Date of presentation:

Dimas Dias Brito Advisor(s): Brito,I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

A petrographic study of Albian carbonates from the Campos Basin was carried out in order to establish the occurrence pattern of pithonelloids (calcareous dinoflagellates, Subfamily Pithonelloideae KEUPP 1987) in the Macaé Formation. This allowed the recognition of the species present, their biostratigraphy and chronostratigraphic/ paleoenvironmental significance. The modest occurrence of Pithonella sphaerica in early to middle Albian beds is replaced, higher up in this interval and in late Albian strata, by that of abundant calcareous dinoflagellates which include Pithonella sphaerica, Pithonella ovals and Bonetocardiella conoidea (the latter taxon restricted to the upper Albian). The stratigraphic distribution of the Campos Basin assemblages is practically the same as that in the Angola Basin (site 363, Leg 40, DSDP). The bloom episodes of calcareous dinoflagellates are interpreted to reflect water mass renovation events in the primitive northern South Atlantic. Other spheric microfossils incertae sedis are described and positioned chronostratigraphically in the sedimentary column.

Faccini,U.F. 1989. The Permian of Rio Grande do Sul: An analysis under the point of view of the depositional sequences. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 414 1989 Date of presentation:

Ubiratan Ferruccio Faccini Advisor(s): Barberena,M.C.

Committee:

Subject of thesis: Stratigraphy

State: RS 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The sedimentary and volcanic rocks of Upper Permian and Mesozoic age in Rio Grande do Sul State are subdivided into four chronostratigraphic units, in accordance with the depositional sequences concept. Those units were identified on the basis of the evaluation of faciological, paleoenvironmental and fossiliferous attributes on a regional scale.

Unconformable surfaces, representing significant depositional gaps, were identified and characterize the following sequences, from bottom to top: (1) Sequence I, corresponding to the Rio do Rasto and Sanga do Cabral Formations, is made up of lacustrine,

deltaic, fluvial and eolic facies, with a minimum basal Triassic age (Scythian Stage, 245 m.y.); (2) Sequence II, including the Passo das Tropas and Alemoa Members (Santa Maria Formation) as well as part of the Caturrita Formation, is composed of fluvial and lacustrine facies, which contain a rich paleoherpetofauna concerning the Ladinian-Lower Norian Interval (238-225 m.y.); (3) Sequence III, here defined for the first time, refers to fluvial sandstones occurring in the city of Mata (RS) and exhibiting an expressive record of silicified wood trunks, tentatively attributed to Late Triassic (Rethic Stage, 215 m.y.); (4) Sequence IV, combines the eolic deposits of the Botucatu Formation and the overlying basaltic flows of the Serra Geral Formation, whose main volcanic manifestations show radiometric ages between 150 and 115 m.y. (Jurassic-Early Cretaceous). Finally, hypotheses about the genesis of each sequence characteristics are formulated, associated to their possible regional correlation, as inferred by the available faciological, paleoclimatic and geotectonic parameters.

Frank, H.T. 1989. Geology and geomorphology of the Morretes, São Leopoldo, São Jerônimo, Guaíba e Arroio dos Ratos quadrangles - RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 458

1989

Date of presentation:

Heinrich Theodor Frank

Advisor(s): Villwock, J.A.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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Abstract

The northern and western areas of Porto Alegre city, Rio Grande do Sul State, Brazil, show on the north of the Jacui and Gravataí rivers gondwanic sedimentary rocks and on the south of these rivers granitic rocks of the Sul-Riograndense shield. Between the two units occur Cenozoic sediments of lagoonal and dominantly fluvial origin, distributed into 2 fluvial terraces and 2 lagoonal terraces. Fluvial Holocene deposits also occur. The most recent terraces have many features preserved related to their lagoonal or fluvial origin. The origin of these features could be partially deduced from the description and characterization of the present behavior of the rivers in the area.

Nine paleogeographic stages have been recognized, beginning with a Pliocene regression responsible for the origin of the first generation of alluvial fans, passing through 3 cycles of transgression-regression of Pleistocene age and ending by a Holocene cycle, whose features are the most conspicuous.

We suggest the mapping of the gondwanic sediments using the concept of "facies" to eliminate the continuous contradictions originated by the filling typology of the Paraná basin. Furthermore, we recognize the necessity to improve the approach and knowledge of the so-called "slope-deposits", where sediments accumulated by different processes are grouped in only one stratigraphic unit.

The mineral resources of the area are varied and their exploration could be bettered, what must be accompanied by rigorous environmental preservation criteria considering the many existing negative aspects which have been described in the chapter referring to the environmental situation of the area.

Frantz, D.S. 1989. The use of "TM" orbital images - Landsat 5 for the characterization of paludal environments of the Rio Grande do Sul coastal plain. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 456

1989

Date of presentation:

Dejanira Saldanha Frantz

Advisor(s): Villwock, J.A.

Carraro, C.C.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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Abstract

Paludal deposits situated on the Coastal Plain of Rio Grande do Sul were characterized by TM orbital images from satellite Landsat 5, registered during a very dry summer (January/1986). These deposits are associated with an environment of a paleolagoon isolated from the sea by a Pleistocene barrier named Barreira das Lombas. Areas inserted in this paleolagoon by continuous input of material developed into paludal environment in which different vegetable associations found good conditions for their development. The preservation of organic matter was due to high moisture, originating the peat deposits that were found there.

The multispectral images used in this dissertation, because of their best spectral, spatial, and radiometric characteristics, permitted the delimitation of these environments, determined by geology, geomorphology, soils and vegetation. Considering the great amount of data transmitted by these images and with the purpose of image enhancement, were applied in the GE-Image-100 the following algorithms: contrast stretch, band ratio, principal components, and colored compositions. A pre-process-ing including radiometric and atmospheric corrections was done.

The best enhancement process used was the colored compositions formed by bands with contrast stretch. In these compositions the best results were obtained by the utilization of a channel in the visible region (2 or 3), a channel in the near infrared (4), and the third in the medium infrared region (5 or 7). In this analysis there is a high relationship between the natural compartments and the units limited in the images. Besides, a zonation in the vegetation can be seen in the peat deposits because of the diversified

structure in them. This can identify the best region of organic matter concentration.

All channels in the reflective region of the spectral electromagnetic were used in the band ratio in which the 4/3 image indicated the biomass, the 5/2 the differences in the quality of vegetation, and 7/1 the differences in the content of moisture. The three ratio images originated colored compositions and were used as complementary analyses. The image reached by the process of principal components didn't add new data to the initial interpretation because, through their statistical parameters, they showed to be similar to the original images.

Galvão, L.S. 1989. Spectral lithostratigraphic correlation of drilling wells. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1348

1989

Date of presentation: 10/11/1989

Lênio Soares Galvão

Advisor(s): Vitorello, I.

Committee:

Subject of thesis: Remote Sensing

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

Galvão, W.S. 1989. Evaluation of multispectral band selection techniques aiming the discrimination of carbonatic rocks. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1344

1989

Date of presentation: 27/2/1989

Wougran Soares Galvão

Advisor(s): Meneses, P.R.

Committee:

Subject of thesis: Remote Sensing

State: BA

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Giusti, D.A. 1989. Contribution to the environmental geology of the Curitiba municipality - PR state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2046

1989

Date of presentation: 1/6/1989

Donizeti Antonio Giusti

Advisor(s): Ellert, N.

Committee:

Subject of thesis:

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

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'W

Abstract

Gomes Jr, F.C. 1989. Geology and environmental characteristics of Lagoa da Conceição lagoon - Ilha de Santa Catarina island / SC state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1413

1989

Date of presentation:

Francisco Caruso Gomes Júnior

Advisor(s): Muehe, D.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: SC

1/1,000,000 sheet:

SG22

Centroid of the area:

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'W

Abstract

Environmental and geologic studies were made at Lagoa da Conceição region between 1983 and 1987, resulting in a wide work about its characteristics. Concerning to it, the following investigation works were made: bathymetrics, in order to know the morphology of the bottom of the lagoon; hydrographics including particles in suspension, that gave important fundamentals to understand the hydrodynamic mechanism of the lagoon; sedimentals which presents the textural distribution of the lagoon sediments, and the detailed geologic mapping in the sedimentary deposits that surround the lagoon, and this resulted in a map and turned possible to formulate hypothesis about its evolution.

Gonçalves,H.M.S. 1989. Systematics and biostratigraphy of the Neogene and Quaternary (lower Pleistocene) calcareous nannofossils from the central area of Santos basin. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 817

1989

Date of presentation:

Helena Maria Souto Gonçalves

Advisor(s): Ornellas,L.P.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

This dissertation deals with the systematics of calcareous nannofossils of the Santos Basin central area and the achievement of a biostratigraphic zonation through the analysis of four holes: 1-SPS-5, 1-SPS-8, 1-SPS-10 and 1-SPS-14A comprising the Neogene and Quaternary (Lower Pleistocene).

By means of the systematic study it was established the occurrence of twenty five genera, seventy two species and one subspecies. The diagnosis emendation of nine genera, fifty one species and one subspecies was proposed.

The biostratigraphic study of the area allowed the recognition of four biostratigraphic zones (Zone Sphenolithus belemnus, Zone Helicosphaera ampliaperta, Zone Sphenolithus heteromorphus and Zone Discoaster brouweri) used by PETROBRÁS in the zonation of the Brazilian Continental Shelf, from Miocene to Pleistocene. This study also allowed the recognition and the amendment proposal for the definition of three biostratigraphic zones (Zone Triquetrorhabdulus carinatus, Zone Discoaster hamatus and Zone Discoaster quinqueramus) and a new validation proposal for the definition of the Zone Reticulofenestra pseudumbilica. It was made the recognition and proposition of three biostratigraphic zones (Zone Discoaster kugleri, Zone Amaurolithus tricorniculatus and Zone Pseudoemiliania lacunosa) and the recognition and proposition of one superzone (Superzone Gephyrocapsa spp.) and twenty two subzones for the area.

Gonçalves,R.A. 1989. Geologic and geomorphologic mapping of the São Lourenço do Sul and Boqueirão quadrangles. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 452

1989

Date of presentation:

Ronaldo Antônio Gonçalves

Advisor(s): Villwock,J.A.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

'W

Abstract

This dissertation presents the results of the geologic and geomorphologic mapping in scale 1:50.000 of the west side of the Patos Lagoon, near São Lourenço do Sul and Boqueirão cities in Rio Grande do Sul State.

Through airphotos and satellite photos interpretation and field work made it possible to define two geomorphologic dominions namely, the highlands and the lowlands. The first one includes the lands located at an elevation higher than 25 meters considered in the present work as the topographical limit between the two dominions; the second one extends from that limit to the side of the Patos Lagoon. In the lowlands dominion a number of morphological features were characterized and classified as: aluvial terrace, located between 22 to 6 meter elevations approximately; abrasion terrace at the elevations between 5 to 3 meters limited by two cliffs, one internal and located at the west limit and the other external and located at the Patos Lagoon limit; fluvial terraces located alongside the present drainage and a system of beach-lagoonal ridges located parallel to the lagunar coast.

It was carried out a faciological analysis of the sedimentary cover found in the area where the sedimentary facies of elluvium, colluvium, alluvial fans, recent alluvial fluvial and the facies of beach-lagoonal ridges were defined. The elluvial and colluvial facies and part of the facies of the alluvial fans were grouped for defining a depositional system of alluvial fans which were found spacially associated.

Through the granulometric, mineralogical and morphoscopic analysis it could be verified that the textural and mineralogical immaturity is a sedimentary attribute found in all the sedimentary facies mapped. In the morphoscopic aspect predominate the 0.3 - sub-angular indexes to round out and 0.5 - average to the sphericity. Mineralogically the quartz and the feldspar are the predominant minerals characterizing an arcosean composition to these sediments.

For the depositional system of the alluvial fans it was adapted an evolutionary model that aims to illustrate the spacial distribution of the sedimentary facies so as to offer an idea of the sedimentary processes responsible for this system. Nevertheless, for a complete definition of these depositional processes, it is necessary to obtain more data than the already obtained ones in the studied area, since the present work is restricted to two cartographic charts of the Serviço Geográfico do Exército, namely, São Lourenço do Sul and Boqueirão.

Gruber,N.L.S. 1989. Contribution to the study of the glacimarine sedimentation in Admiralty bay, King George Island, Antarctica. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 457

1989

Date of presentation:

Nelson Luiz Sambaqui Gruber

Advisor(s): Martins, L.R.S.

Correa, I.C.S.

Committee:

Subject of thesis: Marine Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

With the purpose to contribute for a better knowledge of the glacial and glaci-marine sedimentation of the Admiralty Bay region (62°10'S., 58°25'W.), situated at the King George Island, South Shetland Islands Archipelago, 88 superficial geologic samples and 23 water samples were analyzed. Concerning the Brazilian Antarctic Program - PROANTAR, this study was developed during 3th, 4th, 5th and 6th Antarctic Expeditions (1985-1988).

Studies developed on the sedimentation patterns and bottom morphology of the Admiralty Bay show a strong tectonic control over the subaerial and submarine physiography, whose generation process is related to the island-arc evolution history.

Submitted to two main trend fault systems (ESE-WNW and NNE-SSW), the geology of King George Island exhibits several faulted blocks, like "grabens" and "horsts" which, associated with lithological differences and strong glacial excavation, produced a very complex and compartmented physiography.

In face of such a complex of features presented, we classified the studied area as "glaciers-dominated fiord", being suggested a morpho-sedimentological compartmentation into four distinct units: Martel Inlet, Mackellar Inlet, Ezcurre Inlet and Bay Channel. By means of granulometric analysis of the bay bottom sediment, five textural facies were identified: Mud with sand and gravel; Sandy mud; Muddy sand; Mud with gravel and Muddy.

According to environmental characteristics observed, we adopted a glaci-estuarine model to explain these glaci-marine deposits patterns and the circulation and the behavior of water masses into the Fiord System.

Hassuda, S. 1989. Impact of the sugar cane vinhaça infiltration in the Bauru aquifer. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2185

1989

Date of presentation: 31/8/1989

Seiju Hassuda

Advisor(s): Rebouças, A.C.

Committee:

Subject of thesis: Hydrogeology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Magalhães, R.M.M. 1989. The quaternary cervides of the northeastern, southeastern and southern regions of Brazil (Cervidae, Odocoileinae). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1450

1989

Date of presentation:

Rosa Maria Mendonça de Magalhães

Advisor(s): Cunha, F.L.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This thesis gathers all the available information on fossil and sub recent Cervidae of North-East, South-East and South regions of Brazil. The studied specimens came from paleontologic (Pleistocene), paleontologic-archaeologic (Pleistocene-Holocene) and archaeologic (Holocene) localities, and belong to the collections of the Departamento de Geologia e Paleontologia do Museu Nacional - UFRJ and that of Pontifícia Universidade Católica de Minas Gerais. In this paper the main aspects on morphology, osteology, systematics and statistics will be expounded on relation to approximately 330 fragments of bones. The study of the material permit us to trace an ample panorama concerning the allotment of the cervids in Brazilian deposits from Pleistocene until the present time. We have been able to determine what had occur to the living species *Mazama* sp. (the most common), *Ozotoceros bezoarticus*, *Blastocerus dichotomus*, as well as the extinguished genus *Morenelaphus*, *Antifer* and *Epieuryceros* (described in this dissertation for the first time). In this thesis we discuss Ney Vidal's cervids classification from Pesqueira, PE. After a brief introduction, this thesis begins with a historical account. Secondly we describe the deposits, localities, collectors and dates. It is introduced a description of the Cervidae skeleton terminology and also a general systematic classification of the neotropical cervids and their geographical distribution in South America during the Quaternary. The description of specimens is a special and important chapter. The data are statistically studied by means of tables and diagrams. It is also illustrated the origin, migration and expansion of the cervids. The last chapter the cerv and the man, concern mainly on our experiences at archaeological sites, caves and shell-mounds.

Martins Neto, M.A. 1989. Depositional systems and palaeogeography of the Espinhaço supergroup basal formations (São João da Chapada Diamantina and Sopa-Brumadinho) in the Diamantina/Costa Sena region, Minas Gerais state. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA,

Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1293 1989 Date of presentation: 10/3/1989

Marcelo A. Martins Neto Advisor(s): Brichta, A.Committee: Geraldo da Silva Vilas Boas - IG/UFBA
Ian Davison -

Subject of thesis: Coastal and Sedimentary Geology

State: MG 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The central segment of the Southern Espinhaço Range, region of Diamantina/Costa Sena in Minas Gerais, is mainly composed of the basal formations of the Espinhaço Supergroup (São João da Chapada and Sopa-Brumadinho), of Proterozoic age. Sedimentological observations were used to identify a complex arrangement of depositional systems (continental/transitional/marine), where the following systems were defined: alluvial fan; braided rivers; fan-delta/braid-delta; tidal flat; shallow marine shelf and marine platform.

These results permitted the sub-division of the São João da Chapada formation in three facies association (Continental-I, Continental-II and Marine) and the Sopa-Brumadinho formation in three facies associations and one facies (Marine-I, Continental/Transitional and Marine II facies associations and Matrix Supported Breccia facies).

A paleogeographic model of the initiation of the Espinhaço Basin is presented based on the studies of depositional systems and the observations of the synsedimentary extensional tectonics.

Melo, J.A.G. 1989. Application of hydrocarbon exploration characteristic analysis. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1414 1989 Date of presentation:

José Alexandre Gonçalves de Melo Advisor(s): Chaves, H.A.F.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: SE 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

Characteristic analysis is a multivariate technique for establishing the occurrence favorability of a phenomenon. In this study characteristic analysis was used to delineate areas likely to contain hydrocarbon accumulations in the onshore portion of the Sergipe-Alagoas Basin. The variables were defined from observed features in radar mosaic (lineaments), aerial photographs (fracture pattern) and geological maps (surface sediments, drainage and topography). The set of variables was assumed to indicate possible structures in subsurface, so the areas selected through characteristic analysis are interpreted as the most favorable ones from the structural point of view. Among the selected areas at least one coincides with a seismic structure. This demonstrates the potential of characteristic analysis and the adequacy of the used variables.

Mendes, J. C. 1989. Mineralogic, geologic and economic aspects of the Santa Terezinha de Goiás esmerald. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2186 1989 Date of presentation: 19/9/1989

Júlio César Mendes Advisor(s): Svisero, D.P.

Committee:

Subject of thesis: Mineralogy and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract
Moita Filho, O. 1989. The action of the wind and the influence of pluviosity in the removal of sands regime in a dissipative beach, Atalaia beach, Luiz Correia littoral, Piauí state. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1296 1989 Date of presentation: 24/5/1989

Ordânio Moita Filho Advisor(s): Bittencourt, A.C.S.P.

Committee: Arno Brichta - IG/UFBA
Horst G. Pasenau -

Subject of thesis: Coastal and Sedimentary Geology

State: PI 1/1,000,000 sheet: SA24 Centroid of the area: ' - 'W

Abstract

The Atalaia beach, in Luis Correia City, State of Piauí, can be classified as a dissipative beach. During a nine months monitoring of the textural variations of the sediments along the beach profile, it was observed that, as a function of the wind force, the sediments from the beachface are blown out to the active adjacent dune fields. The variations in the intensity of this sand removal are strongly related to local climate changes.

During the dry season (August to December), the landward winds, blowing with speeds above 4.0 m/s, remove a significant part of the fine sand size fractions. In the wet season (January to April) the uninterrupted rains damp the sediments. This in association with milder onshore winds inhibit the removal of the fine sediments, and as a result, the beach sands are mostly composed by fine to very fine sand fractions that are usually transported onshore from the shoreface by wave action. In the upper and lower parts of the zone of swash, the removal of sediment is however minimal. At the upper the beach surface, which may inhibit the removal of the sand particles. The low percentages of the very fine fractions in this area is probably a result of the original coarser character of the sediment. At the lower limit of the swash zone, the very short period of the sediment exposure to the wind action, and the low depths of the water table which may causes a constant damping of the sediment, are, may be, the two major factors that ceases the removal of sediment.

The analysed textural parameters such as: median, 1 percentile, standard deviation and skewness vary in function of the beach dynamic processes.

Nery, G.G. 1989. Study on the effectiveness in ionic filtering of grinded bentonites and shales of the Candeias formation, Recôncavo basin, Bahia state, Brazil. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1295 1989 Date of presentation: 5/6/1989

Geraldo G. Nery Advisor(s): Pontes, F.C.

Committee: Geraldo da Silva Vilas Boas - IG/UFBA
Joaquim J. Oliveira -

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract SD24

As soon as argillaceous mud deposition occurs, the diagenetic hydrodynamic flux is oriented by osmotic diffusion increasing about 10% of salt content of mud effluents. Formation waters in most sedimentary basins increase their salinities with depth, to an order of ten times the present sea water concentration. It is possible that a more effective mechanism, like salt filtration through compacted shales, plays an important role to produce the observed salinities.

The behavior of shaly rocks as efficient semi-permeable or salt filtering membranes was first mentioned by De Sitter (1947) and experimentally demonstrated by Wyllie (1948). This physical property is present in those rocks due to cationic adsorption phenomena that occurs at the large extension of clay minerals contact surfaces, in order to counterbalance the negative charged sites, originated by isomorphic substitution or hydrogen dissociation from structural hydroxyls. These adsorption zones, or layers of different ionic concentrations, are close to the clay surface, while a neutral situation at the central portion of large pores occurs. These zones are named Electrical Double Layers. In final compaction stages of shales there is a superposition of adjacent double layers and a strong unbalanced situation occurs and a preferential cation filtration is observed. This process of cationic filtration is named electrostatic semi-permeable ionic filtration in this work.

The osmotic diffusion is active during incipient compaction process of shaly muds and may originate a great variation in salt content of their filtrates, in such a way that highly concentrated muds show a great capacity or efficiency in salt retaining or filtration than those diluted ones, which in turn liberate salts. This process of salt filtration is named osmotic filtration in this work.

There is a stability range of salinity or critical situation between the mud interstitial solution and its effluent. Below the critical point the mud retains salts and its effluents becomes more diluted than the original solution. Above the critical point the mud liberates salts and its effluent becomes saltier. This critical salinity situation indicates the magnitude of salt concentration of the clay adsorbed water, and may be used in quantitative well log interpretation methods, such as the Dual Water method suggested by Clavier, Coates and Dumanoir (1977, 1984).

This experimental work simulated incipient compactions and the results presented herein show that the mud efficiency is independent of its mineralogical content, its cationic exchange capacity and interstitial solution, but it is dependent of its salt concentration only.

In low compaction stages close to surface, the osmotic diffusion is the predominant diagenetic phenomena and increases the effluents salinity. On the other hand, at great depths where double electric layers superposition occurs, a much higher percentage of salt retention is observed due to the electrostatic semi-permeability of shales.

The interaction of salt filtration processes, like osmotic and eletrostatic semi-permeability filtrations, plus gravitational settling argued by several authors, may explain the gradual increase of formation water salinities with depth in most sedimentary basins.

Oliveira, M.C.B. 1989. Petrology of the Mandira granitic massif-SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2184 1989 Date of presentation: 23/5/1989

Mirian Cruxen Barros de Oliveira

Advisor(s): Valarelli, J.V.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Oliveira, W.J. 1989. Contributin to the geological mapping of southwest region of Rondônia state by the employ of a sistematic study using satellite data. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1347 1989 Date of presentation: 9/5/1989

Wilson José de Oliveira

Advisor(s): Mattos, J.T.

Rueda, J.R.J.

Committee:

Subject of thesis: Remote Sensing

State: RO 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Olivo, G.R. 1989. Litho-stratigraphic control and genesis of the gold occurrences in the psammo-pelitic-carbonatic sequence of the Paranoá Group, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M053

DataBase Ref.: 113 1989 Date of presentation: 24/2/1989

Gema Ribeiro Olivo

Advisor(s): Marini, O.J.

Committee: Gaston Giuliani - IG/UnB
Juarez Fontana dos Santos - DOCEGEO

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The Paranoá Group occurs within the Brasília Belt of the Tocantins Province and hosts various gold occurrences. This group comprises ten units grouped in two sequences: Psammitic pelite sequence (Units A, B, C, D and E) and carbonate psammitic pelites sequence (Units F, G, H, I and J). The gold occurrences are distributed in areas of exposure of the Carbonate psammitic-pelite units and Unit E where these rocks were metamorphosed to greenschist facies grade (biotite zone).

Mineralization is structurally controlled by faults and fractures resulting from reactivation of older NE-trending faults.

The primary gold occurrences are of two types: (1) Sulfide-bearing quartz veins enclosed in psammitic pelite units (garimpos Muquém, Fofoca and Divino -Unit E; Garimpinho, Garimpo Novo, and Chapadinha-Unit G). (2) Sulfide-bearing quartz-carbonate veins and veinlets in carbonate psammitic pelites of Unit F (garimpos: Rio do Carmo, Passa Tres, Cachoeira and Santa Rita). Secondary deposits in elluvium/colluvium and alluvium are commonly associated with the primary occurrences. In areas of outcrop of the Unit H rocks, only the secondary deposits have been worked (garimpos Córrego Vermelho, Cafundó, Cafundozinho and Praiaão).

The Santa Rita area, which was studied in detail, comprises rocks of the top of Unit E (rythmic sequence of carbon-rich quartzite, phyllite and muscovite phyllite) and of Unit F (rythmic sequence of quartzite, quartz phyllite and lenses of metadolomites, metalimestones and calciphyllites). These metamorphosed sediments have been deformed by four folding phases: (a) the first two phases correspond to isoclinal folding with well-developed planar axial schistosity, (b) the third phase is characterized by closed, and commonly asymmetric folds with N-S trending folding axes, and (c) the fourth phase corresponds to gentle open folds with axes oriented WNW-ESE. These folding events are followed by NNW- and NE-oriented fractures and later WNW-ESE faults and fractures.

The primary gold occurrence of Santa Rita is hosted by Unit F and comprises sulfide-bearing quartz-carbonate vein and veinlets oriented WNW-ESE. The veins are one centimeter to one meter thick with a lateral extension of tens of meters. They consist of quartz accompanied by Fe-dolomite, ankerite, calcite and sulfides. Pyrite is the main sulfide phase; it is occasionally contains rare inclusions of chalcopirite and pyrrhotite. The gold grade of these veins vary between 0.1 to 10 ppm, locally reaching 60 ppm and

gold is hosted in the sulfides.

The gold mineralization is associated with a restricted circulation of hydrothermal fluids which percolated along faults and fractures. This hydrothermal infiltration, concomitant with the fracturing and brecciation, caused alteration of the host rocks in two stages: (1) Early stage: characterized by deposition of silica, carbonates (dolomite, ankerite, and calcite), and organic matter. Associated with this stage were CO₂-bearing salty alkaline fluids with temperatures in excess of 400°C. The conditions of the system were low oxygen fugacity and high CO₂ vapour pressure. (2) Principal stage: characterized by generation of veins and poikiloblasts of calcite and formation of As-rich pyrites with rare inclusions of pyrrhotite and chalcopyrite. During this stage, the fluid temperature, salinity and pH decreased and the oxygen fugacity and the CO₂ vapour pressure high.

The thermal energy responsible for the hydrothermal circulation would have been the regional thermal gradient which remained high in the interior of the belt and which slowly diminished after the compressive phases of the Brasiliano Orogenesis. The source of gold may have been the Paranoá Group rocks.

Palermo, N. 1989. Geology and gold mineralizations of Monte do Carmo region, Goiás state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1170

1989

Date of presentation:

Nely Palermo

Advisor(s): Penha, H.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: TO

1/1,000,000 sheet:

SC23

Centroid of the area:

' - 'W

Abstract

The Monte do Carmo area displays ten different lithostratigraphic units related to distinct geological events which developed from the Lower Precambrian to now. The old basement (probably of Archean age) consists of granulites, tonalitic gneisses and metagabbro/diorites of the Porto Nacional Complex. Those rocks are generally covered by recent sediments. The Carmo Granite from the Lajeado Suite represents the imprints of an important magmatic event of Middle Precambrian age (about 2.000 Ma). This batholith has a sienogranitic to monzogranitic composition and four distinct facies: coarse pink granite, sericitic granite, leucogranite and cataclastic granite. An acid volcanic unit is also distinguished, which is related to the rifting that precedes the formation of the Natividade sedimentary basin. It is composed mainly of rhyolites and pyroclastic rocks. More details are still needed to achieve more precise lithologic and stratigraphic definition for this sequence. Overlying those units, there are the pelitic-psammitic metasediments from the Natividade Group of greenschist facies and Middle Precambrian age. At the beginning of the Upper Precambrian, the molasse sequence of Monte do Carmo Formation was deposited in small grabens. The Paleozoic sedimentary rock from the Parnaíba Basin are represented in the area mainly by sandstones from the Pimenteiras Formation. Recent sediments overlie the units described above. Faults, fractures and shear zones represent the principal deformation event in the area, to which is assigned the extensive Transbrazilian Lineament, with a predominantly northeast and southwest orientation. The gold exploration began in the nineteenth century. However it is still possible to find the imprints of old work at the Monte do Carmo Hill. The auriferous primary mineralization occurs in quartz veins associated with phyllonite, found mainly in the Carmo Granite. The auriferous loads are controlled by fractures associated with intense deformational zones, parallel or perpendicular to the main local fractures. They are generally massive, crushed and locally cut by small quartz veins. Pyrite, galena and less commonly sphalerite and chalcopyrite occur associated with the richest parts of the vein. On the potentiality of the area, the informations obtained through sampling or production of the several excavations, suggest initially an interesting area for small miners, while considering that some more investigations are needed concerning the real evaluation of the gold potential of the region.

Palma, J.J.C. 1989. Morphostructural mapping of the occidental segment of Ascensão fracture zone and adjoining portions of the MesoAtlantic Ridge. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1167

1989

Date of presentation:

Jorge Jesus Cunha Palma

Advisor(s): Gorini, M.A.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

A morphostructural study based on data collected in two aeromagnetic surveys and in a geophysical (echobathymetric, magnetic, and single channel seismic) shipborne survey allowed tracing the transform and western aseismic segments of the Ascension Fracture Zone from the crestal province of the Mid-Atlantic Ridge to the northeastern Brazilian continental margin, northern South Atlantic Ocean. Also, the segments of Mid-Atlantic Ridge crest offset by the fracture zone were properly characterized in this study. In the offset region, the Ascension Fracture Zone exhibits a striking linear and simple morphostructural fabric made up of two continuous, deep transform valleys separated by a basement high. This framework can be explained by the confining of the lateral mobility of the tectonized transform zone to a narrow swath due to the constraining of the thickened edges of the lithosphere plates across the transform. The thickening of the plate edges has been inferred from the large offset distance (-240 km) and slow slip rate (-3.5 cm/y) that define the present tectonic setting of the Ascension Fracture Zone. On the other hand the apparently typical "normal" oceanic crust morphology of the intervening structural high suggests that both troughs are tectonically

active, therefore supporting interpretation of the double fracture zone character of the Ascension Fracture Zone. The morphostructural framework observed in the offset region of the fracture zone continues westwards along its aseismic extension up to the middle of the abyssal floor, nearly 250°30'W longitude. From this longitude on, the morphology of the fracture zone becomes more complex although it can still be followed further to the west to approximately the longitude of 300°W. At this site an offset of the magnetic anomaly 34 suggests that an average of 250 km offset of the fracture zone has been maintained at least since 800 m.y. ago, the assumed age of this magnetic anomaly. Gradual shiftings of the pole of rotation of South-American and African plates are recorded by the slightly curving trace of this aseismic extension of Ascension Fracture Zone. In the abyssal floor, and adjacent continental rise the continuation of the Ascension Fracture Zone towards the continental margin is supposed to be a striking ENE-WSW trending marginal ridge-trough pair which borders the Maceió Lineament off Alagoas State, at about 10°S latitude. This trend agrees with an early direction of seafloor spreading based on synthetic flow lines determined by other authors. The change of direction of the Ascension Fracture Zone at 300°W coincides with the position of anomaly 34 which, therefore, may date a migration of the pole of rotation of the South American and African plates 80 m.y. ago.

Pontes, C.S. 1989. The importance of fracturing in the Bacia de Pimenta Bueno basin framework / RO state: A study of morphostructural features of ruptil and ruptil-ductil character using remote sensing techniques and products. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1345 1989 Date of presentation: 28/2/1989

Clayton de Souza Pontes Advisor(s): Veneziani, P.

Committee:

Subject of thesis: Remote Sensing

State: RO 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Santos, M.M. 1989. Contribution to the geology and geochemistry of the Pontal deposit, Tocantins state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M056

DataBase Ref.: 116 1989 Date of presentation: 3/11/1989

Moacyr Martins dos Santos Advisor(s): Dardenne, M.A.

Committee: Hardy Jost - IG/UnB
Kazuo Fuzikawa - NUCLEBRÁS

Subject of thesis: Prospection and Economic Geology

State: TO 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Pontal deposit is located in the Tocantins state, in Brejinho de Nazaré district. The gold mineralization is associated to a quartz vein with 10.000 tons and average grade of about 17,5 ppm Au. The host rocks are biotitic gneisses (Tonalitic orthogneisses) deformed by ductil shear and metamorphosed in the amphibolite facies. Auriferous quartz vein is generally concordant with the milonitic foliation of surrounding gneisses, presenting tabular aspect and boudinaged structures. Its mineral assemblage consists of oligoclase, actinolite, biotite and less than 2% sulfides (pyrrhotite, pyrite, sphalerite, chalcopyrite and galena). Native gold occurs as disseminated particles in the quartz crystals interstices or sometimes filling fractures. Primary inclusions are geometrically related to gold particles and contain a H₂O-CH₄ fluid, often associated to solids (graphite, siderite, dolomite, calcite, biotite, actinolite, plagioclase and rutile). Trapping temperature ranges from 300 to 420°C. Other later inclusions are secondary and contain low salinity aqueous solutions with variable CO₂, CH₄ and N₂ amounts. The presence of graphite and carbonates lead to the supposition that gold deposition has occurred in a reducing system at elevated temperature compatible with boundary conditions between greenschist and amphibolite facies, related to decrease of oxygen fugacity and pH.

Soares, B.S. 1989. Methodologic contribution to the use of TM/LANDSAT-5 images in geological mapping of regions with significant vegetal cover. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1349 1989 Date of presentation: 28/11/1989

Britaldo Silveira Soares Advisor(s): Almeida Filho, R.

Committee:

Subject of thesis: Remote Sensing

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Solewicz, R. 1989. Submarine physiographic features of Rio Grande do Norte continental shelf viewed by satellite images. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1346 1989 Date of presentation: 2/3/1989

Reinaldo Solewicz Advisor(s): Vianna, M.L.

Committee:

Subject of thesis: Remote Sensing

State: RN 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Souza, J. L. 1989. Mineralogy and geology of the esmerald of Itabira deposit - Minas Gerais state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2183 1989 Date of presentation: 4/4/1989

Juarez Leal de Souza Advisor(s): Svisero, D.P.

Committee:

Subject of thesis: Mineralogy and Economic Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Souza, R.S. 1989. Diagenesis lithofacies of Carmópolis member, Muribeca formation (Cretaceous), Sergipe-Alagoas basin, Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1412 1989 Date of presentation:

Rogério Schiffer de Souza Advisor(s): Rodrigues, M.A.C.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: SE 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The Lower Cretaceous sandstones and conglomerates of the Carmópolis Member of the Muribeca Formation are important reservoirs in Sergipe-Alagoas Basin. The Carmópolis Member includes seven major lithofacies: Conglomerates, diamictites, conglomeratic sandstones, sandstones, calcilutites, rhythmites, and shales. These facies form fining upward cycles and were deposited in fan-deltas and braid deltas associated to a lacustrine system, under arid to semi-arid climate. Compositionally, conglomerates are polymitic and the lithic sandstones (phyllarenites) are rich in metamorphic rock fragments such as phyllites, schists and slates. The orogenic belts of Upper Precambrian crystalline basement bordering the Sergipe portion of the basin were the major source rocks of the sandstones and conglomerates of Carmópolis Member. This interpretation is confirmed by Dickinson's triangular plots, which indicate a provenance of recycled orogenic areas. The diagenetic sequence that modified the initial permeability and composition of the conglomerates and sandstones is the following: 1) mechanical clay infiltration; 2) early precipitation of poikilotopic dolomite and calcite/aragonite rims; 3) mechanical compaction; 4) quartz and feldspars overgrowths; 5) cementation and grain replacement by ferroan calcite; 6) secondary porosity generation; 7) reactivation of mechanical compaction; 8) cementation and grain replacement by ferroan dolomite and ankerite; 9) second stage of secondary porosity generation; 10) precipitation of late authigenic phases (kaolinite, quartz, chlorite-smectite mixed layers and sulphides). Early dolomite cementation, mechanical compaction, secondary porosity generation and late ferroan carbonate precipitation were the main modifier processes that have controlled the reservoir quality. Mechanical compaction was the most effective process of porosity reduction, mainly where early dolomite precipitation is lacking. Ductile grains such as phyllite, slate and schist fragments were plastically deformed and squeezed into the pore space, reducing significantly the porosity and permeability, as also observed in experimental analyses of compaction. The diagenetic model comprises an eogenetic stage, influenced by hypersaline lacustrine waters, and a compactional mesogenetic stage, without the influence of surface waters.

Strieder, A.J. 1989. Geology, petrology and tectonics of the serpentinitic bodies and host rocks, Abadiânia, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M054

DataBase Ref.: 114 1989 Date of presentation: 27/2/1989

Adelir José Strieder Advisor(s): Nilson, A.A.

Committee: José Caruso Moresco Danni - IG/UnB

Reinhardt Adolfo Fuck - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

The detailed study of deformation and associated metamorphic fabrics in the Abadiânia region lead to the recognition that the five deformational surfaces developed under the same pressure and temperature conditions and are the result of differential movement of a thrust sheet. S1 marks a surface of intense regional mylonitization responsible for the development of an ordate pseudo-stratigraphy which involves, from top to base, sin-kinematic intrusive granite, meta- sedimentary rocks (muscovite quartzite, graphite-muscovite-quartz schist, garnet-mica-quartz schist) and mafic-ultramafic fragments. S2 marks recumbent folds, which have oblique B21 axis in relation to the direction of thrust sheet displacement, and thus leads to the suggestion of large-scale sheath geometry for these folds. S3 and S4 are kinematically related to the development of the large-scale sheath fold and represent lateral and frontal ramps of the thrust sheet.

The mafic and ultramafic rocks occur as bodies of less than 15,0 km and less than 1,0 km in length, respectively. Chromitites displaying petrographical and chemical podiform-type characteristics are associated with the ultramafic rocks. The bulk chemical composition of serpentinites is similar to residual peridotite (harzburgite), and the mafic rocks have chemical affinities with island-arc tholeiitic basalts.

The petrotectonic features of this association are interpreted as an ophiolitic "mélange" located in subduction troughs, and subsequently involved in the thrust movements during the Late Proterozoic. A critical evaluation of region geological and geophysical data is also undertaken in order to discuss the regional significance and implications of the "mélange" interpretation. Therefore, it was possible to find a good correlation between the strong Bouguer gravimetric anomalies and the occurrence of this kind of petrotectonic association. Furthermore, it was possible to establish a relationship between these gravimetric anomalies and the areas where important directional displacement surfaces occur. These features are interpreted as a consequence of trapping of small plates or magmatic arcs during convergence of the large continental blocks, thus suggesting that the Pirineus Inflection may correspond to a tectonic syntaxis.

Szabó, G.A.J. 1989. Geological and petrological context of the metaultramafic rocks from Alpinópolis, MG state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1853 1989 Date of presentation: 19/12/1989

Gergely Andres Julio Szabó Advisor(s): Schultz-Güttler, R.A.

Committee:

Subject of thesis: Mineralogy and Petrology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Toldo Jr, E.E. 1989. Effects of the sedimentary transportation on the grain sizes and morphodynamics of the Patos lagoon. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 453 1989 Date of presentation:

Elírio Ernestino Toldo Júnior Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

The submerged relief of the lagoon body was delimited, based on morphometric and sedimentological data, in two distinct regions: the internal lagoon margin and the lagoon floor.

The former includes the whole area between the coastal line and the 5 meter isobath, whereas the latter corresponds to a flat, slightly sloped surface, which develops beyond the 5 meter isobath.

The internal margin, both in the northern sector and in the eastern and western sectors, develops on Cenozoic coastal deposits. These deposits, besides conditioning the lagoon body laterally, are important internal sources of sediments.

The external sediment source is more significant than the internal one; it occurs in a greater volume in the northern part of the lagoon because of the tributaries of the Guaíba Complex. The solid load of the external sediment source is directly related to the building-up of the lagoon floor.

The study of the effects of sediment transport on the grain size distribution on the lagoon floor allowed the development of a model, without equations, which enabled the evaluation of preferential directions for sediment transport, and consequently the dominant circulation patterns.

The basis of this model are the variations in sediment size concentrations in Ø units, and their distribution throughout the lagoon floor.

The analysis of the genesis of the lagoon floor body, utilizing morphological and sedimentological information, suggests the existence of ancient coastal processes, responsible for the construction of ancient beach lines and sand hooked spits, which are now submerged.

Moreover, analysing the present lagoon morphodynamics, it was possible to report the presence of three important coastal processes:

- the present hydrodynamic equilibrium of the submerged sand hooked spits, here called banks;
- the present mechanism for the growth of emerged sand hooked spits, here called spits;
- the erosion process along the southern portion of the inner eastern margin.

We believe that the three previous coastal processes responsible for the lagoon morphodynamics are the products of a recent transgressive event, related to the effects of the Holocene sea level changes, and of the large amount of water contributions by the southeastern drainage basin of the State of Rio Grande do Sul.

Complementary data concerning the deposition rate on the lagoon floor, based on method U238, added to the erosion and accretion characteristics along the internal margins, allowed the setting up of a model forecasting the fate of Patos lagoon.

Veigel, R. 1989. Diagenetic evolution and Cu-Pb-Zn mineralization of the red beds of the Camaquã district, Rio Grande do Sul state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pp.

Instituto de Geociências - Universidade de Brasília

Reference: M052

DataBase Ref.: 112 1989 Date of presentation: 23/2/1989

Rosicler Veigel Advisor(s): Dardenne, M.A.

Committee: Hardy Jost - IG/UnB
 Pedro de Cesero - PETROBRÁS

Subject of thesis: Prospection and Economic Geology

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

The sulfide mineralization of the Camaquã Mines (Cu) and of the Santa Maria Deposit (Pb-Zn), State of Rio Grande do Sul, Southern Brazil, is associated with Red Bed conglomerates and sandstones, deposited in an alluvial fan environment at the Brasileiro Event.

The ore minerals were formed following four phases: Diagenetic, Late-Diagenetic to Epigenetic, Paleo-Oxidation/Cementation and Tectonic Remobilization, which can be correlated to different diagenetic stages marked by non opaque minerals evolution, that is:

- a) The Eodiagenetic Stage, comprising mechanical infiltration of clays, intensive intrastratal alteration of framework feldspars and Fe and Ti minerals, precipitation of haematite I and large overgrowths of quartz as silcrete beds.
- b) The Mesogenetic Stage, characterized by quartz and feldspar overgrowths, development of chlorite and illite either by evolution of detrital clays or by neof ormation, precipitation of Pyrite I and calcitic cement, solution of part of the carbonate resulting in important secondary porosity, where late euhedral quartz grow, and ankerite precipitation either filling secondary pores or replacement of feldspar by Fe and Ti oxides, quartz and apatite also took place. Fe-Cu-Pb-Zn sulfides filled out the secondary porosity or replaced earlier minerals as the last products of the mesogenesis. In the Camaquã Mines the- mineral sequence is made up of chalcocite I -> bornite I -> chalcopyrite, while in the Santa Maria Deposits by galena + sphalerite ± chalcopyrite.
- c) The Telodiagenetic Stage took place after uplift and unroofing. Development of a Paleo-Oxidation/Cementation zone is well exposed in the Uruguai Mine. The previous sulfides phases were altered and replaced in the Camaquã Mines by haematite II -> bornite II -> chalcocite II -> covellite, and in Santa Maria Deposit by haematite II -> stephanite -> bornite II -> chalcocite II -> covellite -> native silver.
- d) Remobilization leaded to the formation of veinlets containing pyrite + bornite + chalcocite + quartz or haematite + bornite +chalcocite + calcite + barite, depending on the earlier available paragenesis. In the Santa Maria Deposit, only sphalerite + galena veinlets are know.

The continental sedimentary rocks of the later ,Eopaleozoic, Guaritas Formation cover the mineralized deposits along an erosional, angular unconformity.

Vieira, S.R.S.S. 1989. Litho-structural study of the Embu-Guaçu-Parelheiros region, São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2018 1989 Date of presentation: 17/8/1989

Silvia Regina Soares da Silva Vieira Advisor(s): Coutinho, J.M.V.

Committee:

Subject of thesis: Tectonic and Structural Geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Weissberg, I. 1989. Geochemical aspects of the environmental impact of minning in the Amazônia, Serra dos Carajás, Pará state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2189 1989 Date of presentation: 21/12/1989

Iara Weissberg*Advisor(s):* Levi,F.*Committee:**Subject of thesis:* Geochemistry*State:* PA*1/1,000,000 sheet:*

SB22

Centroid of the area:

' -

'W

Abstract

Abreu, V.S. 1990. Tertiary biostratigraphy of the Campos Basin, based on planktonic foraminifera. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 822

1990

Date of presentation:

Vitor dos Santos Abreu

Advisor(s): Purper, I.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Based on analyses of planktonic foraminifera of bore holes 1-RJS-20, 1-RJS-108, 4-RJS-249 and 1-RJS-305 in the Campos Basin, southeastern Brazilian continental margin, a biostratigraphic zonation for the Tertiary was proposed.

The local stratigraphic distribution of the taxa found was compared with their distribution elsewhere in the world (Bolli, 1957a,b,c; Blow, 1959 and 1969; Stainforth et alii, 1975; Bolli & Saunders, 1985).

In this zonation only interval zones were used, so that the upper limit of each zone is characterized by the extinction datum of its own index fossil.

Although fourteen zones were established for the Neogene, only eight zones were recognized for the Paleogene. This results from two non-depositional and/or erosive hiatuses identified in the studied area, which correspond to the basal Lower Paleocene and Upper Paleocene/basal Middle Eocene.

Almeida, M.A. 1990. Geology of Água Clara formation in the Araçáiba region - SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 184 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1228

1990

Date of presentation: 17/4/1990

Marcos Alves de Almeida

Advisor(s): Coutinho, J.M.V.

Committee:

Subject of thesis:

State: SP

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract**Antunes, R.L. 1990. Contribution to the geological knowledge of the Regência paleocanyon - Espírito Santo basin, Brazil: A study based in the calcareous nannofossils biostratigraphy. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.**

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1442

1990

Date of presentation:

Rogério Loureiro Antunes

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The Regência Paleocanyon is a geologic feature of the emerged portion of the Espírito Santo Basin in Brazil. Biostratigraphical analyses based on calcareous nannofossils were carried out on samples of 26 exploratory wells and permitted to improve the knowledge of its detailed sedimentary history throughout geologic time. This important feature was originally carved during one of more erosive episodes in the Albian/Santonian (Zones N-250/N-260). Its total filling up occurred during the Middle Eocene (Zones N-445/N-450). However, at least eight more erosive episodes have been detected during its active history (Albian to Middle Eocene). Some of these events gave rise to troughs which were partially eroded during subsequent events. The configuration of the preserved parts of the troughs suggests that the main sedimentary flow migrated from north to south during the paleocanyon evolution. The establishment of an absolute age with the respective error margin for each recognized erosive event, allowed a tentative correlation between them and the relative sea-level falls in Vail's curve. Through the error margin one perceives that each event can actually be related to one or more relative falls occurring within a very short period. The sections and maps indicate that the present-day paleocanyon limits have not been sculptured by a single erosive event. Following the carving of a large trough, subsequent erosive processes have conditioned the construction of small channels in its interior. The appearance of these small troughs and the migration of the paleocanyon axis changed the original configuration of the large trough, which became wider.

Araújo, C.V. 1990. Petrographical and geochemical study of the coals from Santa Terezinha coalfield, Rio Grande do Sul, Brazil. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 505

1990

Date of presentation:

Carla Viviane Araújo

Advisor(s): Corrêa da Silva, Z.C.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

'W

Abstract

The results of organo-petro-graphic and geochemical studies of the coal seams from Santa Terezinha Coalfield, NE of Rio Grande do Sul State, Brazil, are presented.

Several coal seams and thin coal layers obtained from cores of the boreholes 2TG-96-RS, 2TG-227-RS and 2TG-230-RS were studied. These seams were named ST1, ST2, ST3, ST4, ST5, ST6.1 and ST6.2 by the Companhia de Pesquisa de Recursos Minerais (CPRM).

The sequence belongs to the Rio Bonito Formation, Guatá Group, Tubarão Supergroup (Permian of the Paraná Basin).

The petrographic studies comprised combined analysis (maceral and microlithotypes) and vitrinite reflectance measurements according to the Handbook of Coal Petrology.

The coals are rich in mineral matter, mainly clay. The most frequent maceral groups are vitrinite and inertinite. Among the microlithotypes the most abundant are carbargillite, rock and vitrite.

The coal rank ranges from High Volatile Bituminous A to High Volatile Bituminous B (ASTM) based on vitrinite reflectance, volatile matter (d.a.f.) and moisture. Some coal layers are heat affected by intrusive bodies.

Proximate analysis including moisture, volatile matter, ash and fixed carbon determinations indicated high contents of ash in almost all the samples. A statistical study revealed a good correlation between ash and volatile matter.

The microlithotype association indicated that an open-water moor (limnic facies) prevailed during the formation of the coal seams.

The occurrence of limno-telmatic facies was very restricted.

The organo-geochemical analysis comprised total organic carbon determination, pyrolyses rock-eval, extractable organic matter, liquid and gaseous chromatographic separation, biomarkers and stable carbon isotopes.

Pristane/phytane ratios are always higher than 2 reaching up to 7.4. Pristane/n-C17 and phytane/ n-C18 varies from 0.4 to 6.3 and from 0.11 to 0.87 accordingly.

The terpene analysis showed frequently a predominance of tetracyclic over tricyclic compounds, high relative concentration of low molecular weight hydrocarbon compounds (C19 and C20) among the tricyclic terpenes, and high relative abundance of trisnorhopane (Tm) and norhopane. The investigation of steranes demonstrated a predominance of C29 compounds.

Results obtained by geochemical investigation indicate a great terrestrial derived material input.

The organic facies A, B, C and C* were determined by using integrated data, based on compositional differences which were better controlled by the results from stable carbon isotopes and maceral composition.

Assine, M.L. 1990. Sedimentation and tectonics of the Araripe basin (northeastern Brazil). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 641

1990

Date of presentation: 18/12/1990

Mario Luis Assine

Advisor(s): Gama Jr, E.G.

Committee:

Subject of thesis: Regional Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The Araripe Basin comprises three main stratigraphic sequences separated by regional unconformities: 1) a Paleozoic sequence composed of the Cariri Formation, 2) a Juro-Neocomian sequence composed of the Brejo Santo Formation, Missão Velha (redefined), and Abaiara Formation (new unit proposed), and 3) an Aptian-Cenomanian sequence composed of the Barbalha Formation (new unit proposed), Santana Formation, and Exu Formation. The Juro-Neocomian sequence is characterized by horsts and grabens displayed in two sub-basins: Cariri and Serrolândia sub-basins. The Aptian-Cenomanian is characterized by sub-horizontal bedding and localized brittle deformations. The events of sedimentation, erosion, and deformations proposed for the sequences above, integrate the Phanerozoic evolution in Northeastern Brazil. The paleozoic deposits which have, in attempt, been classified as Upper Ordovician/Lower Silurian, have also been interpreted as an extension of the cratonic Parnaíba Basin. The Juro-Neocomian sequence is the sedimentary response to the mechanical subsidence brought about by the Gondwana rifting processes. The reactivation of Precambrian/Eo-paleozoic structures in the central part of Northeast Brazil, has played an important role in the break-up process derived from northwest/southeast regional extension and counter-clockwise transensional movement along the Patos Lineament. The Barbalha and Santana formations comprise a transgressive-regressive cycle characterized by a short-lived sea ingression which has deposited an exuberant fossiliferous carbonate concretions level and extensive gypsum beds. The presence of alluvial deposits of Exu Formation, deposited -contemporaneously to a global positive eustatic sea level, suggests an epyrogenic uplift early in the Albian-Cenomanian time.

Assis, H.M.B. 1990. Beach Rocks of the South Pernambuco Coast Based upon Petrographic and Isotopic Evidence. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Pernambuco coast, Beach rocks, Petrography, Isotope analysis, Diagenesis

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 596 1990 Date of presentation: 6/7/1990

Hortência Maria Barbosa de Assis Advisor(s): Coutinho,P.N.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The present thesis is restricted to the occurrence of three lines of beach rocks located between the Maracaípe river and Sirinhaém river, southern coast of Pernambuco State.

The mineralogy and petrography made possible the characterization of three types of cements (micrite envelope, acicular crust and intergranular cryptocrystalline). They correspond to diagenetic microfacies which are set in different diagenetic environments.

X-ray analysis, as well as ¹³C/¹²C and ¹⁸O/¹⁶O isotope analysis, show evidence of a dominantly marine precipitating fluid with a subordinate fresh water influence on a second cement generation.

The paleogeographical correlation between the three lines of beach rocks and the Quaternary geomorphology of the area, was related to the analysis described above. This approach allowed the working out of an evolution model for the area. The results show that the formation of the beach rocks is intimately related to geochemical conditions (saturation of CaCO₃ and content of magnesium in water) and hydrogeological conditions. These conditions are related to the variation of the sea level, and to the freshwater phreatic zone.

Barros,L.H.S. 1990. Geological-geotechnical constraints in the slopes instabilities of the Serra da Carioca hill - Tijuca massif - RJ. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1598 1990 Date of presentation:

Luzia Helena dos Santos Barros Advisor(s): Barroso,J.A.

Committee:

Subject of thesis: Geotechnical Mapping

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

This research contribute towards a better understanding of phenomenology of slope instability in a humid tropical environment. A geological-geotechnical survey was carried out, with some laboratory tests and simple correlations among the intervenient variables in the instabilization processes. The study takes place in Carioca Mountain in the Massif of Tijuca within the urban limits of Rio de Janeiro, state of Rio de Janeiro, Brazil. By individualizing and characterizing the geological-geotechnical sequences units and relating them to the whole geomorphological-structural surrounding, including rainfall and human action factors, we can evaluate the effect of such conditioning factors. In this manner we can identify situations indicative of probable instability wich in turn become determinating guidelines for improved planning of better use and occupation of the soil.

Boggiani,P.C. 1990. Sedimentation environment of the Corumbá group in the central region of the Serra da Bodoquena range, Mato Grosso do Sul state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1958 1990 Date of presentation: 26/6/1990

Paulo Cesar Boggiani Advisor(s): Fairchild,T.R.

Committee:

Subject of thesis: Sedimentology/Sedimentary Petrology

State: MS 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Borges,H.V. 1990. Sedimentary dynamics of the da Restinga de Marambaia sandbank and Baía de Sepetiba bay. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1409 1990 Date of presentation:

Heloisa Vargas Borges Advisor(s): Figueiredo Jr,A.G.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The Marambaia barrier beach and Sepetiba bay located south of Rio de Janeiro city, between Guanabara bay and Ilha Grande bay were investigated in respect to their sedimentary dynamics during the last 113 years. A comparison between airphotos of different time periods and historical bathymetric maps with more recent maps indicated the existence of several areas undergoing erosion and sedimentation. The middle portion of the barrier beach, the central valley of the bay, the Pombeba spit and the coastline of the Marambaia bay are actually undergoing erosional processes. On the other hand, the northern portion of the bay is under intense sedimentation processes identified by the progradation of 393 meters of the coastline and also the progradation of the 1 and 5 meters isobath toward the center of the bay. The eastern portion of the barrier beach presents depositional areas alternating with erosional areas. The airphoto interpretation allowed the mapping of the present-day beaches, the former "Pleistocene" and "Holocene" barrier beaches, the dune fields, the "filled-up" lagoons, the swamp areas, the beach ridges, the spits and the sand wave field. The results of sedimentological analysis and core descriptions are presented on maps and contributes to the understanding of the sedimentary dynamics of the area.

Borges, L.E.P. 1990. Petrology and Geochemistry of the Scheelite-Bearing Skarns of the Brejuí-Boca de Lage Mineral Deposit (State of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Scheelite-bearing skarns, Brejuí mine, Petrologic aspects, Geochemistry

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 626 1990 Date of presentation: 19/10/1990

Lucila Ester Prado Borges

Advisor(s): Beurlen, H.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Brejuí-Boca de Lage ore deposit was chosen among various scheelite mines of the Seridó belt, for a petrological-geochemical study of calc-silicate scheelite host rocks. Different facies have been distinguished in these rocks, separated by mineralogical and textural features in: (a) regional biotite-gneiss, (b) amphibolite, (c) diopsidite, (d) garnet-epidote-diopside skarn and, (e) reaction rim, disposed in this order until the contact with the marble.

Results of the chemical analyses of major elements confirm these facies through the behaviour of the chief elements along the studied section. Environment of Ca and Mn, when approximating the marble, and reduction of Si and Na, in the same direction, confirm this composition variation reflected in the facies mineralogy.

Similar behaviour of ETR curves, at least in the two first lithologies, suggest a contemporaneous formation of these facies. When associated with the petrogenetic results it permits an extension of this behaviour to the other facies. This is strengthened by the result of enclosed fluids. Therefore it is supposed that the different calc-silicate facies formed together during the same event, suffering a retro-metamorphic-hydrothermal process during a phase after this generation.

Brito, P.M. 1990. Revision of the Vincifer genus (Pisces-Aspirohynchiformes) from the lower Cretaceous of Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1464 1990 Date of presentation:

Paulo Marques Brito

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The genus Vincifer, described by Jordan, in 1919, for the Agassiz species, Aspidorhynchus comptoni, receives a new diagnosis. The generic characteristics are: the great expansion of the maxilla posterior border, presenting minuscules teeth; the absence of supramaxilla; relation between the rostro and presynphial and the scales and dermic bones covered by a coat of ganoine. The genus is known, until now, only in the Brazilian Lower Cretaceous (Albian-Aptian) and presents two nominal species: V. comptoni and V. punctatus. An anatomical study of the type species is presented in this work, showing some characteristics unknown until now. The systematical position of the Aspidorhynchiformes in the Neopterygii is also discussed and its inclusion in the Teleostei is admitted.

Carvalho, M.D. 1990. Microfacies, depositional model and evolution of Eo/Mesoalbian carbonatic shelf of Santos basin. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1406

1990

Date of presentation:

Maria Dolores de Carvalho

Advisor(s): Tibana, P.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The carbonates of the lower part of the Guarujá Formation, deposited during the early to middle Albian, represent the first marine incursion in the Santos Basin and were deposited over an evaporitic sequence. The low diversity of the fauna and non-skeletal sediments are the main evidence of a restricted marine conditions. The low frequency of benthic organisms together with carbon and oxygen isotopic data ($\delta^{13}\text{C} +0.7$ to $+4.8\%$ and $\delta^{18}\text{O} -3.0$ to -6.5%) indicate high water salinity. Planktonic non-keeled foraminifers suggest that the Guarujá sea was a shallow/intermediate neritic sea. Twelve carbonate microfacies which are distributed in six parallel zones to the Cretaceous Hinge-line of Santos were identified. Such microfacies range from the distal to the proximal environments as follow: Periplatform (Microfacies M fos.), Oncolitic banks (Microfacies P onc.), Peloidal strip (Microfacies P ool., G ool.), Shallow lagoon (Microfacies P onc./ool./intra./pel., M/W bio., P bio.) and Tidal flat (Microfacies M dol.). The distribution of the facies parallel to the paleocoastline; the high energy level facies situated close to the paleocoastline; the lack of reefs; and the break of the ramp slope near of the low energy facies indicate that the Guarujá carbonates represent the Distally Steepened Ramp Model of Read. The origin of the great amount of the carbonate mud in the periplatform zone is considered to be formed by the break and desintegration of calcareous green algae and other fragile microorganisms that lived in shallow waters. Chemical precipitation and mechanical abrasion or bioerosion of oolites are not considered the source of these muds. The great accumulation of the carbonate muds in the Guarujá Formation is explained by the presence of a barrier of pre-Aptian deep water salt domes which trapped carbonate mud on its backside and allowed the formation of a thick sequence of calcilutite.

Carvalho, O.O. 1990. Geology and petrochemistry of a metavolcano-sedimentary sequence northeast of the Seridó belt, southeastern of Lajes town, Rio Grande do Norte state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M061

DataBase Ref.: 121

1990

Date of presentation: 24/9/1990

Otacilio Oziel de Carvalho

Advisor(s): Jost, H.

Committee:

Raul Minas Kuyumjian

- IG/UnB

Jean Michel Legrand

- DG/UFRN

Subject of thesis: Prospection and Economic Geology

State: RN

1/1,000,000 sheet:

SB24

Centroid of the area:

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Abstract

The results of a detailed (1:10.000) geological mapping of a 21.28 km² area in the northeastern part of the Seridó Fold Belt in the State of Rio Grande do Norte, Brazil, are presented. The detailed mapping aimed the reconnaissance of the chemical nature of a metallogenetically (Au-W) important sequence of supracrustal rocks (Amarante Sequence). The mapped area contains five major stratigraphic units, three of which are gneisses [tonalitic gneisses (G1), syenogranitic gneisses (G2) and monzogranitic gneisses, (G3)], and two are being one represented by a volcanosedimentary sequence informally named the Amarante Sequence, and one by metapelites of the Seridó Formation. Pegmatites, quartz veins and diabases dykes are occasional. The Amarante Sequence, object of the report, is probably Archean to Early Proterozoic in age and is made up of metavolcanics interlayered by metasedimentary rocks which are structurally contained in an elongated reverse dome. The metavolcanics vary from ultramafic to felsic. The mafic to ultramafic rocks are chemically similar to the Barberton tholeiites and komatiites. Felsic rocks are represented by dacitic metatuffs of calcalkaline trend. The metasedimentary rocks are represented by metacherts, calcisilicate rocks, marbles, iron formations and metapelites. The probable age, the chemical composition and the general rocks assemblage of the Amarante Sequence are used to interpret the unit as a vestigial greenstone belt, which opens new perspectives for the paleotectonic and metallogenetic interpretation of the Seridó region.

Chrispim, S.J. 1990. Geological mapping of an area in the Carmo da Cachoeira quadrangle (MG state) with emphasis on structural geology at the Bocaina and Faria ranges. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1165

1990

Date of presentation:

Salvador José Chrispim

Advisor(s): Trouw, R.A.J.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

During geological and structural detailed mapping, carried out between Carmo da Cachoeira and Lavras, in the south of Minas Gerais, an archeon basement and proterozoic deformed metasedimentary rocks of the São João del Rei and Andrelândia Groups have been recognized. The São João del Rei Group was subdivided in two tectonic units: an allochthonous unit with schists and quartzites in the upper green schist facies; and a autochthonous unit in the middle greenschist facies with quartzites, meta-arcoses and phyllites. The Andrelândia Group contains schists, paragneisses and metamorphic/ metaultramafic rocks of amphibolite facies, and is thrust over the autochthonous unit. Evidence of three ductile deformation phases has been found in the metasedimentary rocks. The first phase has a S1 slaty cleavage and is responsible for the thrust of the allochthonous unit over the basement and the autochthonous unit. During this phase progressive metamorphism took place, with the recrystallization of quartz and mica, and the growing of biotite, chloritoid and kyanite. The second deformation phase, D2, generated tight folds, lineations and transposition resulting in S2 crenulation cleavage. The peak of the progressive metamorphism in the allochthonous unit, is characterized by garnet and staurolite growth, contemporaneous with D2. Crenulation cleavage, crenulation lineation and folds with proper geometry and attitude, are structures generated during the third deformation phase. The fold axes of this latter phase have a wide scatter of attitudes, and the distribution pattern in stereographic projection, associated with the fold's geometry, has been used as a base for a folding model related to the D3 phase. This model considers the development of minor folds on the limbs of major folds of the same phase, formed earlier in a dextral shear mechanism with E-W direction.

Cunha, A.A.S. 1990. Biostratigraphy of calcareous nannofossils from the Mundaú subbasin (Ceará basin). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 818

1990

Date of presentation:

Armando A. Scarpato Cunha

Advisor(s): Omellas, L.P.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

A biostratigraphic scheme is proposed for the Albian/Early Miocene interval (Ubanara Formation) of the Mundaú Sub-Basin, Ceará Basin, based on the nannofossil content of 20 exploratory wells drilled by PETROBRÁS. The biostratigraphic framework consists of 23 interval biozones defined by successive extinction levels of single index taxa. The correlation of the analyzed wells allowed the construction of eight biostratigraphic sections that include several hiatuses. The chief hiatuses are in the Turonian, Campanian, Lower Paleocene and Lower Eocene. The observed data indicate the occurrence of at least ten erosive/ nondepositional events, four of which in the Cretaceous and six in the Tertiary. The systematic revision in this work allowed the identification of 46 genera and 71 species.

Demétrio, J.G.A. 1990. Numerical Model for Finite Differences of the Cabeças Aquifer in the Gurguéia River Valley (State of Piauí). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Cabeças aquifer, Mathematic modeling, Water Recharge

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 552

1990

Date of presentation: 12/1/1990

José Geilson Alves Demétrio

Advisor(s): Feitosa, E.C.

Committee:

Subject of thesis: Hydrogeology

State: PI 1/1,000,000 sheet: SC23

Centroid of the area: ' - 'W

Abstract

The present thesis deals with mathematical modeling (finite differences) of the Cabeças aquifer in the Gurguéia river valley (Piauí State). The area comprises 77152 km², having been separated in 32 lines and 19 columns what corresponds to 608 cells, considering the Cabeças Formation as one bed only.

The model admits the Cabeças aquifer as being confined, supported by the realization of 23 aquifer tests, and that the whole recharge proceeds from infiltration in the formation outcrop zone exclusively.

Thirteen simulations were made, testing different hypotheses for aquifer utilization, all with a reach of 20 years, drawing the conclusion that for the moment, with the now disponible data, irrigation is possible for little more than 4600 ha.

Besides these simulations, an analysis was made for future perspectives, dealing with problems such as capture of natural flow and the systematic monitoring of the piezometric levels and discharges of all wells of the area.

Denhardt, B.A. 1990. Systematic study of the calcareous nannofossils from the Espírito Santo basin (Paleocene-Eocene). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 820

1990

Date of presentation:

Beatriz Appel Denhardt

Advisor(s): Omellas, L.P.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The analysis of seven drillings by PETROBRÁS (Petróleo Brasileiro S.A.), 1-BI-1D-ES, 1-LS-1-ES, 1-BA-2-ES, 1-RBN-1-ES, 1-RBN-2-ES, 1-PDI-1-ES and 4-LS-5-ES, on the emerged part of the Espírito Santo Basin, allowed the systematic study of Paleocene-Eocene calcareous nannofossils. Optic and scanning electronic microscopy was used for this study, emphasizing the technique and the preparation of samples for the scanning electron microscope.

The terms employed are the ones used by several authors, following the criteria and needs according to the type of microscope and updated according to the more recent and simplified studies.

Twenty eight genera and sixty one species were taxonomically recognized. Diagnosis amendments of five genera and fifty seven species are proposed.

Complementing and updating the Hay's systematics (1977), here used for most of the studied species, we included the following taxonomic units, not included in the classification proposed by that author: the Pyrmnesiales Christensen Order, 1962; the Noelaerhabdaceae Jerkovic Family, 1970; the Eu-discoasteraceae Prins Family, 1971; the Helicosphaeroidae Theodoridis Subfamily, 1984 and the Placozygus Hoffmann Genus, 1970; Neochiastozygus Perch-Nielsen Genus, 1971; Helicosphaera Kamptner Genus, 1954 emend. Theodoridis, 1984; Birkelundia Perch-Nielsen Genus, 1971; Calcidiscus Kamptner Genus, 1950; Helio-discoaster Tan Genus, 1927 emend. Theodoridis, 1984, subdivided into Helio-discoaster mohleri and Helio-discoaster binodosus Groups; and Tribachiatulus Shamrai Genus, 1963 emend. Romein, 1979.

Diniz, H.N. 1990. Hydrogeologic study of the Itararé Subgroup in the middle Tietê river, Tietê municipality, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2033

1990

Date of presentation: 24/11/1990

Hélio Nobile

Advisor(s): Duarte, U.

Committee:

Subject of thesis: Hydrogeology

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area: ' - 'W

Abstract
Dutra, L.N.F. 1990. The sand exploitation in Tramandaí and the environmental impact. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 460

1990

Date of presentation:

Luiz Nildo Ferreira Dutra

Advisor(s): Villwock, J.A.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area: 30 00 's - 50 15 'W

Abstract

The coastal region of Rio Grande do Sul has been the target of countless environmental degradation denunciations. One of its major areas is in the Tramandaí region, mainly because it is a touristic attraction pole.

Among the activities considered harmful to the environment, consequently the target of those denunciations, is mining. Therefore, this research aims to characterize different aspects of the various types of mining that exist in this coastal region of the State, as well as the principal environmental problems caused by them.

The environmental problems in this region, however, are not caused exclusively by mining. For this reason, an analysis has also been made of the environmental impacts caused by other forms of soil occupation. This analysis, from the geological point of view, applies to the urban as well as the rural areas.

The environmental analysis presented here has been prepared in an ample manner, without a specific order as to the importance of the various impacts.

Since many of the environmental problems could have been avoided simply by obeying the existing legislation, several considerations have been applied to the legal aspects, relating them to the various activities developed, particularly mining. In this manner, the area chosen for the analysis of the problems presented is that delimited by the topographical charts of Osório, Tramandaí, Rancho Velho and Cidreira. These charts, published by the Board of Directors of the Geographical Service of the Military State Department in the scale of 1:50,000, are situated between the parallels -29°45'00" and -30°15'00" and the meridians 50°00'00" and 50°30'00".

Ens, H.H. 1990. Petrogenesis of Itaoca region skarnites - Ribeira valley - SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 172 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1051

1990

Date of presentation:

Hendrik Herman Ens

Advisor(s): Coutinho, J.M.V.

Committee:

Subject of thesis:

State: SP

1/1,000,000 sheet:

SG22

Centroid of the area:

' -

'W

Abstract**Ev, L.F. 1990. Geology of the Tapes region - RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.**

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 459

1990

Date of presentation:

Luiz Fernando Ev

Advisor(s): Villwock, J.A.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

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Abstract

The geologic structure of the eastern part of Rio Grande do Sul comprises two major units: the basement and the Pelotas basin. The first one is represented by the Dom Feliciano belt (gneisses, migmatites, molasse sequences) of Upper Proterozoic/Early Paleozoic, and by Paleozoic and Mesozoic volcanic and sedimentary sequences of the Paraná Basin.

The Pelotas basin is a passive margin basin with a dominant clastic sequence of 5,000m thick. Its development has occurred during the Upper Jurassic and is related to the opening of the South Atlantic Ocean.

The emerged part of the Pelotas basin is the Rio Grande do Sul coastal plain which can be subdivided into inner and outer plains. The inner plain comprises clastic deposits and massive accumulations which delineate the primitive Rio Grande do Sul coast-line. The outer coastal plain is composed of marine deposits moulded from transgressive-regressive events of the Middle Pleistocene-Holocene.

The primary aim of this dissertation is the geological study of Tapes area, part of the inner coastal plain of Rio Grande do Sul. Sedimentary and geomorphological aspects of the area have been analyzed in detail and depositional systems have been established and individualized.

The evolution of the area has shown to be closely related to eustatic fluctuations which affected the southern portion of Brazilian coast-line. The Tertiary tectono-eustatic and Quaternary glacio-eustatic oscillations are the most important of such fluctuations. The resulting morphoclimatic zoning has developed a polycyclic landscape by means of pedogens and lateral and vertical dissection processes.

The proposed evolutionary model comprehends ten stages. The first ones are correlated to the first sedimentary records at 1-GA-1-RS and 1-GA-2-RS wells (30km to the south of the studied area), Upper Oligocene/Miocene. Miocene marine sediments with fossils cover this sequence.

Interglacial periods have risen the sea level at least three times during the Pleistocene. The related deposits are sandy barriers and lagoonal terraces.

Between the high sea level phases, glacial periods have inserted the regressive conditions, thus establishing the advance of continental sedimentation by means of alluvial fan systems.

The progressive separation of the Patos-Mirim lagoonal system begins as a result of the construction of outer sandy barriers. The Flandrian transgression completes that process by means of a fourth barrier at the outer plain during the Holocene.

This transgression as well as the preceding ones have been characterized by several pulses of variable duration and intensity, with a maximum at 5,100-5,500 years B.P. A lagoonal terrace is the sedimentary record of the transgression. At the top of that terrace, features indicate three submerging periods.

The internal dynamics of the Patos lagoon has promoted the adjustment of the coast line after the last transgressive event, and the region acquired its now-existing shape.

Fassbinder, E. 1990. Structural analysis of Lancinha fault, Paraná state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 165 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1201

1990

Date of presentation: 11/5/1990

Elvo Fassbinder

Advisor(s): Sadowski, G.R.

Committee:

Subject of thesis: Tectonic and Structural Geology

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

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Abstract**Feitosa, F.A.C. 1990. Hydrogeology of the Cabeças Aquifer in the Middle Gurguéia River Valley (State of**

Piauí). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Gurguéia river valley, Cabeças aquifer, Well sections, Aquifer tests

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 553 1990 Date of presentation: 10/12/1990

Fernando Antônio Carneiro Feitosa Advisor(s): Feitosa, E.C.

Committee:

Subject of thesis: Hydrogeology

State: PI 1/1,000,000 sheet: SC23 Centroid of the area: ' - 'W

Abstract

The Gurguéia Irrigation Project started in August 1986, resulting in the construction of 39 wells (23 production wells and 16 piezometers) exploiting the Cabeças aquifer. The wells are distributed among three batteries between the cities of Cristino Castro and Elizeu Martins, in the south Piauí State. Twenty long term aquifer tests led to the following figures which are accepted as good representative of the porous media : $T=1.33 \times 10^{-2} \text{ m}^2/\text{s}$; $S=3.74 \times 10^{-4}$; $K=5.89 \times 10^{-5} \text{ m/s}$. Data from the lithology logs and from the aquifer tests suggest the Cabeça sandstones to be markedly homogeneous, even though the filled fractures in the INCRA and Projeto Piloto areas and a probable gravity fault north of Núcleo Colonial do Gurguéia act as hydrodynamic barriers. Slight evidence of downward vertical leakage from the Poti/Piauí system was detected, being nevertheless considered as a hypothesis to be tested in further studies. No capture is admitted to occur, at the present state of knowledge of the aquifer, which means that the exploitation regime is to be admitted as one of depletion. Discharge and drawdown analysis, on the above basin, recommend for the INCRA, Projeto Piloto and UNIFOR batteries, operational discharges of 1800.0, 5277.0 and 2022.0 m³/h with 8, 13 and 6 pumping wells, respectively.

Fernandes, N.F. 1990. Subsurface hydrology and physical-mechanical properties of the Rampa-Bananal complexes (SP state). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1599 1990 Date of presentation:

Nelson Ferreira Fernandes Advisor(s):

Committee:

Subject of thesis: Geotechnical Mapping

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The relationships between the subsurface hydrology and the erosive processes inside "Rampa Complexes" are analysed by using tensiometer settings installed in different depths and morphological conditions along an experimental slope, where daily readings were accomplished by near one year. Were also carried out physical and mechanical analyses of the different colluvial layers observed. In spite of a highly discontinuous subsurface structure, topography strongly control the convergence of subsurface flows toward the "hollow" base. The saturated wedge generated showed rapid expansion and contraction movements in response to pluviometric events. The role played by pore-pressure elevation at the "hollow" base controlling safety factors values was analysed.

Fernandez, O.V.Q. 1990. Paraná river fluvial channel changes and marginal erosion processes in the Porto Rico region, Paraná state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 652 1990 Date of presentation: 17/12/1990

Oscar Vicente Quiñonez Fernandez Advisor(s): Fúlfaro, V.J.

Committee:

Subject of thesis: Geosciences and Environment

State: PR 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This paper presents the studies performed on channel changes occurred, and processes of bank erosion on a braided reach of Parana River, Porto Rico area, north-western of Parana State, Brazil. The channel changes were observed through the maps, made from sets of vertical aerial photographs, and gathered from several surveys (1953, 1963, 1970 and 1980). The bank erosion studies were based in field measurements; two methods were used for erosion monitoring: erosion pins and pegs methods. The bank recession was quantified over a period of 14 months (July 1988-August 1989). The main channel changes, recorded since 1953, have essentially occurred in island bankline. The evolution could be followed in a short period, from 10 to 15 years. The river bank didn't show a significant variation in the period considered. Fourteen actively eroding banks were selected, monitored and grouped in the three prominent types: 1) Type A: high vertical face, sandy composition, predominated in area with high flow ($> 0.80 \text{ m/s}$), and mean annual erosion between 0.06 to 17.6 m/year; 2) Type B: low, composed of fine sediments,

located in places with moderate to high currents (0,50-0,80 m/s), and mean annual erosion between 0,80 to 1,94 m/year and, 3) Type C: low, composed of fine sediments, located in place with slow current (< 0,50m/s). It show an mean retreat rates of 0,29 to 0,71 m/year, mainly in the floods periods. The morphological and sedimentological bank conditions, the flow characteristics near bank and erosive behaviour were the based parameters used in this classifications. In type A, large blocks slumping is the predominant erosive process. In the B and C types, small blocks slumping and corrasion processes are more important. The limitations of using the bank erosion measurement methods are presented. The pins installed in bank with low erosion rates (< 70 cm/month), where predominant corrasion processes, proved goods results. In bank with high erosion rates (> 70 cm/month) the pegs method proved excellents results.

Frank,R.E. 1990. Geology, petrology and tin mineralizations of the Santa Bárbara granitic complex, Rondônia, Brazil. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 996

1990

Date of presentation:

Renata Eliane Frank

Advisor(s): Pires,F.R.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The Santa Barbara Granitic Complex is a part of the Rondonian Tin Province. It displays a subrounded shape in surface with a 6 km diameter. It is intrusive in the Xingu Complex gneisses. Contacts with country rock are usually concealed by thick soil cover, but blocks of the Xingu Complex milonitized biotite-rich Augen gneisses in the northeastern boundaries of the Santa Barbara Granitic Complex suggest tectonic contacts. Under the petrographic viewpoint, the Santa Barbara Complex shows distinct primary(magmatic) and secondary(metasomatic) features characterizing two lithologic facies. The primary facies represent about 90% of the total exposed area of the complex and is subdivided into three granitic types: 1) SERRA AZUL GRANITE (Gsa): dominant type, represented by a coarse-grained equant biotite-granite, which usually occurs at the border zone of the complex. 2) SERRA DO CICERO GRANITE (Gsc): marked by the porphyritic texture and by the fact that encircles the Santa Barbara Granite. 3) SANTA BARBARA GRANITE (Gsb): a fine-grained biotite-granite showing close relationships with the mineralization. The granites of the complex exhibit high SiO₂ content (73-74%) and Al₂O₃, K₂O, Na₂O and CaO contents, which indicate calcalkaline (Wright, 1969) and subaluminous compositions (Shand, 1927). Granites are strongly differentiated. Trace-elements studies demonstrated enrichments in F, Rb, Y, Li, Sn, Nb, Cu, Pb, Zn, Mo, Ce, La and Co, and impoverishment in Ba and Sr. The late and post-magmatic or metasomatic events are monitored by petrographic work and geochemical data. All the granites types show in different proportions, late and post- magmatic and metassomatic transformations (microclinization, albitization, silicification and greisenization). During the greisenization process the topaz was formed at the expenses of the feldspar breakdown. Muscovitization of biotite and feldspars and the cassiterite precipitation, correspond to the principal hydrothermal alterations in the greisens. Tin mineralizations (primary and secondary) are intimately associated with the Santa Barbara Granitic Complex. Primary mineralizations occur either as endogreisen, exogreisen or quartz-veins, controlled by the fracture system oriented following the northeast - southwest direction. These fractures were active during the emplacement of the granites. Secondary tin mineralizations are the product of the intense weathering of the granites which afforded erratic, high grade cassiterite concentrations in the present valleys and palaeovalleys. The positioning of the Santa Barbara Granitic Complex is related to an intracontinental rifting and can be explained by the granite intrusion model controlled by zones of crustal weakness and partial melting, involving the Serra Providencia granite, the probable precursor of the Rondonian Granites.

Garda,G.M. 1990. Hydrothermal alteration in the context of the geologic evolution of the Poços de Caldas alkaline massif, MG-SP states. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 213 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1260

1990

Date of presentation: 14/3/1990

Gianna Maria Garda

Advisor(s): Ulbrich,H.H.G.J.

Committee:

Subject of thesis: Geochemistry and Petrology

State:

MG

1/1,000,000 sheet:

SF23

Centroid of the area:

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SP

Abstract

Gasparetto,N.V.L. 1990. Weathering alteration of the acidic volcanic rocks in the central region of Rio Grande do Sul state - Brazil. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 508

1990

Date of presentation:

Nelson Vicente Lovatto Gasparetto

Advisor(s): Menegotto,E.

Committee:

Subject of thesis: Geochemistry

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

This dissertation presents the study of the weathering of volcanic rocks in the central region of Rio Grande do Sul State. The acidic flood is mainly composed of rhyolite and secondarily of volcanic glass. The alteration takes place under subtropical climate with defined seasons and mean annual precipitation above 1200 millimeters.

The topography is smooth with gentle slopes with low hills and a hundred of meters declivity. The soil is not well developed in the predominant area, but in the even areas on the top latosols can be found. The vegetation is characterized by gramineae and ciliary forest.

The alteration occurs over two well characterized forms: 1) concentric weathering, developing levels with alteration through its periphery; 2) vertical profiles, where the alteration happens in the main rock, fluently and continuously producing a variable of soil covering.

Intemperism makes successive destruction of minerals in the following crescent order of stability: carbonate < pyroxene = glass < plagioclase < alkali feldspar < magnetite < quartz.

The pyroxene weathering produces smectite and amorphous materials, as iron helps out the goethite formation. Plagioclase produces smectite with low concentration of kaolinite. Alkali feldspar intergrown with quartz produces kaolinite and traces of illite. Magnetite leads to goethite formation, but the latter can be found together with quartz as a residual phase. The amorphous products (Si, Fe and Al), evolve to crystallization in the form of oxides and hydroxides in small proportion.

Through the isovolumetric method the loss and gain percentages of the chemical elements were established in the different levels of weathering. Therefore, the following sequence of relative mobilities could be found: a) Ca > P > Na > K > Si > Mg > Mn > Al > Fe > Ti > H₂O; minor elements Rb > Sr > Ba > Ni > Zn > Li > Pb > Cu > Zr > Co.

The geochemical evolution shows high loss of soluble elements and moderate loss, even of those elements known as stable. Some elements of high mobility in the supergen cycle have shown and increased concentration at the higher levels of alteration, kept by adsorption of clay minerals.

The rare earths minerals are also fractured during the weathering process.

Gomes, M.E.B. 1990. Petrology of the Arroio Moinho granite (Canguçu/RS) - Geochemistry and deformation. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 507

1990

Date of presentation:

Marcia Elisa Boscato Gomes

Advisor(s): Nardi, L.V.S.

Committee:

Subject of thesis: Geochemistry

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

The Arroio Moinho Granite represents a synkinematic intrusion related to the establishment of the Canguçu Dorsal shear zone, which has a direction of N35-75°E and sinistral sense of movement and cuts the east side of the Sul-riograndense Shield.

It is composed of monzonitic and sienogranites with chemical affinities intermediate between calc-alkaline and alkaline series, related to tardi-orogenic rocks intruded in mature magmatic arcs.

The shearing originated mylonitic rocks described as protomylonites, orthomylonites and ultramylonites, by progressive deformation of the original granitic rock.

At microscopic scale it was observed a particular behavior for each mineral: quartz with essentially ductile deformation and feldspars with brittle-ductile behavior. Associated with the deformation there were chemical and mineralogical changes including amphibole and oligoclase destruction and neoformation of K-feldspars and biotite followed by formation of new mineral phases as albite, epidote, titanite and white mica. Chemical changes between minerals represent the redistribution of elements, mainly Fe and Ti, with little loss of Ca and gains of Na.

The mylonitic microstructures show that deformation occurred by processes of strain enhanced diffusion, crystal plasticity and fracture, with strain softening mechanisms playing an important role.

These microstructures, associated with chemical and mineralogical changes, indicate temperatures around 350-450°C, corresponding to greenschist facies conditions, for the formation of mylonitic rocks.

Gouvêa, J.L. 1990. Remote sensing techniques applied to geological research in Amazon region (Carajás region). MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1343

1990

Date of presentation: 2/7/1990

João Luiz Gouvêa

Advisor(s): Crepani, E.

Committee:

Subject of thesis: Remote Sensing

State: PA 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

Hansen, M.A.F. 1990. Study of the marine terraces in the Fildes peninsula, King George island, Stansbury peninsula and Nelson and Ardley islands, South Shetland, Antarctica. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 461

1990

Date of presentation:

Marco Antônio Fontoura Hansen

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

Studies carried out in the coastal areas of the Fildes and Stansbury peninsulas (King George Island and Nelson Islands) and Ardley Island, South Shetland Islands, Antarctica, made it possible to know more accurately the marine terraces through planialtimetrical profiles. The establishment of their Holocene and Pleistocene ages was the result of careful analyses and comparative research. A special approach was given to the profiles of the "Ship" (A-A') and Wal (F-F') bays, in the Fildes Peninsula, and to the Rip (G-G') bay, in the Stansbury Peninsula.

The production of regional and local geological maps, specially of the profiled bays, and stratigraphic successions and chronostratigraphic tables were also part of the study.

The description included the morphologic aspects of the marine, transitional and continental areas, suggesting a geomorphological compartmentalization for the emerged portion, attaching special attention to the coastal area. Among the most prominent features of the area we can mention the marine terraces, lagoons, lakes, bays, spits of land, dunes and deltaic micro-fans. We found a medium integrated emersion curve associated with the phases of the glaciers in the last 9,000 years BP, making it possible to discover the approximate ages of the raised terraces, lakes and drainages.

Out of the eight profiles which were carried out, we selected the three most representative ones in order to analyze the thirty-three samples of sediment collected on berm crests and runnels: the proprieties of sedimentary character, including granulometric, statistical, morphoscopic parameters, and classifications. The described Quaternary deposits are characterized by glacial, colluvial, of slopes, glaciofluvial, glaciolacustrine, of marine terraces, lagoonal, aeolian, glaciomarine, and marine sediments. The paleogeographic analysis resulted in the establishment of two evolutionary stages from the Upper Pleistocene to the Recent, and paleogeographic maps of the Upper Pleistocene and Upper-Middle Holocene were also drawn. The proposition of these stages is related to the main factors responsible for the coastal configuration, represented specially by the glacio-isostasy, the glacio-eustasy and neotectonics, linked to the climate fluctuations that have occurred.

Hippertt, J.F.M. 1990. Contribution to geology and petrology of augen-gnaisses of Niterói, RJ state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 203 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1054

1990

Date of presentation: 26/4/1990

João Fernando Martins Hippertt

Advisor(s): Valarelli, J.V.

Committee:

Subject of thesis: Petrology

State: RJ

1/1,000,000 sheet:

SF23

Centroid of the area:

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Abstract

Kirchner, C.A. 1990. Orientative geochemical survey for fluorite in Santa Catarina state. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 496

1990

Date of presentation:

Carlos Alberto Kirchner

Advisor(s): Nardi, L.V.S.

Ribeiro, M.J.

Committee:

Subject of thesis: Geochemistry

State: SC

1/1,000,000 sheet:

SH22

Centroid of the area:

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Abstract

This dissertation deals with the information obtained from the "Stage 3 - Methodology research" (Etapa 3 - Pesquisa de Métodos) of the "Fluorita no Sudoeste de Santa Catarina" project.

Geological reconnaissance work confirmed the presence of Proterozoic granitic lithologies hosting fluoritic mineralization (Pedras Grandes and Guabiruba intrusive suites) described in earlier papers. The sedimentary sequence of the Itararé Group and basic rocks of the Serra Geral Formation are also found together with less common acidic rock dikes and siliceous veins. Fluoritic lodes have variable dimensions showing up as lenses thinning laterally or in depth.

There were collected 234 samples from fluvial water, 236 from stream sediments, 17 from pan concentrates and 336 from soil.

The results pointed out to fluvial water as the most representative sampling element concerning to regional or semi-regional prospection, owing to the good fluorine detection, the sampling quickness, its low cost and the analytic facility. Stream sediments are considered as a second option for fluorite regional prospective programs. For detailed prospective programs, granitic soil studies show that fluorine can be considered as a direct indicator for the presence of fluoritic mineralization.

The dispersion spacing from lodes, even to fluvial water or soils, shows similarities with orientative researches carried out in other places with similar characteristics.

Knauer, L.G. 1990. Geologic evolution of Pre-Cambrian of the center-eastern portion of the Serra do Espinhaço Meridional range and associated metallogenesis. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1752

1990

Date of presentation: 19/12/1990

Luiz Guilherme Knauer

Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

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Abstract

The central-eastern portion of the southern Espinhaço Range is mainly characterized by Precambrian terranes, including Archean and Proterozoic sequences and metamorphosed (green schist) basic dykes and sills, the latter ones belonging to the Pedro Lessa mafic suite of Upper Proterozoic age. The Archean sequence includes the high-grade Gouveia Complex and the low metamorphic grade Pedro Pereira Group. The Proterozoic sequence, of low metamorphic grade, is represented by the Costa Sena Group, the Espinhaço Supergroup ("sensu stricti"), the Itapanhoacanga Sequence, the Serra do Sapó Sequence, the Jacém Sequence and the Serro Sequence. Among the low-grade metamorphic sequences only the Pedro Pereira and Costa Sena Groups (both belonging to the Rio Paraúna Supergroup) were affected by the Transamazonian geotectonic cycle (1.844 ± 0.4 Ga). The Pedro Pereira mafic rocks type sequence, with an early komatiitic volcanism and later acid volcanic rocks of calc-alkaline signature. The marine Costa Sena Group exhibits acid-calc-alkaline volcanism (Barão do Guaicui Formation) which grades into continental and shallow marine conditions upwards (Bandeirinha Formation). The Espinhaço Supergroup is represented by the São João da Chã, Sopa-Brumadinho and Galho do Miguel Formations. It is mostly composed of metasediments deposited under fluvial, deltaic, shallow marine and eventually eolic conditions. The associated mafic rocks, belonging to the Conceição do Mato Dentro and Planalto das Minas mafic suites, display tholeiitic parentage (possibly also transitional and alkaline) and a marked bimodal characteristic similar to a rift environment. Weathering processes in the area were responsible for the formation of laterite and bauxite, nowadays represented by hematite phyllites and chlorite-bearing rocks. The sequences along the eastern border invariably display tectonic contacts and the main shear zones and thrust faults limit not only the tectonostratigraphic units as well as depositional environments. This, occurring from west to east is as follows: the marine Itapanhoacanga Sequence, the deep marine Serra do Sapó Sequence, the Jacém Sequence containing turbidites associated with the abyssal plain and the Serro Sequence with extremely altered metagabbro and mafic rocks. Sills and dykes of the mafic Pedro Lessa Suite are not found within terranes related to the Serra do Sapó, Jacém and probably Serro Sequences. The proposed evolutionary model for the geology/metallogenesis of the region from the Archean to the Cambrian/Ordovician, which is relatively related up to the final stages of the Lower Proterozoic, is the following:

- Archean: emplacement of a gneissic/migmatitic crust probably from calc-alkaline plutonic rocks;
- middle Archean: development of a greenstone belt type sequence, represented by basal rocks of the Pedro Pereira Group (in a distentional environment) and calc-alkaline volcanism under convergent conditions towards the later stages. The stages are marked by local concentrations of sulfides, gold and iron (in Algoma-type banded iron formations);
- Upper Archean: intrusion of Gouveia-type granitic rocks in the cratonic area;
- Lower Proterozoic: establishment of a relatively deep marine environment, with general inversion and aggregation of its sediments and of relics of island arcs to the continent (these latter ones marked by calc-alkaline magmatic rocks). Towards the final stages, a restricted basin was formed with continental and shallow marine sedimentation. The metallogenetic potential of this period is relatively small, with some occurrences/deposits of phosphate, gold and iron;
- Lower Proterozoic: establishment of the Espinhaço rift, displaying (padalite) deposition from continental to shallow marine environments and a profound weathering period. The igneous activity (tholeiitic-transitional-alkaline?) is clearly continental and bimodal, typifying such environment. The early alkaline magmatism is responsible for "sensu lato" kimberlite bodies (pré-rift phase) which contained diamonds widespread in the region today. To the east, marine conditions predominated giving place to the deposition of the Itapanhoacanga Sequence, containing Lake Superior-type banded iron formations. A distentional period occurred during the Upper Proterozoic and is marked by abundant basic dykes. Also during the Proterozoic, oceanic conditions were present and are represented by the Serra do Sapó and Jacém Sequences (possibly also the Serro Sequence); however, as these are not cut by basic dykes their position is unclear. Such sequences can either indicate an evolution of the "Espinhaço Basin" in the Lower-Middle Proterozoic or a basin development in the Upper Proterozoic (if they are considered later in relation to basic rocks and if the age dating of basic rocks is correct). Between 700-600 and 950 million years there was a general inversion, with closure of the basin and subduction to the east. This event is responsible for frequent shear zones which evolve to thrust faults, overthrusting all sequences under consideration. It is one of the main and few metallogenetic epochs of the southern Espinhaço Range, being probably responsible for the gold and quartz ore bodies relatively common in the region.

Machado, D.M.C. 1990. Bivalvia (Mollusca) from the Devonian of the Amazonas basin (Maecuru and Ererê formations): Systematic and palaeoecological considerations. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1465

1990

Date of presentation:

Deusana Maria da Costa Machado

Advisor(s): Ferreira, C.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

Devonian bivalves are found in the Maecuru and Ererê Formations of the Amazon Basin. Twenty three species are known from the Maecuru Formation, of which seventeen species are classified in ten genera and six are generically indeterminate. The Ererê Formation includes sixteen species, of which only one has not yet been generically identified. Both faunas are preserved as moulds and casts. The Maecuru bivalve fauna is made up of the following species: *Aviculopecten coelhoanus*, *Cypricardella hartti*, "C." *pohli*, "Grammysia" *burmeisteri*, *Grammysioidea gardneri*, *G. lundii*, *G. pissisi*, *G. sp. A.G.(?) sp. B.*, *Limoptera browni*, "Leiopteria" *sawkinsi*, "Modiomorpha" *helmreicheni*, "Modiomorpha" *sellowi*, "Nucula" *ballistriata parvula*, *Nuculites smithi*, *Nyassa(?) ortonii*, *Palaeonello orbigny*, *Ptychopteria (Actinopteria) eschwegeii*, *P. (A.) humboldti*, *Sanguinolites(?) kasteni*, *Sedgwickia(?) sp.*, *Sphenotomorphia bodenbenderi* e *Toechomya(?) rathbuni*. Most of the Maecuru bivalves were endobryssate, semi-infaunal and infaunal filter-feeders. They probably inhabited a normal-salinity, shallow rough water marine environment. The Ererê bivalves are represented by such species as: *Cypricardinia(?) woodwardi*, *Edmondia(?) sylvana*, "Grammysia" *ulrichi*, *Nuculites branneri*, *N. ererensis*, *N. cf. N. triquetra*, *Nuculopsis kayseri*, *Palaeoneilo simplex*, *Palaeoneilo(?) sulcata*, *Phestia(?) cf. P. rostellata*, *P.(?) cf. P. diversa*, *Pholadella parallela*, *Spathella pimentana*, *Sedgwickia(?) pondiana*, *Sphenotus(?) gorceixi* e *Sphenotus(?) sp.*. Most of the Ererê species were possibly shallow burrowing deposit-feeders that lived within a soft, fine-grained substrate. However, there are also a few endobryssate semi-infaunal and infaunal filter-feeders. The Ererê fauna is inferred to have inhabited the outer limits of the inner neritic zone in a normal-salinity, calm-water marine environment.

Martins Neto, R.G. 1990. Ensifera insecta, (orthopteroida) systematics of the Santana formation (Lower Cretaceous of the Northeastern of Brazil). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2190

1990

Date of presentation: 16/8/1990

Rafael Gióia Martins Neto

Advisor(s): Rösler, O.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

Mayer, L.M. 1990. Timber taofloras of the Rio Bonito formation (Permian) coal sedimentary sequences, in Santa Catarina state - Paraná basin, Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1589

1990

Date of presentation:

Lucia Montilla Mayer

Advisor(s): Sommer, F.W.

Committee:

Subject of thesis: Palaeontology

State: SC

1/1,000,000 sheet:

SG22

Centroid of the area:

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Abstract

Woody taphofloristic associations from Permian of the Paraná Basin, Rio Bonito Formation, Brazil are investigated here as to anatomical-systematic aspects, biostratigraphy, taphonomy-mineralogical textures, paleoenvironments of sedimentation, paleoclimates and paleoecology. The Neopaleozoic sedimentary evolution within the Basin is presented, in short, and the stratigraphic levels aimed in our research are settled. The occurrence of genus *Polysolenoxylon* KRÄUSEL & DOLIANITI, part of our collections during field-works, for the first time, stratigraphically below the Passa Dois Group, here within the Rio Bonito Formation, Tubarão Group is pointed out. The taphonomic aspects, based on the study of the mineralogical textures developed into the woods permitted good conclusion about the original depositional environment. Also the woody bodies showed seasonal structures as annual-rings and other features very useful in the analysis of the paleoclimate and paleoautoecology conclusions. Palynological occurrences typical of the Carboniferous-Permian interval obtained within the analysed levels added data to the biostratigraphical settlement. Conclusions about paleoclimates and the biostratigraphical correlations of the taphofloristic associations considering Gondwanaland are presented.

Melo, M.S. 1990. Pariqueira-açu formation and related deposits: Sedimentation, tectonics and geomorphogenesis. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 211 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1142 1990 Date of presentation: 13/6/1990

Mario Sérgio de Melo Advisor(s): Coimbra,A.M.

Committee:

Subject of thesis: Stratigraphy

State: SP 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Mendes,J. C. 1990. Geology and petrology of the Rio Novo do Sul intrusive complex - ES. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 997 1990 Date of presentation:

Júlio Cezar Mendes Advisor(s): Wiedemann,C.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This thesis comprises the geological mapping (scale 1:25.000) and interpretation of an area about 80 km² in the south of the state of Espírito Santo, near the town of Rio Novo do Sul. The area contains several intrusive bodies (The Rio Novo do Sul Intrusive Complex) with rock composition ranging from quartz-diorites to granites (intermediate rocks are quartz-monzodiorites, quartz-monzonites, tonalites and granodiorites), which are enclosed in orthogneisses of Braziliano age and migmatitic banded gneisses (sillimanite-garnet gneisses) of probably Transamazonian age. All these rocks are part of the Alegre Complex, which belongs to the Ribeira Mobile Belt, of Braziliano age. Magnetic data show a strong anomaly in the region, indicating the presence of a large subsurface structure of basic magmatic body. This, combined with the irregular shape of intrusions mapped on the surface could indicate that they represent a set of apophyses and stocks. Dominating among the intrusive rocks are homogeneous granodiorites and quartz-diorites. The other lithologies outcrop only in isolated areas or in mixed zones of rocks. Sometimes, restricted compositional variations may occur. There are well developed flow structures (linear or planar) that tend to be parallel to the schistosity of the enclosed rocks. The degree of deformation of the intrusive is not significant. Homogeneous rocks without structural complications are prevailing, and only in some quartz-dioritic portions it is possible to observe turbulent flow structure, small shear zones and/or faulted syn-intrusive veins. The contacts between the enclosing rocks and the several rock units of the complex rarely crop out. In the mixed zones of rocks sharp and irregular veined contacts are found, as well as pillow-like structures. Many granitic dykes and quartz-feldspathic veins cut all the lithologies, showing an irregular strike and shape. Microdiorite dykes of small thickness cut mainly the gneisses, having melted them in some points. The petrographic characteristics of the intrusive rocks are repetitive. They all have a similar mineralogy and predominantly hypidiomorphic granular and porphyritic texture. The dominant potash feldspar is microcline, commonly of microperthitic type. Amphibole of probably iron-hastingsitic composition is well observed in the diorites, and not present in the granites, while in the granodiorites it occurs in trace amounts. In several samples this mineral appears replaced by biotite, and in only on thin section of quartz-diorite it rims augitic pyroxene. Reaction contacts can be found, as exemplified by plagioclase corroded by microcline and vice versa, as well as intergrowths between quartz and microcline (graphic intergrowth) and quartz and plagioclase (myrmekite). The plagioclases and biotites determine the primary foliation of the rocks that show flow structure. In microdiorites, the plagioclase can exhibit corroded borders. Apatite and zircon are the accessory minerals most common in all lithologies. The chemistry of the rocks from Rio Novo do Sul Complex reveals a magmatism rich in some elements, such as Fe, K, Ti and P (mainly granodiorites and quartz-diorites) and slightly depleted in Na, in comparison with an average of analyses from the literature. The different lithologies have a peraluminous character (i.e., $Al_2O_3/Na_2O + K_2O + CaO > 1$), and are oversaturated in SiO_2 , according to their petrographic and normative composition. With regard to the determination of the petrogenetic type of the granitoids, the magnetite-series rocks predominate. The study of several diagrams points to characteristics corresponding to I-type and S-type magmas, as well as to a calc-alkaline/alkali-calcic character of this complex. The whole geochemical data indicate an origin of magmas produced in a transitional environment (end of a compressive cycle/beginning of extensive cycle). Fractional crystallization processes seem to play a major role on the genesis of the intrusive rocks of Rio Novo do Sul. Nevertheless, mechanisms of partial fusion and magma mixing were probably important. The Rio Novo do Sul Intrusive Complex shows similar characteristics to other intrusive complexes from the southern part of Espírito Santo, such as the Castelo and Iconha Intrusions.

Merico,L.F.K. 1990. Geomorphologic and geotechnical mapping as a subside to the municipio of Brusque urban planning (Santa Catarina state). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 648 1990 Date of presentation: 27/3/1990

Luiz Fernando Krieger Merico Advisor(s): Rueda,F.

Committee:

Subject of thesis: Geosciences and Environment

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

In order to obtain a base planning map for the municipality of Brusque - SC, where the results of the analysis of the main geoambiental characteristics of the region, would be stated an analysis of the morphodynamics and a geotechnic investigation have been undertaken.

The morphodynamic analysis consisted in the geological mapping, study of declivities, of the superficial formations, of the erosive processes and of the mass gravitational movements, studied from the point of view of landforms systems. Therefore areas for obtaining the liquid and plastic limits, added to the grain size, been select, which served for an approximation of the geotechnical behavior of the defined unities.

Remote sensing devices were use for obtaining data mainly Landsat/TM, radar image and aerial photographs.

A constant concern of the dissertation paper was to provide methodological indication of low cost and easy application, to be utilized in the planning of urban and rural areas in the Third World.

Mexias, A.S. 1990. The fossil hydrothermal system of Volta Grande - Lavras do Sul - RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 511

1990

Date of presentation:

André Sampaio Mexias

Advisor(s): Formoso, M.L.L.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

'W

Abstract

The Volta Grande region comprises a sequence of volcanic and pyroclastic rocks (tuffs and breccias) of Pre-Cambrian to Cambrian age, that belongs to Hilário Member of Crespos Formation.

These rocks are intruded by the transitional granite of Lavras Granitic Complex, what produced a contact aureole (0-500m width), with a metamorphic grade which varies from low-amphibolite to greenschists facies.

The granitic intrusion acted as a source of heat in the production and maintenance of a hydrothermal system, where the petrochemical character and the zonation patterns of the alteration products are very similar to those observed in the porphyry copper-type deposits.

After the formation of the hornfelses, near the contact of the granite, the final fluids of the granitic magmatism, flowing through interconnected fractures, infiltrated the country rocks and crystallized the higher temperature mineral parageneses of the hydrothermal system (potassic alteration). By the influence of the conductive heat transfer, occurred the crystallization of epidote + chlorite (+ actinolite near the granite contact), which took place through the stagnant pore and microcracks (propilitic alteration), where the original rock composition influenced the chemical character of the secondary minerals.

In a destructive way, the fluids with high H⁺ activity, acted in the rock, percolating the fractures after and/or synchronously with the propilitic processes, in temperature conditions equal or slightly superior (300°C), producing illite + chlorite + quartz + pyrite. Finishing the hydrothermal activity, or being associated to another related system, such as more recent faults, occurred the circulation of high PCO₂ and fO₂ fluids, through the fractures, what promoted the crystallization of calcite, corrensite, hematite and feldspars.

This fossil hydrothermal system is responsible for the remobilization and concentration of metals, like Au, Cu, Pb and Zn, producing ore deposits.

Nóbrega Jr, O.B. 1990. Physical environmental aspects of the Extremoz county, state of Rio Grande do Norte. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 650

1990

Date of presentation: 25/10/1990

Orgival Bezerra da Nóbrega Júnior

Advisor(s): Barcelos, J.H.

Committee:

Subject of thesis: Geosciences and Environment

State: RN

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This paper intends to show the results of a search in the shore region of the Rio Grande State. This work concerns with the following basic subjects: geology, geomorphology, pedology and the use and occupation of soil.

The regional aspects have been seen as a background to thematic mapping, and have called attention upon the previous knowledge of these studies to the environmental usage.

The correlation between these maps came from the support capacity of their features, and allowed the characterization of the potential use and the identification of the various levels of danger that appears as a consequence of anthropic activity.

In this way were attributed several environmental units to the region in response to its geomorphological behavior. Each unit belongs to one of the three following levels of usage:

Preservation, of those areas where the human occupation practically does not occur;

Conservation, for those places where the human activity could exist, but always observing the limitations imposed by the natural processes;

Development or use, for those areas which could be occupied with little restrictions.
Hence, a multidisciplinary analysis were attained concerning to the mangement of the studied area.

Nogueira, S.A.A. 1990. Study of the auriferous lode mineralizations of the Piririca deposit, Vale do Ribeira valley, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1932 **1990** Date of presentation: 3/12/1990

Sonia Aparecida Abissi Nogueira Advisor(s): Barbour, A.P.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Nunes, N.S.V. 1990. Geology and mineral potential of the Anicuns region, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M059

DataBase Ref.: 119 **1990** Date of presentation: 27/4/1990

Nilo Sérgio de Vargas Nunes Advisor(s): Leonardos, O.H.

Committee: José Caruso Moresco Danni - IG/UnB
Reinhardt Adolfo Fuck - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

The region of Anicuns, Goiás, Central Brazil, consists of granite-gneiss association, supracrustal rocks, a large gabbrodioritic and minor granitic intrusions. In the mapped area, granite-gneiss associations occur in two portions, south and northeast, and are considered as rocks belonging to an older basement. The former sustains a dome structure and consists of milonitized muscovite-biotite gneiss locally with lenses of aluminous schists and meta-ultramafic rocks. The latter is made up of biotite gneiss, locally with amphibolite and hornblende-biotite gneiss.

Supracrustal rocks are grouped into the Anicus-Itaberaí and Córrego da Boa Esperança Sequences. The Anicus-Itaberaí Sequence comprises a narrow north-northwest belt of greenstone belt-type assemblage situated between the granite-gneiss block of the northeastern portion of the area and the Córrego da Boa Esperança Sequences, from which the unit is separated by N150-350W faults. The sequence comprises two subunits. One is made up of metakomatiite and metabasalt flows, with metagabbro, feriferous metachert, marble and calcsilicate rock intercalations. The other comprises intermediate to acid, locally basic, metapiroclastics with marble, carbonaceous phyllite, aluminous phyllite and quartzite intercalations. As whole, the unit has been submitted to low grade metamorphism, reaching at maximum the high temperature side of the greenschist facies. Its structure are parallel to the N150- 350W faults of the area, they show a strong convergence in its northern part, and comprise four ductile deformation events. The observed prominent schistosity is related to the first two events while the third formed a crenulation cleavage and undulations are related to the later event.

The Córrego da Boa Esperança Sequences may be correlated with the Araxá Group. It consists of pelitic and psamitic metasediments with

The Córrego Seco Complex is a large, roughly circular, igneous body, differentiated into a dioritic rim and a gabbroic core, that intrudes Córrego da Boa Esperança Sequences.

Peloggia, A.U.G. 1990. Alto Rio Grande belt in the Amparo region (SP state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1939 **1990** Date of presentation: 18/12/1990

Alex Ubiratan Goossens Peloggia Advisor(s): Basei, M.A.S.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Pereira, M.J. 1990. Stratigraphic and depositional analysis of upper Itajaí and lower Juréia formations (Mesoturonian/Eo-santonian), Santos basin, Brazil. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1410

1990

Date of presentation:

Márcio José Pereira

Advisor(s): Fernandes, C.E.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The Upper Itajaí and lower Juréia formations, in the central area of Santos Basin (water depths shallower than 400 m), were subdivided in two parachronostratigraphic units with important genetic implications. The two units together have thicknesses ranging from 270 to 1500 meters. They comprise 3 My, from the Middle Turonian (lower unit) to Late Turonian/Early Santonian (upper unit). They are both siliciclastic and contain two of the three basin main petroleum reservoirs. The stratigraphic framework of these two units (and their inner depositional systems tracts) was studied in about 25,000 km² by mapping 3,200 km of seismic reflection lines, correlations among 21 wells and 116 m of well core analysis. The Middle Turonian unit is bounded by two subaerial and submarine regional unconformities (H4.1 e H5). It's composed by two penecontemporaneous and progradational wedges, deposited in very different sites in dip direction. A very rapid relative sea level fall and rise (at 90 My), of eustatic origin, is interpreted as the main depositional control for the Middle Turonian unit. The distal wedge comprehends a shelf margin deltaic complex, with an expressive pile of sandy turbidites (Ilhabela Sandstone) at the base. The proximal wedge is dominated by slope mudstones and siltstones of neritic to upper bathyal environment. The Upper Turonian/Lower Santonian unit has the top marked by a downlap and maximum flooding surface (H6). This unit is also siliciclastic with a thick pile of massive sandstones (Mutti's type I lobes) at the base, been superimposed by a thin prodeltaic/slope section. A barrier islands and beaches complex (lower Juréia Formation) occurs near the top of the unit, probably related to wave dominated deltas. The H5 - H6 sequence represents a regressive event, linked genetically with the first effective pulse of the Serra do Mar I Tectonic Cycle (Bacoccolli & Aranha, 1984). The shoreline regressed 150 km in 2 My with the sedimentation rate estimated in 400 m/My. The Late Turonian subbasin (between the most onshore alignment of salt diapiric structures and the contemporaneous slope) was entirely infilled during that event. At this way, the Upper Turonian/Lower Santonian unit has an essentially tectonic origin. Confined and shallow basinal zones (300 - 400 meters) and high sediments input since Middle Turonian represents an uncommon case of Brazilian continental margin at that time. These special phenomena combination resulted in a quite peculiar framework between shelfal and basinal sandy deposits. In some cases, it seems to have almost direct contact between the two types of sediments, practically without a pelitic slope section between them. A qualitative curve of coastal onlap changes was built up by studying the spatial relationship among all the systems tracts. With this curve as base, one made both a confrontation and important test to the most highlight genetic stratigraphic models at present.

Peruzzo, C.S. 1990. The presence of the genus *Ichigualastia* Cox, 1962 (reptilia, synapsida, therapsida, anomodontia, dicynodontia) in the Santa Maria formation, Rio Grande do Sul, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 821

1990

Date of presentation:

Cibele Schwanke Peruzzo

Advisor(s): Araújo-Barberena, D.C.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This dissertation deals with the osteological description of an incomplete skull of a tuskless dicynodont from Santa Maria Formation, Rio Grande do Sul State.

The outcrop which contained this fossil belongs to the Pinheiros Local Fauna. Despite its incomplete state, it shows similarities with the Argentinian species *Ichigualastia jenseni* and owing to this fact it is here designated as *Ichigualastia* sp.

On the basis of the morphological characteristics of *Ichigualastia* sp., comparisons with the other known tuskless dicynodonts are made, which show that this new fossil has some features which enable us to consider it a rather advanced form within the dicynodont phylogeny. These advanced features point to an adaptation to the floral change occurred during the Permian/Triassic time.

The presence of *Ichigualastia* sp. in the Santa Maria Formation increases the faunistic correlation between Brazil and Argentina during the Triassic. Besides, in Brazil, *Ichigualastia* occurs in a paleofauna considered older than the one in which the same genus occurs in Argentina. This suggests a faunal dispersion from East to West during the Triassic, an hypothesis also indicated by the correlation between other taxa as, for example, the rhynchosaurs.

Philipp, R.P. 1990. Geology and petrochemistry of the granitoids of the Monte Bonito region - Pelotas - RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 509

1990

Date of presentation:

Ruy Paulo Philipp

Advisor(s): Nardi, L.V.S.

Fernandes, L.A.D.

Committee:

Subject of thesis: Geochemistry

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

This dissertation studies some granitic rocks of the eastern part of the Sul-Riograndense shield, in Monte Bonito region, Pelotas, RS. These rocks were stratigraphically separated based on their structural geology, intrusion/inclusion relations and petrochemical compositions.

Two plutonic suites were distinguished: Pinheiro Machado Suite and Dom Feliciano Suite.

The rocks of Pinheiro Machado Suite are the main purpose of this work. They were divided into two mapeable units, named Monte Bonito Granite and Equigranular Granodiorites. The Monte Bonito Granite is composed of monzogranites and porphyritic granodiorites characterized by tabular megacrysts of K-feldspars. It is exposed near Monte Bonito as an eastwest elongated body which cuts the equigranular granodiorites. These are dominantly equigranular, median to coarse grained, and show an irregular and discontinuous banding given by mafic schlierens. The contacts between these granites are marked by lobate and gradational limits and by the presence of enclaves of one unit inside the other in this region. They have inclosed xenoliths of high grade metamorphic rocks (ortogneisses and amphibolites), mafic enclaves (microdiorites) and equigranular diorites. The last ones belong to the suite and are considered as its basic terms.

The structural characterization shows the occurrence of two regional events marked by the development of two groups of Ductile Shear Zones, named Subhorizontal Zones and Subvertical Zones. The preliminary study of the tectonic foliations suggests the syntectonic emplacement of the equigranular granodiorites to the Subhorizontal Zones and syn to tardi-tectonic of the Monte Bonito Granite to the same Zone.

The petrochemical study of the major and some trace elements (Rb, Sr, Ba, Zr) shows preliminarily the calc-alkaline nature of the Pinheiro Machado Intrusive Suite.

Pinho, F.E.C. 1990. Study of the goldbearing veins and their host rocks, Guaiabá group, in the "Garimpo dos Araés" region, Nova Xavantina - Mato Grosso state. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 498 1990 Date of presentation:

Francisco Egídio Cavalcante Pinho

Advisor(s): Hartmann, L.A.

Committee:

Subject of thesis: Geochemistry

State: MT 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The present dissertation made use of geochemical and petrographic studies to characterize the Nova Xavantina Gold Deposit and host rocks.

Through major and trace elements analysis, the rocks were characterized as a volcanic-sedimentary sequence.

REE patterns of the metavolcanic rocks appear similar to those of tholeiitic basalts.

Banded iron formations exhibit positive Eu prominent anomalies, common to the Proterozoic bifs.

Compositional variation profiles of vein-host rock established the paragenesis: SiO₂, Fe₂O₃, P₂O₅, Cu, Pb, Zn, As, Cd, Ag, Sb, Se, Hg and Au for the auriferous vein, which is represented by opaque minerals: galena, pyrite, chalcopyrite and gold.

The evaluation of the petrologic and geochemical data suggests that the local rocks were deposited in a subaqueous environment with simultaneous volcanism and sedimentation, probably of the back-arc model.

This gold had its source in existing disseminations in a volcano-sedimentary sequence, which was transported by hydrothermal fluids of metamorphic origin, rich in sulphides, and deposited in quartz vein in graphite layer when the environment became reducing.

Pinho, J.M.M. 1990. Tectonic evolution of the Vazante zinc mineralization, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M058

DataBase Ref.: 118 1990 Date of presentation: 2/4/1990

Júlio Murilo Martino Pinho

Advisor(s): Dardenne, M.A.

Committee: Aripilino Antonio Nilson - IG/UnB
Fernando Flecha de Alkmim - DEGEO/UFOP

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

The evolution of the Vazante Fault is characterized by four phases of reactivation, occurred during the Brasiliano Cycle. The three first phases caused heterogeneous, ruptil-ductil simple shear.

The first phase was extensional, controlled by old weak zones of the basement. In the paleogeographic highs, evolved ciano-bacterias, and also dolomitic sedimentation, took place.

The second phase, the most important one in the study area, is characterized by strike-slip movement, which was responsible for

the actual structural pattern of the rock in the fault zone. The second phase was also for a new brittle- ductil, heterogeneous and progressive simple shear zone that appears mainly along the N50E/50 NW fault plans. Interbedding slip, directional movement, transtension co-existed and succeeded themselves during this phase.

The third phase was compressional and is characterized by reversal faults.

The last phase was extensional and is related to the decompression of the fault zone, occurred after the second and third phases.

During the second phase, zinc, which was introduced as sfalerite in the first phase, reacted with silic during to originate willemite. The second phase was also responsible for deformations in the willemite.

Pinho, M.A.S.B. 1990. Geology, petrology and geochemistry of the rocks occurring along the Aguapeí river, in the south west of the Amazon Craton - Pontes e Lacerda - MT. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 497

1990

Date of presentation:

Márcia Aparecida de Sant'Ana Barros Pinho

Advisor(s): Hartmann, L.A.

Committee:

Subject of thesis: Geochemistry

State: MT

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The present dissertation characterizes the chemistry and petrography of the rocks along the Aguapeí River, giving emphasis to the granitoids and amphibolites.

Thirteen granitoids of predominant calc-alkaline composition were examined in dispersion diagram for major oxides and trace elements. Differentiation Index versus major oxides indicated concordance to the igneous rocks.

The contents of REE are impoverished, with unfractionated patterns, similar to the granitoids of mantelic origin showed by granitoids of the South China. Discussion was developed in relation to the composition of the source of these rocks.

The amphibolites occur as xenoliths in tonality rocks, as tectonics banded either as dikes in gneissic rocks. In thin sections they exhibit remaining igneous textures in some samples and tectonic and metamorphic textures in others.

Fourteen samples showed a compositional gap marked by TiO₂ and Ni. These rocks have characteristics of Tholeiites Basalts. REE patterns are similar to those of Archean basalts TH2. The study above indicates that these bodies are orthoamphibolites.

Tonalites may carry significant amounts of garnet.

Some mafic xenoliths granulites were observed in the field.

Pires, F.A. 1990. Paleoenvironmental and stratigraphic analyses of metasedimentary sequences (Açungui group), in the Iporanga and Apiai region - São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1899

1990

Date of presentation: 21/6/1990

Fernando Alves Pires

Advisor(s): Amaral, G.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: SP

1/1,000,000 sheet:

SG22

Centroid of the area:

' -

'W

Abstract

Pulz, G.M. 1990. Geology of the Maria Lázara type gold deposit, Guarinos, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M060

DataBase Ref.: 120

1990

Date of presentation: 21/8/1990

Gênova Maria Pulz

Advisor(s): Jost, H.

Committee:

Reinhardt Adolfo Fuck

- IG/UnB

Othon Henry Leonardos

- IG/UnB

Subject of thesis: Prospection and Economic Geology

State: GO

1/1,000,000 sheet:

SD22

Centroid of the area:

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'W

Abstract

A description of the structural and lithologic controls of the Maria Lázara gold deposit, Goiás, Central Brazil, is presented. The Au deposit occurs within a 4 km long and up to 100 m wide garnet-biotite ultramylonite of a large-scale ductile shear zone representing the contact zone between supracrustals of the late Archean Guarinos greenstone belt and granodioritic gneisses of the Moqué Block. The shear zone is characterized by a northwest trend, a steep southwest dip, a dextral displacement,

mylonites resulting from high- strain ductile deformation of both supracrustals and granodiorites, and syntectonic domal trondhjemitic intrusions.

Gold mineralization occurs within wide alteration halo upon mylonites derived from metabasalts. Alteration took place in a transtension tail at the southern portion of a stretched trondhjemitic intrusion and is represented by an outer propilitic, an intermediate potassic, and an inner sericitic zone. Veining occurred in the last two zones. Structural relationships between mylonites, alteration halos and veins indicate that these features are genetically interrelated. Veining has been a polyphase process formed by crack-seal during pulses of ductile deformation. Relicts of veins now occur as boudins representing a stretching lineation of the shear zone.

Gold mineralization is made of native Au in the sericite and potassic alteration halos and native Au with minor maldonite and Au-S-Te-Bi in the vein system, both accompanied by disseminated arsenopyrite, pyrite, chalcopyrite, pyrrhotite, galena, and eventually molybdenite and tetradymite-bismutinite. The maldonite + native gold geothermometer indicates that gold precipitated between 116 and 3710 °C. The arsenopyrite geothermometer indicates that metallic mineral phases deposited at about 3300 °C and followed by a second pulse at 4500 °C.

Raja Gabaglia, G.P. 1990. Paleoseismicity and sedimentation - Contribution to the geology of the southern compartment of Recôncavo basin - BA state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, 116 pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1411 1990 Date of presentation:

Guilherme Pederneiras Raja Gabaglia Advisor(s): Medeiros, R.A.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Soft sediment deformation is sharply best represented in the Brazilian marginal basins in rift stratigraphic intervals. During the drift stage these facies are much less expressive. Caruaçu Layers (Marfim Formation) and Pitanga Member (Candeias Formation) of Recôncavo Basin exhibit frequent soft sediment deformation in the core samples and outcrops. The granulometric optimum fraction (from silt to fine sand) and the significant amount of water, present in the deltaic systems of Cretaceous Recôncavo Rift, in association with the seismological energy derived from the contemporaneous tectonic activity, have been responsible for the occurrence of soft sediment deformation. Analogy with the Recent as well as quantitative and semi-quantitative data are presented, aiming to support the model which links paleoseismicity to sedimentation.

Remus, M.V.D. 1990. Geology and geochemistry of the Cambaizinho complex, São Gabriel - RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, 116 pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 506 1990 Date of presentation:

Marcus Vinicius Dornelles Remus Advisor(s): Hartmann, L.A.

Committee:

Subject of thesis: Geochemistry

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

Geologic mapping performed by the author in the Cambaizinho area resulted in the separation of the Cambaizinho Complex. This includes sedimentary and mafic-ultramafic metamorphosed sequences which closely intertongue all over the supracrustal association.

The metasedimentary sequence is built up mainly by quartz-feldspathic gneisses and less abundant banded amphibolites with minor amounts of quartzites. These supposedly represent metamorphosed, rhythmically banded, subaqueous arenaceous marly sediments. At some levels of restricted occurrence, representing an iron-rich composition, staurolite-bearing metamorphic assemblages suggest a medium grade metamorphism to this region. Interfingering serpentinites, some varieties of magnesian schists and fine grained amphibolites enclosed in the metasedimentary rocks suggest lava flows and low depth intrusions of basic/ultrabasic composition. These volcanic magmatic rocks altogether with gabbro bodies and interlayered chemical sediments built up the mafic-ultramafic sequence.

Cambaizinho Complex represents the northern segment of a supracrustal, multideformed linear belt trending NNE, which stretches from this area to Passo do Ivo in the south.

Four deformation phases were recognized for this area, being the first and the second (D1 and D2) associated to regional metamorphic events, M1 and M2. The oldest metamorphic episode (M1), signaled by diagnostic paragenesis in metapelites, reached the amphibolite facies (staurolite zone) being represented in magnesian rocks by olivine-tremolite ± talc (meta-serpentinites) and horn-blende-oligoclase/andesine in meta-basites. The M2 metamorphic event, younger, is represented by greenschist facies whose mineralogic assemblages are associated with S2 foliation irregularly distributed along the belt. Physical conditions for M1 metamorphism of intermediate values for P/T are comparable to those of the Dalradian metamorphism.

Granitic intrusions with the form of sheaf-like bodies, belonging to the second phase of deformation (D2), give the minimum Rb/Sr age of 661 ± 29 Ma for the whole complex and were named Sanga do Jobim Granitoids.

The whole compositional range of the mafic-ultramafic sequence, separated by means of petrographic criteria and major

elements contents, are named serpentinites and olivine- talc ultramaphites (komatiitic cumulates), magnesian talc schists and chlorite- amphibole schists (komatiites), chlorite-hornblende schists (basaltic komatiites) and amphibolites and meta-gabros (tholeiitic basalts and gabros).

The lithologic types above are thought to have originated by different degrees of partial mantle fusion, as suggested by MgO hiatus (11-17%) and various ETR patterns found for amphibolites and meta-gabros (tholeiites) and serpentinites/magnesian schists (komatiites). Compositional variations in each group were controlled by fractionation (accumulation/extraction) of olivine and minor orthopyroxene (serpentinites and olivine-talc ultramaphites), pyroxenes and lesser amounts of olivine (talc magnesian schists), clinopyroxenes (chlorite and amphibole schists and chlorite-hornblende schists), clino-pyroxene and plagioclase (amphibolites and meta-gabros).

Abundancies and enriched patterns of LREE altogether with low values of Al_2O_3/TiO_2 and CaO/TiO_2 rates of magnesian schists of A & B layers suggest derivation of this material from feeble percentages of fusion of the mantle enriched in incompatible elements. Negative Ce and Eu anomalies in most rocks of the mafic-ultramafic sequence point to protoliths submitted to alteration in submarine environment.

Robaina, L.E.S. 1990. Geochemistry of the carbonate reservoirs of the Macaé formation, in the Pampo and Enchova fields, Campos basin, Brazil. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 504

1990

Date of presentation:

Luís Eduardo de Souza Robaina

Advisor(s): Formoso, M.L.L.

Committee:

Subject of thesis: Geochemistry

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The aim of this dissertation is the analysis of reservoir rocks of Pampo and Enchova fields, Macaé Formation, RJ, Brazil.

The Macaé Formation, subject of this research, represents the episode of Open Continental Margin, narrow sea stage, of tecto-sedimentary shelf evolution. The marine conditions are established at the beginning of Albian, owing to the spreading of the proto-oceanic gulf. During the evolution of the proto-oceanic gulf to narrow seas, a relative tectonic stability and a clear marine water circulation over the Continental shelf were very good conditions for the development of a carbonatic shelf. These Albian carbonates consolidated the marine sedimentation and represent the transition of a hyper-restricted system to an oceanic one.

Those carbonatic rocks also constitute a deposition on shoal, in the shallow, hot and restrict marine water environment. This is well demonstrated through paleontological and geochemical data. The chemical values of minor and trace elements in the whole rock analyses are similar to the sediments originated in shallow marine shelves. The oxygen and carbon isotopic values are also characteristic of sediments deposited in shallow and hot marine waters. Through analyses of $\delta^{18}O$ of samples less affected by diagenesis, temperatures close to 26°C can be inferred for the water in the depositional environment. This restricted environment with high salinity is evidenced by the not varied species of foraminifera and high alkaline and chlorine values in the whole rock analyses. The content of $\delta^{13}C$ close to +4 is in agreement with this idea.

The redox conditions were analysed through the geochemical behaviour of Ce. In relation to La and Nd, the content of Ce slightly depleted to non-depleted characterizes different redox conditions from present day. This is interpreted as the characteristics of a Macaé restrict sea with few oceanic circulation.

The distribution of LREE in relation to HREE may represent a low homogeneous continental contribution. In this way, a weak continental weathering and low organic matter deposition are suggested. These ideas agree with paleontological data (Dias-Brito, 1982) and contents of Fe, Mn and insoluble residue.

The carbonates of Macaé Formation were deposited in marine environment, just after starting their diagenetic history. In the marine environment the allochemical grains underwent an intense micritization caused, probably, by algae. The cementation occurs as a fibrous fringe around the grains. Microprobe data show a significant content of magnesium and undetectable quantity of strontium, suggesting high magnesium calcite as an important factor for this cementation.

The subaerial exposure led to a dissolution of grains and cement.

The passage through a fresh water phreatic environment is marked by a complete mineralogical transformation, in which aragonite, magnesium calcite of the formed sediments have been changed to rocks constituted only of low magnesium calcite.

The trace and isotopic data denoted that the mineralogical stabilization process occurred in a relatively "closed" system, although the "closing degree" is dependent of local conditions. In this environment, neomorphism, syntaxial cementation in the echinoids and probable rhombohedral fringe around the grains occur. The rhombic habit of the fringe crystals suggests they are originated in a low salinity environment. The cementation as spatic mosaic is well developed in the Enchova field and less advanced in the Pampo field. The continuous cementation in fresh water phreatic zone can occur because of the rhombohedral fringe has been transformed into a mosaic that fulfilled the pores. Chemically, the change of a rhombohedral fringe to a mosaic, due to a longer time of diagenetic fluid residence, can be indicated by the similar value to the trace elements of fringe and mosaic. According to Franz (1987), the great cementation difference between Enchova and Pampo field may not indicate similar relief conditions, because structurally higher areas could be more favorable for the development of fresh water lenses. The low positive values of $\delta^{13}C$ and the negative values of $\delta^{18}O$, besides the lower Sr content of Enchova's samples, led to this interpretation.

During the mesodiagenesis, the chemical compaction, dissolution and fracture cementation are important processes.

The dolomitization should be associated with saline solution. High magnesium calcite can be an important source of magnesium.

Schröder-Pfeifer, N.T. 1990. Quaternary Gastropoda mollusks (orders: Mesogastropoda, Neogastropoda, Heterogastropoda), from the continental margin of Amapá state - Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 819

1990

Date of presentation:

Nádia Teresinha Schröder-Pfeifer

Advisor(s): Esteves, I.R.F.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Gastropod mollusks Proso-branchia (Mesogastropoda, Neo-gastropoda and Heterogastropoda Orders) were studied in this dissertation, by examining 40 samples of bottom superficial sediments collected at the continental margin of Amapá State, Brazil (GEOMAR II).

Though mainly analyzed from a taxonomical point of view, the material also permitted to draw ecological, zoogeographical and stratigraphical considerations, thus contributing to a better knowledge of the Quaternary micro-faunistic associations of the Brazilian Atlantic coast.

Of the 58 identified species 33 belong to the Mesogastropoda order, 17 to the Neogastropoda and 8 to Heterogastropoda order.

As a first occurrence for Brazil, it was reported the genus and species *Amphitalamus vallei* Aguayo and Jaume, 1947, the subgenus *Olivella* (*Minioliva*) Olsson, 1956 and the species *Vitrinella* (*Vitrinella*) aff. *floridana* Pilsbry and McGinty, 1946, *Macromphalina* aff. *palmatoris* Pilsbry and McGinty, 1950, *Cerithiopsis* aff. *cynthia* Bartsch, 1911, *Atlanta helicionoides* Souleyet, 1852, *Vanikoro* aff. *sulcata* d'Orbigny, 1842, *Opalia* (*Nodiscala*) aff. *aurifila* (Dall, 1889).

Of the total of the identified species, 25 have been appointed as new register for the Amapá State.

Great part of the analyzed material is constituted of young forms, protoconch and embryos, suggesting autochthonous material.

Most of these samples are worn out and/or broken, suggesting that they have been carried; thus they can be allochthonous.

It was noticed that some specimens of the studied species occurred at bathymetric limits yet unregistered in the previous bibliography.

Most of species were found in carbonate sand.

The oldest age account of the analyzed species dates from the Tertiary.

Scopel, R.M. 1990. Hydrothermal alteration of the basaltic rocks associated with amethysts. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 499

1990

Date of presentation:

Rejane Maria Scopel

Advisor(s): Formoso, M.L.L.

Meunier, A.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH21

Centroid of the area:

' -

'W

Abstract

The more common products of hydrothermal alteration in the geode and veinlet-bearing basalts in São Gabriel-Planalto are the clay minerals.

In geode-bearing basalt, the groundmass comprises almost fresh plagioclase and augite crystals, olivine entirely altered to saponite and celadonite, opaque crystal laths and glass replaced by Fe saponite, celadonite and saponite/chlorite mixed-layer. Phenocrysts of plagioclase are locally altered to saponite and clinopyroxenes (augite and pigeonite) are altered only in fractures. Two alteration bands fill the geode (from the rock to the internal part): the first one is constituted of Fe saponite and ferri-montmorillonite cryptocrystalline beige and brown, orange saponite and dark green matrix constituted of saponite, saponite/chlorite mixed-layer and mixture of saponite+celadonite. The second band is made up of silica (mainly chalcedony), smectite and mordenite.

The rare vesicles are filled from the external to internal parts by: orange Fe saponite, mixture saponite + celadonite and fibrous greenish yellow to green celadonite.

The veinlet-bearing basalt shows the same primary components as the geode-bearing basalt.

The glass is a little anisotropically close to the veinlet but is progressively altered to a beige matrix and black material, as the distance increases farther from the veinlet. The microphenocrysts of olivine are totally replaced by beige to reddish saponite (in the borders and intramineral fractures) and green celadonite (rare in the central zone).

The plagioclases and augite of the groundmass are not much altered and the phenocrysts are locally altered to brown and greenish brown matrix (plagioclase and augite respectively).

The vesicles are filled partial or totally by brown ferri-montmorillonite (external part) and fibrous-radiate saponite/chlorite mixed-layer (internal part), or just by a brown ferri- -montmorillonite.

The veinlet is filled (from the periphery to the center):

- brown clay mineral (ferri- -montmorillonite), - prismatic zeolite (heulandite) and/or fibrous-radiate saponite/chlorite mixed-layer and/or fibrous mordenite and/or calcite, and - fibrous-radiate saponite/ chlorite mixed-layer.

Sepe, P.M. 1990. Itararé water source behaviour in the Piracicaba county and neighbourhood areas, state of São Paulo. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 651

1990

Date of presentation: 10/12/1990

Patricia Marra Sepe

Advisor(s): Landim, P.M.B.

Committee:

Subject of thesis: Geosciences and Environment

State: SP

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

In this issue the results of geological and hidrogeological studies, accomplished in Piracicaba Country and surrounding areas, are presented.

This region is part of the Piracicaba River Hydorgraphic Basin which has serious water provision problems making the groundwater captivating a very feasible alternative.

The great lithologic complexity of Itararé Subgroup and the errant characted of its sandy bodies condition the aquifer characteristics and make the reseache and the groundwater exploration very difficult.

Having as an objective the feasibility of these activities and contributing to diminish the wells drilled without sucess, it is imperative the usage of methodologies such as the depositional modelling and the geophysics (VES and wells Geophysical profile) together with the geological and hidrogeological survey in the region.

The main available aquifer is called Aquifer III defined by SOUZA-FILHO & STEVAUX (1984, 1986) as been constituted of dean sands and silts of the topo of the Itararé Subgroup deposited in a coastal environment (beach and flood plain). Secundarily, it occurs an aquifer in a fractured environment, in basic intrusive rocks, and a free aquifer formed by the alteration mantle, without a regional expression.

The occurrency depth of coastal system sediments is variable, that may be on the surface of Tupi and Pitanga regions or under calcary and silt-clayey lithogies of the Tatuí Formation (Tubarão Group) and the Irati and Corumbataí formations (Passa Dois Group).

The exploitation of groundwater is made, in general, in a totally aleatory way and without observing the limitations presented by the aquifers.

The tubular wells present plepths varying from 150 too 450 meters and emptyings between 0,6 to 36 m3/h. These waters usage is variable, they have mainly industrial usage in Piracicaba urban region, as long as the Saltinho, Rio das Pedras, Paraisolândia, Recreio and Charqueada localities depend fundamentally on these waters to the public provision.

The aquifer III water quality is, in general, satisfactory but there are many wells with fluorine substances superior to 1,5 mg/l. From the sampled wells, most of the waters may be classified as sodium bicarbonated and there is a tendency of salinization tho the west, towards the Águas de São Pedro, prevailing sodium sulphata chlorine waters.

Five pollution potencial fountains were still considered: the industrial activity, the landfills, the desatived wells and/or bad amintained, the cemiteries, and the calcareous minings to open skies.

The fertile irrigation with vinasse, resulting activity of tue sugar cane industry and intensively practiced in the region, presents serious contamination risks of the free aquifer and may still implicate the waters of the Itararé aquifer.

Sgarbi, G.N.C. 1990. Geology of the Areado formation: Lower to middle Cretaceous of the Sanfranciscana basin, western of Minas Gerais state. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1166

1990

Date of presentation:

Geraldo Norberto Chaves Sgarbi

Advisor(s): Castro, J.C.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

' -

'W

Abstract

The present study is related to an 1:25.000 scale project of geological mapping, in the eastern part of the Mata da Corda plateau, west of the Minas Gerais State. The area, nearly, with 450 km², encompasses rocks of the cretaceous Sanfranciscana basin and its pre-cambrian basement, the latter, the so-called Bambuí group. The cretaceous rock sequence in this basin is represented by the Areado and Mata da Corda formations. The work deals mainly with the lower to middle Cretaceous Areado formation, which overlains through an angular and erosional unconformity, the Paraopeba formation of the above Bambuí group. Nevertheless, because of the lithological and spatial relationships shown by these two rock sequences in the area, some data concerning these basement rocks are also included in the investigation. The study of the middle to upper Cretaceous Mata da Corda formation, is being the object of another thesis work, now, in progress with the aim of complementing the geological project mentioned above. The Areado formation was, in this thesis, subdivided, according to Barbosa (1965) in members named as Abaeté (basal conglomerate), Quiricó (lacustrine sediments) and Três Barras (sandstones in banks). A facies characterization was adopted, based on Cardoso (1968). A facies member (fluvial facies) comprises gray and green sandy conglomerates, gray conglomeratic sandstones and pure red clays, deposited in braided ephemeral fluvial systems, in a semiarid climat. The sediments have thicknesses varying from 0.02 to 5.00 and are geographically widely dispersed, with outcrops discontinuously found throughout the studied area. The pre-cambrian basement - the Paraopeba formation - on which the Abaeté member rest on, consists of a slightly metamorphic and strongly deformed pelitic rock with incipient schistosity. These, are phyllites, locally, with metric to decimetric lenses of fine-grained sandstones, siltstones and limestones, elongated parallel to their foliation. The Quiricó member (lacustrine facies) is represented by a set of turbidites, showing Bouma depositional sequences, consisting of siltstones, claystones and fine-grained sandstones. In places, it contains intercalations of thinly laminated limestones, marls with cross laminations and ripple marks and calcretes. Sedimentary levels enriched in ostracoda and fragments of fish bones may occasionally be found.

Thickness varies from 60 to a few meters, respectively from the northern to the southern part of the area. The available data suggest the existence of a lake, with its largest dimension developed towards north, formed as consequence of a significant climatic change during the Lower Cretaceous as the result of an increase in the local conditions of moisture. According to Braun (1970) the fossil record (inclusive plants) of this member can be related to the fauna and flora of the Santana formation (Araripe basin) and Codó formation (Maranhão basin), the last one, undoubtedly, of Aptian age. However, the new data on the ostracoda found in some rocks of the Quiricó member discussed in the present work suggest that this member is of Barremian age or even older than that. This would place the age of the Quiricó lake near the base of the Lower Cretaceous or the top of the Upper Jurassic. The Três Barras member (aeolian and fluviodeltaic facies) is represented in the worked area by aeolian and fluviodeltaic sandstones, grading laterally from one to other. The aeolian character is marked by a distinct bimodality of grain sizes, with light colored layers composed of well rounded, medium to large grains, intercalated with reddish lenses of sub-angular fine grains, containing opaque minerals. In both levels in a predominance of monocristaline and polycristaline quartz, with subordinated pelitic clasts. These sandstones have a roughly striped appearance, in red and white, with lines occasionally interrupted by structures originated by syn-depositional deformation of small magnitude. There are also large scale tabular and channeled cross stratification showing a total absence of clay layers or intraclasts. The top of the aeolian layers is in contact with the lavas and epiclastic rocks of the Mata da Corda formation. The presence of these rocks affected the top of these sandstones. There are silicified layers forming cliffs and evidence of deformations by differential settlement of sandstones, lavas and or epiclastic rocks. Other types of structure may be related to explosions due to a sudden increase in the temperature of the intergranular water of the unconsolidated sands, resulting in both brittle and strongly folded features. It must be noted, however the absence of any mineralogical modification in the sandstones due to the thermal effects of the lavas, including recrystallization. The fluvial sandstones of the Três Barras member exhibit fine to very fine sub-angular grains, locally silty, pinkish in color, and often contain lenses of associated shales. The reddish color may be interrupted by dark levels of magnetites that give to the rock a well developed lamination. Low- and medium-size tabular and channeled cross stratifications are common, as well as the presence of clay intraclasts and levels enriched in calcium carbonate. The occurrence of fluvial sandstones in the studied area is minor in relation to the aeolian ones. They also present syn-depositional deformation structures both in their basal (resulting from differential settlements coming from the deposition of sands over unconsolidated lacustrine shales) as well as in their middle parts of the layers (by density aqueous currents deforming silty and unconsolidated sands fine to very fine grain size). The data on the Três Barras member show the increase in deposition of fluvial sediments in the Quiricó lake, in a region dominated by an aeolic depositional regime, represented by a profusion of dunes around the lake. In this context there was a co-existence of the Abaeté conglomerate, representative of the psephitic sedimentation acting in the margin of the basin and the rhythmic lacustral sediments, located in its lower parts, or the points of convergence of the regional water flow.

Soares, C.R. 1990. Nature of bottom sediments in the Laranjeiras and Guaraqueçaba coves in the Paraná state estuarine complex of the Paranaguá bay. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 649 1990 Date of presentation: 20/4/1990

Carlos Roberto Soares

Advisor(s): Barcelos, J.H.

Committee:

Subject of thesis: Geosciences and Environment

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Paraná Bay (State of Paraná, Brazil) covers a large, irregular shaped body of water that projects itself into the continental coastal plain. The Bay is divided into several smaller segments, being connected to the adjacent ocean by means of narrow channels. It is considered one of the largest along the Brazilian coast, with 550 km² of submerged area.

The present work aims to study the nature of sediments on the bottom surface and its relationship with modern hydrodynamic processes, in two segments of the Bay, locally called Laranjeiras and Guaraqueçaba Bay.

A total of 219 surface bottom samples were collected, and the sediments were analyzed for grain size, organic matter content, carbonate content and heavy non opaque mineral assemblage.

The results allowed individualization of three distinct compartments, here designated south, central and north, in terms of grain size composition.

In the south compartment (between Mel Island and Rasa Island) typically sandy sediments, with low organic matter content, are predominant. This area is the one to have the highest hydrodynamic energy in the studied region.

In the central compartment (between Rasa Island and the access to Guaraqueçaba Bay) there is a higher percentage of fine sediments, these being deposited mainly along a big shoal located south of Pavoça and Rabelo Islands.

In the north compartment (Guaraqueçaba Bay) the highest percentage of fine sediments and organic matter was found. This section is the one to have more influence from the continent due to its proximity and for being the latter the principal supplier of sediments to the studied area.

Soares, P.V. 1990. Study of contamination by quicksilver and heavy metals in primary gold panning places: The case study of Pilar de Goiás and Guarinos region, Goiás state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1769 1990 Date of presentation: 17/12/1990

Paulo Valladares Soares

Advisor(s): Chouduri, A.

Committee:

Subject of thesis: Metallogenesis

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The main concepts of mercury water chemistry and the environmental contamination by this metal as a by product of mining of primary gold at "Pilar de Goiás" and "Guarinos" regions, state of Goiás, Brazil, are here discussed. The heavy metals of lithogenic origin (Cd, Zn, Cu, As, Pb) liberated into the water by the extraction and processing of gold are also dealt with here. The influence of these metals and their toxicities with respect to background areas free from human contamination have also been verified. The mercury contents both in sediment samples and in water from streams and from the general drainage system were quantitatively analyzed in samples collected on two field trips. The other metals were analyzed only in samples collected during the first trip. Mercury was found in sediments up to a distance of around 100 m from the point that the contaminated waste was introduced into the drainage basin. The content of mercury dissolved in the water (1,85 to 4,45 ng/ml) is independent of its concentration in the sediments. High concentrations of as, were noted in the sediments. The heavy metals in the river sediments are potentially dangerous both to water quality and to water life when eventually liberated through physical chemical and environmental changes. According to theoretical considerations drawn from the geochemistry of the analyzed elements the main occupational and environmental problem (not studied here) is the liberation mercury vapors during the burning of the Hg Au pasta.

Souza, A.P. 1990. Geological map 1/50,000 and sketch of the tectonic and sedimentary evolution of the Itaiacoca group in the Barra do Chapéu and Ouro Verde sheets- SP/PR states. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 200p

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1615 1990 Date of presentation: 17/12/1990

Agenor Pereira Souza

Advisor(s): Sadowski, G.R.

Committee:

Subject of thesis: Geotectonics

State: SP 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W
PR

Abstract

Souza, C.R.G. 1990. Considerações sobre os processos sedimentares quaternários e atuais na região de Caraguatatuba, litoral norte do estado de São Paulo. MSc Thesis; Oceanographic Institute, University of São Paulo, São Paulo, pp

Instituto Oceanográfico - USP

Reference:

DataBase Ref.: 1880 1990 Date of presentation:

Célia Regina de Gouveia Souza

Advisor(s): Furtado, V.V.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Surita, C.A. 1990. Applications of Fourier transform in the relief correction. MSc Thesis; Astronomic and Geophysical Institute, University of São Paulo, São Paulo, 145 pp

Instituto Astronômico e Geofísico- Universidade de São Paulo

Reference:

DataBase Ref.: 1202 1990 Date of presentation: 21/11/1990

Celia Alves Surita

Advisor(s):

Committee:

Subject of thesis: Tectonic and Structural Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Tedesco, M.A. 1990. Study of the alterations of the Capivarita metanortosite - RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 510 1990 Date of presentation:

Marcos Antônio Tedesco

Advisor(s): Formoso, M.L.L.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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'W

Abstract

The purpose of this dissertation is the study of different kinds of alteration that occur in the Pre- -Cambrian metanortosites of Capivarita (RS) region, emplaced in the Sul-Riograndense shield, and partially intruded by granitic rocks in its central part. This study revealed that those rocks had been affected by pre-meteoritic activities (hydrothermal alteration), before being exposed to the supergenic system related to the interface lithosphere-atmosphere.

Mineralogical and structural changes demonstrate that the mineralogy of hydrothermal alteration evolved in successive zones either in selective pervasive or fissured forms, related to solutions that percolate from the rock to open spaces.

Sequential and zoned crystallo-chemical paragenesis indicates that the hydrothermal system acted in three successive processes of different intensities:

- Incipient potassification, with the formation of biotite + K-feldspar + albite + quartz;
- Extensive propylitization, that resulted in the neo-formation of epidote + chlorite + carbonate;
- Filitization that was super-imposed on the others, and generated sericite + muscovite + quartz.

These processes were inter-related and synchronous, but not sufficiently strong to promote argillization.

The intrusion of granitic rocks possibly promoted the hydrothermal alteration and was responsible for the upraise of the central part of the area, opening spaces to the percolation of meteoric waters. This contributed to the weathering alterations which resulted in the formation of the extensive deposits of residual kaolinites.

Terra, G.J.S. 1990. Facies, depositional model and diagenesis of the Albo-Cenomanian carbonatic sequence (Ponta do Mel formation) of the Potiguar basin. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1407

1990

Date of presentation:

Gerson José Salamoni Terra

Advisor(s): Tibana, P.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: RN

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The Albian Cenomanian carbonates of the Ponta do Mel Formation occur only in subsurface, predominantly in the offshore portion of the Potiguar Basin. Characterization of the carbonates composition, as well as the reconstruction of depositional and diagenetic history of Ponta do Mel Formation, was based on subsurface data from 52 exploratory wells, drilled by PETROBRÁS. Fourteen depositional facies were defined. The facies varie from tidal flat facies to deep water facies, including shallow shelf facies. The deposition of the Ponta do Mel Formation, started in response to the first marine ingression after Gondwana breacking-up, consists of mollusk and oncolite calcarenites, interbedded with clastic sediments. The continuous process of subsidence, associated with a very rapid and widespread eustatic sea level pulse, led to the deposition of an open marine planktonic foraminifer and calcispherulid-bearing calcilutites at the base of the formation. At this time, the nearshore portions of the basin were uplifted and the carbonate deposition in this area was inexpressive. The middle portion of the formation is characterized by the progradation of shallow water facies over deep water facies. Thus, a narrow carbonate shelf, parallel to the coast line was established. At the shelf edge bioconstructions of red algae with minor corals were formed. The back barrier, low energy facies, were micritic calcarenites with pellets and oncolites. Locally, near Ubarana canyon, high energy conditions prevailed, and oolitic calcarenites were deposited. The evolution of the regressive cycle, and the more stable platform gradient, led to the deposition of oncolitic bioclastic calcarenite bars, in the upper part of the formation. At this time, the deeper portions of the basin received little sedimentation, characterizing a straved basin. Near Touros High, northeast part of the basin, the carbonate platform has a large extent, and a tidal flat developed with the deposition of "birdseye" calcilutites. Cementation and dolomitization were the two most important diagenetic events in Ponta do Mel Formation. In the upper part of the formation, late calcite spar cementation occluded almost all pore space, or originally porous depositional facies. Related with the regressive character of the Ponta do Mel Formation deposition, an influx of meteoric water, due to exposure and erosion at the of the formation, was the main factor of carbonate cementation.

Troian, F.L. 1990. Erosional and depositional mechanisms on coastal marine environments along Wal, Esperança and Lobos Marinhos bays, Fildes peninsula, King George Island, South Shetland, Antarctic. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 462

1990

Date of presentation:

Fábio Luiz Troian

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

In this study are presented and discussed climatic, geotectonic geologic and structural characters, and also glacial and fluvio glacial events of the N-NE Region, Peninsula Fildes, Break Ocean.

The morphostructure is represented by the High Lands of Central-Nord, Ocidental Platform, and the Coastal Region.

The morphogenetic features and the textural characteristics are controlled by many factors associated with marine and wave dynamics.

Geological mapping allowed to identify many depositional features like eolian dunes, glacio fluvial drainage, eskers, kames, and a complex cryopedologic system, with the development of polygonal soils, which cover the geomorphological sectors, plained off by marine abrasion and glacial action.

Viana, M.S.S. 1990. Stratigraphy and paleontology of the Santana formation, lower Cretaceous of the Araripe basin, Northeastern of Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1408

1990

Date of presentation:

Maria Somália Sales Viana

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: PE
CE

1/1,000,000 sheet:

SB24

Centroid of the area:

' - 'W

Abstract

This study concerns chiefly on the stratigraphy and paleontology of Santana Formation (Lower Cretaceous of Araripe Basin, northeastern of Brazil). The Santana Formation is divided into three sub-units, according to Beurlen (1971a): Crato (Lower), Ipubi (Middle) and Romualdo (Upper) Members. This paper clarifies the Santana-facies boundaries and concepts. The Crato Member is composed of calcarenites, algal mudstones and fossiliferous laminated limestones bearing plants, arthropods, fishes and amphibians. It overlies unconformably the mudstones, siltstones and sandstones of Missão Velha Formation. The Ipubi Member is represented by evaporites, black shales and few limestone layers. The fossil assemblage consists of stromatolites and conchostraceans. It rests unconformably on the Crato Member. The Romualdo Member is made up of sandstones, shales, limestones and marls with fossiliferous calcareous concretions. The fossil assemblage is composed of well preserved varied plants, arthropods, fishes and reptiles. The fossils from Santana Formation have been studied since the last century, mainly the fishes. Their excellent preservation have caught attention of many researches in the world. The fishes present well-preserved muscles, skin, gut tissue, stomach wall, gill rays and eggs. The discussion of the Santana Formation is followed by a list of its fossils and their localities. The field work was restricted to the Pedra Branca Gypsum Mine, where plants, coprolites, ostracodes and fishes are found on some beds. The facies studies suggest a paleoenvironment represented by a great lake where episodic events of mass mortality and instantaneous fossilization took place. Besides, there were also restricted paleoenvironments such as little lakes with poorer life development. Paleoclimatic conditions were probably warm and humid with periodic dry seasons.

Wildner, W. 1990. Geological and geochemical characterization of the ultramafic and volcanosedimentary sequences of the Bossoroca region - RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 500

1990

Date of presentation:

Wilson Wildner

Advisor(s): Hartmann, L.A.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' - 'W

Abstract

The semi-detailed geologic mapping (1:25,000) of the Bossoroca Region produced several data of major, minor and trace elements, REE and PGE. They were worked out and lead to the characterization of a part of the mafic-ultramafic Arroio Lajeado and the meta-volcano-sedimentary Campestre Sequences, in the Porongos Group.

The detailed work in the Campestre Sequence led to the description and characterization of the diagnostic rocks of the processes associated to volcanogenic events. Their principal facies are:

_ Flow Generated Deposits:

- Pumice and ash flow

- Lava flow

_ Base Surge Generated Deposits

_ Air-Fall Generated Deposits

- Dust and Ash Clouds

_ Epiclastic Deposits:

- Sediments Under Water Level

- High-Density Flow (Lahar Type)

These deposits suggest that the volcanogenic event was a high explosive one and generated a deposition comparable to an extrusive volcano, possibly associated to a Plinian eruption process.

This volcanogenic association is lithochemically composed of trachy-andesites, andesites and dacites which are calc-alkaline, hypersthene, with sodic alkalinity and moderate amount of alumina.

The lithochemical treatment showed that these rocks derived from just one volcano-magmatic event whose compositional variations represent the fractionations and modifications that took place during the evolution of the magmatic process.

The Arroio Lajeado Sequence has three fundamental lithologic associations: a) gabbroic and basaltic rocks; b) serpentinitic rocks; and c) metasomatic rocks.

The data of the portion with gabbroic and basaltic bodies point to normal tholeiitic rocks with low potassium, associated with an arc regime.

The serpentinitic rock association is composed by variable portions of cumulate protoliths that seem to come from olivine liquids such as harzburgitic, lherzolitic and dunite ones, related to Alpine Complexes.

The interpretation from the obtained data is that the ultramafic rocks are allochthonous bodies, put in place together with a volcanic arc sequence, associated to volcanoclastic and sedimentary rocks, during a process of crustal shortening and closing of a marginal basin that is composed, at least in part of it, by an oceanic floor and placed near a magmatic arc.

Yoshinaga, S. 1990. Hydrogeologic, hydrogeochemical and isotopic studies of the mineral and thermal waters of Águas de Lindoia and Lindoia, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2191 **1990** *Date of presentation:* 15/5/1990

Sueli Yoshinaga

Advisor(s):

Committee:

Subject of thesis: Hydrogeology

State: SP *1/1,000,000 sheet:* SF23 *Centroid of the area:* ' - 'W

Abstract

Abreu, F.R. 1991. Study of the vein-like auriferous mineralizations of the Diamantina town region/MG state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1739 1991 Date of presentation: 12/7/1991

Francisco Robério de Abreu Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

U/Pb age datings of samples from several units of the southern Serra do Espinhaço support the following conclusions: (1) the Gouveia Complex and the Rio Paraúna Supergroup originated in the Archaean and have been reworked during the Transamazonian Event; (2) the minimum ages for the beginning and the end of the Espinhaço Supergroup sedimentation are respectively 1711 \pm 4 Mgr and 906 \pm 2 Mgr; (3) the minimum ages for the beginning of the deposition of the Macaúbas Group is 906 \pm 2 Mgr ago; (4) some of the rocks that have been previously ascribed to the Macaúbas Group are tectonic slices of the Espinhaço Group; and (5) the age of 512 \pm 5 Mgr is the best estimate for the deformation of the units that crop out on the Southeastern edge of the São Francisco Craton, which in turn has resulted through tangential tectonics to which the gold mineralizations of the Diamantina region are associated. The gold mineralization at Diamantina are hosted by a sequence of interbedded, medium-grained, pure quartzites and argillaceous hematitic phyllites of the São João da Chapada Formation (Espinhaço Supergroup). These mineralizations occur in quartz-kaolinite veins and in breccias, with kaolinitic matrix, at the base of the argillaceous hematitic phyllites. The gold-bearing veins and breccias have originated by hydraulic fracturing during the waning stage of shearing that affected country rocks. Fluid inclusion studies reveal that gold has been transported by H₂O-CO₂-rich solutions, with 10 % wt NaCl, deposited at a minimum temperature of 250° C. The mineralization is of Brasiliano age according to U/Pb dating on rutile associated with the veins. The gold mineralization displays unusual characteristics such as the paragenesis hydrothermal alteration and the veins structural setting rendering them impossible to be included in the common lode type. Nevertheless, it is preliminarily suggested that the gold-bearing fluids may have been produced by devolatilization reactions in response to likely inverse isotherms caused by the Brazilian tangential tectonics.

Abuhid, V.S. 1991. About a pleistocene glossoterium in the Bahia state, Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1590 1991 Date of presentation:

Virgínia Simão Abuhid Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The research is about a morpho-comparative study of a pleistocene species of *Glossoterium* Owen, 1839 (Edentata, Mylodontidae). In order to fulfill the research, is studied numerous material in an excellent conservation condition, concerning various specimens from "Toca dos Ossos", a limestone cave in the northwest of Bahia's State (Brazil). From the teeth and skeletal parts analysed, was verified the abundant variability that characterizes the genus, specially the cranium and molariforms. Based on this statement, the validity of some taxonomic categories and taxons proposed for the south-american glossoteriums are examined. Most of them were based on imperfect and limited fossils, which weren't enough to provide for the trustworthy identification. The *Glossoterium* sub-generic division proposed by HOFFSTETTER (1952) is not accepted because of the weakness of the chosen criteria to support it. The post-cranial skeleton's morphology is more homogenous in an intra-specific level as well as in an inter-specific one. For this reason, undoubted identifications must be based on the cranium mandibular morphology, since the limits of variability are considered. This way, the better established south-american species that can be accepted nowadays are: *G. robustum* (Owen, 1842), *G. wegneri* (Spillmann, 1931) and *G. lettsomi* (Owen, 1840). The identification of the researched material is made based on these and two other basic statements. The former refers to the non co-specificity of the material in question with *G. robustum*, that is recorded at the south of the continent and with *G. wegneri*. The latter statement refers to the affinity existing between the Bahia specimens and *G. lettsomi*. The knowledge about the last mentioned species is very limited. On the face of recent findings the *Glossoterium* records made in intertropical Brazilian regions are not considered valid. Therefore, the researched material represents the more north-most finding of the genus in the country. Until new discoveries are made and provide more elucidative information about the subject, the Bahia's fossil is identified as *Glossoterium* aff. *G. lettsomi*.

Alcover Neto, A. 1991. Supergene evolutions of apatite rich carbonatitic rocks of the Juquiá alkaline complex (SP). MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 131 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 280 1991 Date of presentation: 7/10/1991

Arnaldo Alcover Neto Advisor(s): Toledo-Grohe, M.C.

Committee:

Subject of thesis: Petrology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Baraúna, O.S. 1991. Study of Clays Covering Gypsum Beds of the Araripe Sedimentary Basin (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Araripe basin, Gypsum, Clay

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 599 1991 Date of presentation: 28/6/1991

Osmar Souto Baraúna

Advisor(s): Santos, P.S.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The clays which cover the gypsum horizon of the Araripe sedimentary basin (Pernambuco State) are composed of a diversified assemblage of minerals, where the clay minerals are predominant with a coarse detrital fraction composed essentially of quartz, feldspars, calcite and gypsum.

The clay minerals present in those clays belong to the smectite, mica and kaolinite groups.

The apparent and plastic viscosities of 6% aqueous dispersions of Na₂CO₃-treated clays have shown values smaller than those from Petrobrás specification for thixotropic drilling fluids. Dialysis of those dispersion of Na-clays did not improve the value of the measured rheological properties.

Some of the clays show adsorptive properties after acid activation, acting as bleaching agent for soybean oil.

Barbosa, C.F. 1991. Quantitative biossedimentological characterization of the mangrove-estuarine system of the Baía de Guaratuba bay, PR state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1930 1991 Date of presentation: 10/5/1991

Catia Fernandes Barbosa

Advisor(s): Suguio, K.

Committee:

Subject of thesis: Sedimentology/Sedimentary Petrology

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Bäuerle, M.V.S. 1991. Morphosedimentological characterization of the micro fan delta of Hope bay, Fildes peninsula, King George island, South Shetland, Antarctic. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 463 1991 Date of presentation:

Maria Victoria Soto Bäuerle

Advisor(s): Villwock, J.A.

Committee:

Subject of thesis: Marine Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

During field work developed under the auspices of the Brazilian Antarctic Program, researchers of the CECO/UFRGS (Center for Studies in Marine and Coastal Geology of Federal University of Rio Grande do Sul) observed the occurrence of a micro fan delta in the Fildes Peninsula.

Situated at the nearshore of Hope Bay, the micro fan delta was studied from a morpho-sedimentary point of view during the summers of 1989 and 1990. It was found that its features are associated with a braided fluvial system developed during ebb tidal time.

The bars and channels of the braided system constitute lobes, which reaching their maximum deposition, start a migration of the fluvialnet to a more favorable slope, where new lobes are built. The depositional processes and the migration are cyclical,

occurring at each ebb tidal time. Since they are highly dynamical features, a morpho-lithological classification is proposed, aiming at a systematization of the changes and evolutive stages observed at the micro fan delta.

Geomorphologically, the micro fan delta of Hope Bay presents the evolutive dynamics of a fan delta of periglacial conditions, though exhibiting a pattern of differentiated space-temporal scale which, analyzed from the point of view of the changes rate, is similar to an outwash plain and, in reference to its sedimentologic aspects, to a nearshore environment.

Bittencourt-Calcagno, V.M. 1991. The genus *Callistocythere* Ruggieri, 1953 (ostracoda) in the Brazilian continental shelf. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 827

1991

Date of presentation:

Vera Maria Bittencourt-Calcagno

Advisor(s): Ornellas, L.P.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

This dissertation deals with the systematic, bathymetrical and geographical distributions of the species of the genus *Callistocythere* Ruggieri, 1953 found at the Brazilian Continental Shelf. In the systematic study made, five new species were identified: *Callistocythere nodulosa*, *Callistocythere sigmocostelata*, *Callistocythere laminata*, *Callistocythere fossulata*, *Callistocythere cellaria*, as well as two species already described: *Callistocythere litoralensis* (Rossi de Garcia, 1966) and *Callistocythere cranekeyensis* (Puri, 1960).

The occurrence area of the genus at the Brazilian coast goes from the meridional shore of the Rio Grande do Sul up to extreme limit of Amapá State, overspreading to the South, East and North shelf. Data obtained through determination of the bathymetrical and geographical distributions of the genus allow to identify the area of each species. *Callistocythere litoralensis* (Rossi de Garcia, 1966) is restricted to the South shelf, *Callistocythere nodulosa* sp. nov., *Callistocythere sigmocostelata* sp. nov., *Callistocythere laminata* sp. nov., *Callistocythere fossulata* sp. nov., *Callistocythere cellaria* sp. nov. have an occurrence area which goes over the North/East shelf reaching the southern extremity of East shelf where the transition zone established by Coimbra (1984) is; *Callistocythere cranekeyensis* does not reach the transition zone.

Bongiovanni, S. 1991. An engineering geology approach to the Paraguaçu Paulista region Cenozoic evolution (state of São Paulo). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 653

1991

Date of presentation: 21/6/1991

Solange Bongiovanni

Advisor(s): Campos, J.O.

Committee:

Subject of thesis: Geosciences and Environment

State: SP

1/1,000,000 sheet:

SF22

Centroid of the area:

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'W

Abstract

The integration between pedologic and engineering geology information, as a whole point of view, is not been explored. The present work deals with an integral approach of geologic, geomorphologic and pedologic aspects of cenozoic sediments in Paraguaçu Paulista, western of São Paulo State, as a contribution of their geotechnical behavior knowledge and their utilization in civil engineering. The cenozoic deposits cover extensive areas in the São Paulo State, Brazil, and are related to the stepped levels in the landscape, binded to flattened regions. These deposits are used in engineering works like embankments, road pavements, construction materials and even buildings foundations. To the geotechnical purposes, the sandy materials with weak cementation have a special interest, but in the natural state they present collapse characteristics. They have been called fine sandy soils, sandy lateritic soils, modern sediments and superficial deposits. The geologic substratum of the area consists of mesozoic sedimentary and magmatic rocks pertaining to the Bauru Group (Adamantina and Marília Formation - siltstones, sandstones and conglomerates); São Bento Group (Serra Geral Formation - basalts), besides the cenozoic deposits. Generally in this area are predominant the well developed pedological soils, characterized by upper horizons with deeply weathering of the original minerals, greatly influenced by the climate, with a tendency to form latosols or podzols in the profiles. The soils are represented by 6 pedological classes: dark red latosol with a clayed texture; dark red latosol with a medium texture; violet latosol; structured violet soil; yellow red podzol with a sandy texture/medium abruptic; yellow red podzol with a sandy texture/ medium non-abruptic. The climatic characteristics of the area (sub-tropical, hot, humid) is propitious to the development of ferrallitic weathering processes by the hidrolisis of the minerals from the pedological substratum, with the silica and bases release and iron and aluminium sesquioxides concentration. The geotechnical characteristics of that cenozoic material was arised from laboratory works through a geotechnical classification called MCT (Miniature, Compacted, Tropical). The six soil types concerned were grouped in geotechnical unities related to their textural characteristics (grain size and plasticity), clay activity and from the compaction tests, the optimum water content and the dry specific density. The unities assembly was possible by the utilization a methodology suggested by SALOMÃO (1984), which permits in a relatively simple way the physical environment interpretation, and to obtain the useful geotechnical data of the cenozoic material aiming its utilization in engineering works. They are considered 3 geotechnical unities in the area:

G.U.1: dark red latosol with clayed texture; yellow red podzol with a sandy texture/medium non abruptic texture- excellent soils for embankments, foundations.

G.U.2: dark red latosol with a clayed medium texture; yellow red podzol with a sandy texture/medium abrupt texture-excellent soils for the embankments, foundations.

G.U.3: structured violet soil; violet latosol-these soils are considered of bad quality for foundations and inadvisable to embankments, because they have high plastic properties, that difficult the compaction procedures.

Cabral Jr, M. 1991. Metallogenetic possibilities of the Paraná basin in São Paulo state: Phosphorites, evaporites and base metals. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 646 1991 Date of presentation: 23/8/1991

Marsis Cabral Junior Advisor(s): Landim, P.M.B.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This work presents the results of a study on the metallogenetic possibilities of the Paraná Basin, limited to its portion within the borders of São Paulo State. A focus was given to phosphorites, evaporites and base metals such as copper, lead and zinc.

The exploration method employed included analogical and qualitative concepts by which the characteristics of deposit models were compared to some of the geological features of the Paraná Basin.

This analysis allowed to select metallogenetic areas and areas with more favorable characteristics regarding the considered mineralizations. So far, no specific sedimentary sequence can be considered to fit the best theoretical conditions admitted to the studied mineralizations.

Carvalho, E.D.R. 1991. Petrographic and geochemical characterization of the Fazenda Maria Preta gold mine lithologies in the Rio Itapicuru Greenstone Belt, Bahia state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1733 1991 Date of presentation: 2/4/1991

Edison Durval Ramos Carvalho Advisor(s): Chouduri, A.

Committee:

Subject of thesis: Metallogenesis

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

One of the gold mines of the Rio Itapicuru greenstone - belt in Bahia, is the Fazenda Maria Preta mine. The main rock types there are felsic volcanics and metasediments besides a few occurrences of basalts and diorites. On the basis of petrographic and geochemical study, it was possible to define 4 groups of rocks: 1. Basalt with altered pyroxenes to amphibole and chlorite and epidotized plagioclase with subophitic texture. 2. Acid andesites with some chloritized and amphibolitized pyroxenes, plagioclase, few sericite and quartz, with porphyritic, intersertal and microgranular texture. 3. Uacites with sericitized plagioclase and bipyramidal, very clear quartz, with micrographic, porphyritic, trachytic and microgranular texture. The fourth group defined by geochemists consists of rhyolites with plagioclase and quartz with micrographic, trachytic and microgranular texture. The geochemical data linked with petrographic information shows that there may have been two magmatic sources for the generation of the rocks studied. The first one of basaltic composition and the second acid intermediate composition possibly generated from basaltic Alumes at the base of the sialic crust at the time of rifting. The metamorphism in the area is low grade, the rocks having typical parageneses of greenschist facies, later overprinted by a hydrothermal phase with fluids rich in CO₂, H₂O, K₂O and H₂S, which may have caused the gold mineralization that occurred associated with the ductile shear zone (N - S) affecting the rocks in the study area.

Carvalho, J.B. 1991. Gold in laterites of the Cuiaba group: The case of the Fazenda Rosalina, Nossa Senhora do Livramento, Mato Grosso state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M069

DataBase Ref.: 129 1991 Date of presentation: 6/12/1991

Jessica Beatriz Carvalho Advisor(s): Adusumilli, B.R.

Committee: Jorge Gomes do Cravo Barros - IG/UnB

Jan-Ola Larsson - TETRON

Subject of thesis: Prospection and Economic Geology

State: MT 1/1,000,000 sheet: SD21 Centroid of the area: ' - 'W

Abstract

enrichment, normative diopside and hypersthene, $\text{FeO/Fe}_2\text{O}_3 > 1\%$, $\text{Na}_2\text{O} < 5\%$ and $\text{K}_2\text{O} < 4\%$ and accessory sphene, apatite and zircon. Magmatism is similar to I-type Caledonian.

Isotopic data point to magmatic evolution from two different sources, showing complex magma mixing. The massif of Cel. João Sá represents two assemblages with Rb/Sr ages (whole rock) 614 ± 9 Ma and 619 ± 21 Ma.

Chies, J.O. 1991. Petrology and geochemistry of the mesozoic volcanism of the Paraná basin in western Rio Grande do Sul and Santa Catarina. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 517

1991

Date of presentation:

Jaqueline Ozório Chies

Advisor(s): Roisenberg, A.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

Centroid of the area:

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SC

Abstract

The Mesozoic magmatism of the Paraná Basin is essentially represented in the western region of Rio Grande do Sul and Santa Catarina by a sequence of basalts to basaltic trachy-andesites, which are dominant in area and volume. Porphyritic dacites and trachydacites (Chapecó type), and aphyric dacites and riolites (Palmas type) are also found in the volcanic sequence. A rheognimbric origin for the acidic volcanics is indicated by the presence of tuffaceous textures, and banded and brecciated structures in these rocks. The statistical treatment of chemical data differentiates three groups of basic and intermediate volcanics. One of these groups is relatively enriched in TiO_2 , P_2O_5 , Sr, Ba, Zr, La e Ce. Another set of samples has the greatest values of Cr and Ni, and the smallest concentrations of La, Ce and Y. The third set shows the lowest values of Sr and Zr, and the highest concentrations of SiO_2 . The acidic volcanics are also separated into three statistical groups. One of these sets (Palmas type) is characterized by a relative enrichment in SiO_2 , Rb and Cu, and the lowest values of TiO_2 , MnO, MgO, CaO, Na_2O , P_2O_5 , Ba, Sr and Zr. The other two groups (Chapecó type) are discriminated by Na_2O , P_2O_5 and Zr concentrations. The enrichment factor of the high- TiO_2 basalts trace element ratios relative to the low- TiO_2 ones indicates a generation by melting of garnet-peridotitic residual (14-17%) or initial (12-15%) mantles for the high- TiO_2 basic volcanics. Considering the same source compositions, the low- TiO_2 basalts may be produced by melting degrees higher than 20%. Mathematic modelling based on trace element mantle concentrations for a particular set of low- TiO_2 basalts points out to an origin from a lherzolitic source by melting degrees between 10 and 15%. Fractional crystallization and simple crustal assimilation processes may not be involved in the acidic and intermediate rocks petrogenesis. A mathematic model that combines crustal assimilation with a maximum of 20% basic magma crystal fractionation at a crystallization rate five times higher than the assimilation rate is compatible with the generation of the low and high- TiO_2 intermediate rocks. The assimilated material belongs to the upper crust or to a mixture of crustal material in the first case, while the lower crust may be involved in order to produce the high- TiO_2 intermediate volcanics. A parental magma of the same statistical group is considered in each situation.

The Chapecó acidic volcanics seem to be generated from the lower crust by melting degrees between 10 and 15%. The Palmas dacites and riolites petrogenesis is compatible with 10 to 20% melting of an heterogeneous crustal source represented by the bulk crust average.

Cordeiro, S.H. 1991. Palynology of Patos Lagoon sediments, Rio Grande do Sul, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 826

1991

Date of presentation:

Suzane Hilgert Cordeiro

Advisor(s): Lorscheitter, M.L.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

With the purpose of studying the vegetation and climatic changes in the last millennia of the Coastal Plain of Rio Grande do Sul, Brazil, a palynological study was made in the Northern part of the Patos Lagoon.

Twenty-four samples of one core of 2.26m at the depth of 7.70m ($30^\circ 50' 51''$ lat. S and $50^\circ 59' 05''$ long. W) were collected. The samples underwent a chemical process and after that the palynomorphs found were submitted to qualitative and quantitative analyses. The quantitative analysis calculated the percentage and concentration of grains per gram of dry sediments. Also two radiocarbon datings were made at two different core levels.

The findings consisted of 7 Fungi, 3 Animal Remains, 2 Achritarcs, 11 Algae, 4 Bryophytes, 16 Pteridophytes, 3 Gymnosperms and 46 Angiosperms.

The palaeoenvironment analysis revealed a marine transgression into the lagoon in $5,170 \pm 120$ years BP, giving rise to a local vegetation consisting chiefly of xerophytic and hallophytic elements. On the other hand, the vegetation of the humid environment characterized the most interiorized portions of the Coastal Plain at this time. These tendencies were increased at about $4,080 \pm 110$ years BP, when the highest local level of marine transgression happened. This coincided with the beginning of the development of forest vegetation in the most interiorized portions of the Coastal Plain.

These data suggest that this marine transgression was a consequence of climatic changes to higher temperatures and more humidity at the global level.

After 4,000 years BP the sea gradually retreated giving to the Northern portion of the lagoon fresh water characteristics.

The development of forest vegetation beginning at 4,000 years BP, together with the absence of dry periods, reinforces the thesis of the influence of phenomena of El Niño-type throughout the latter millennia in South America.

Correa, C.P.C. 1991. Morphosedimentological relationships between the oceanic floor of Maxwell bay and adjacent beaches, King George and Nelson islands, Antarctic. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 464

1991

Date of presentation:

Carmen Paz Castro Correa

Advisor(s): Martins, L.R.S.

Committee:

Subject of thesis: Marine Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

This dissertation deals with the morpho-sedimentological relationships between the coast and the ocean bottom from Maxwell Bay and the adjacent beaches, South Shetland Island, Antarctica.

The climatic situation of the area was determinant in the development of the morpho-sedimentological features. This is a sub-polar zone with wet-based glaciers, associated with an important "glaciofluvial" component.

Thus, the prevailing transport and depositional mechanism in Maxwell Bay is by suspension, associated with the "glaciofluvial" component, and with the turbulence of the receiving basin.

Moreover, there is a clear relationship between the position of bays and harbours and their structural control, nearly orthogonal ESE-WNW and NNE-SSE directed.

Therefore, besides the bay morphology being associated with this structural control, it was shaped by glacial and periglacial activity and by the basin sedimentary mechanisms.

The morphology of the beach is controlled by factors as coastal topography, type of associated glacier, amount and type of available sediments, and the energy being dissipated at the beach. Furthermore, tides are stronger agents than waves, which are particularly important during storm episodes.

Beaches at levels less than 18m were studied. The raised beaches from 6m and 18m, related to extended stillstands or transgressions, were identified as the principal ones.

Four "glaciomarine" sedimentation zones were defined in the bay, namely: proximal, middle, distal and residual ones. In the coastal environment, the present beach, raised beaches, ice-contact zone and meltwater channel zones were recognized along the coastline.

Crocco-Rodrigues, F.A. 1991. Thrust systems and structural geology of the Serra das Cambotas area, "Quadrilátero Ferrífero" region, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M066

DataBase Ref.: 126

1991

Date of presentation: 9/5/1991

Fernando Antônio Crocco-Rodrigues

Advisor(s): Jost, H.

Committee:

Reinhardt Adolfo Fuck

- IG/UnB

Farid Chemale Jr

- DEGEO/UFOP

Marcel Auguste Dardenne

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Subject of thesis: Prospection and Economic Geology

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

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Abstract

The quartzites of the Tamanduá Group located at their type section, Serra das Cambotas, constitute geological unit belonging to the Espinhaço Supergroup. The metasedimentary unit of the Tamanduá Group comprises only the Cambotas Formation, whose lithostratigraphic piling from the bottom to the top is constituted by a basal polymictic metaconglomerate and two beds of quartzites with a metarkose bed. The supposed "Unnamed Formation" is in fact mylonites from rocks of the Nova Lima Group, Rio das Velhas Supergroup, and cannot be incorporated to the Espinhaço sequence.

The tectonic structure at the region results from the development of the east border thrust belt of the São Francisco Cráton. This thrust belt comprises the Córrego do Garimpo thrust system, with north-south trend extending northwards until the Serra do Espinhaço, and the Fundão thrust system, that has an orocline form bordering and sharing the east portion of the Quadrilátero Ferrífero. The development of the Córrego do Garimpo system began with a basal decollement (C1) of the supracrustal unit over infracrustal rocks evolving to a thrust tectonic (C2) in a piggy-back way cutting the infrastructure and breaching the suprastructure. The Fundão system is younger than the Córrego do Garimpo system and truncates its general north-south trend forming an oblique ramp (G3) at Serra do Gongo Sôco and Serra do Tamanduá.

The origin of the thrust belt at region may be associated to proterozoic collisional tectonics with A-type intracrustal subduction.

Dantas, A.S.L. 1991. Geology of the São Roque belt and associated intrusive rocks in the region between São Paulo and Mairiporá, northern of São Paulo - SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 199 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1248 1991 Date of presentation: 16/5/1991

Agamenon Sergio Lucas Dantas Advisor(s): Brito Neves, B.B.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Dias, J.L. 1991. Stratigraphic analysis and rift stage evolution in the eastern and southeastern marginal basins of Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1405 1991 Date of presentation:

Jeferson Luiz Dias Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The stratigraphic analysis of the lower section of the basins along the East and Southeast Brazilian Continental Margin, from Pelotas to Pernambuco basins, including the Recôncavo/Tucano/Jatobá Aulacogenous, allowed the reconstruction of the evolution of the Early Cretaceous Brazilian Rift. Based on information from about 300 wells drilled by Petrobrás the Permian to Lower Cretaceous Package was subdivided into 11 depositional sequences. The main criterium used to distinguish these depositional sequences was the biostratigraphic zonation of ostracode fossils. The Portlandian sedimentation that preceded the rift phase occurred in an intracratonic Gondwana basin, called Afro-Brazilian Depression. The beginning of the rift phase has been considered to be of Early Cretaceous age (Rio da Serra local stage) in the basins related to the Salvador Triple Junction. From the Middle Rio da Serra to the Jiquiá stages the tectonism of the rift phase was intense in practically all studied basins, with maximum activity registered at the Late Jiquiá time. During the Rio da Serra and Aratu local stages the rift of Pelotas, Santos, Campos and Espírito Santo basins was filled with tholeiitic basaltic lavas. Sedimentological characteristics point out to a salinity increase of the lacustrine waters from the beginning to the end of the rift phase, probably resulting from progressive increase in the aridity conditions. The end of the rift phase was probably diachronous and happened first in the South (Pelotas Basin) during the Jiquiá stage. Northwards the rift phase ended during the Late Jiquiá/Early Alagoas between Santos and Northern Bahia basins (including Recôncavo/Tucano/Jatobá basins) and at the Late Alagoas in the Sergipe/Alagoas basins. After the rifting episode in the Pernambuco Basin, which occurred during the Early Albian, the complete rupture of the continental crust took place most probably during the Middle/Late Albian times.

Duarte, B.P. 1991. Contribution to the geological study of the Fundão ore body of the Passagem gold deposit, Mariana, MG state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1164 1991 Date of presentation:

Beatriz Paschoal Duarte Advisor(s): Pires, F.R.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Fundão ore body is located in the Quadrilátero Ferrífero, Minas Gerais, Brazil, within the southwestern portion of the Mina da Passagem. It is composed of sulphidic quartz of quartz-carbonate veins and tourmalinites, hosted in a sequence of metasedimentary rocks subjected to lower amphibolite facies metamorphism. The lithologic succession comprises quartzites, mica-quartzites, phyllites, mica-schists; ankerite-marbles intercalated with metacherts; and oxide and carbonate iron formation, which constitutes the mineralized body's hanging wall. Field data reveal that a plane of thrust-fault, subparallel to the primary compositional layering, lies near the basal portion of the Formação Cauê, Passagem ore bodies' regional hanging wall. This type of tectonism resulted in a repetition of layers and displaces rocks of the Grupo Nova Lima from their Caraça and Itabira. Subsurface data suggest that movements of rocky blocks occurred along the principal foliation plane, S2, subparallel to the lithologic contacts. This fact broadens the range of possible conclusions and the regional correlation of the lithologic units is still unknown. The rocks of the studied area underwent three phases of deformation named D1, D2 and D3. D1 was responsible for the formation of S1 foliation, subparallel to the primary compositional layering. So. Both surfaces were partially or completely

transposed during D2. D2 developed with great intensity, yielded closed, almost recumbent folds, transposed earlier surfaces (S0 and S1), formed a new plane of foliation (S2) and provoked relative movements of rocks along S2. D3 was characterized by subvertical fractures superimposed on all other structures developed in the area. The peak of metamorphism, accompanied by the formation of the staurolite + kyanite + almandine garnet paragenesis, occurred in a period late- to post-D2/pre-D3. The mineralization development evolved through six stages: the first three were responsible for the formation of the gangue minerals - quartz, carbonate, tourmaline - and tourmalinite, that occurred from D1 until post-D2/pre-D3, and was contemporaneous to the progressive regional metamorphism that affected the rocks of the area; the last three stages were characterized by the formation and growth of sulphides (pyrrhotite, arsenopyrite, pyrite, chalcophyrite and bismuthinite) and gold, which developed from the substitution, and along boundaries or fractures of the newly deformed gangue minerals. Gold occurs mainly associated with arsenopyrite, bismuthinite and native bismuth, and, less frequently, with chalcophyrite. Pyrrhotite and pyrite directly related to gold (visible) were not observed. Gold deposition occurred after the peak of metamorphism, in a late- to post-D2 period. Barren quartz veins filled the fractures developed during D3.

Etchebehere, M.L.C. 1991. Mineral exploration model applied to the search of thermal springs in the Poços de Caldas massif, Minas Gerais and São Paulo states, Brazil. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 643 1991 Date of presentation: 19/4/1991

Mario Lincoln de Carlos Etchebehere Advisor(s): Fúlfar, V.J.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This study presents an exploration model applied to the search of thermal springs in the Poços de Caldas Plateau. This area is located in the boundary between São Paulo and Minas Gerais States and corresponds to a large alkaline complex, with roughly circular form of about 800 sq. km and 15 km mean ratio.

Morphologically, the Plateau has a shape of a truncated cone with a central part depressed and a discontinuous ring ridge. The rim is 600 m higher than host rocks and 350 m higher than internal portion.

Tinguaites, phonolites, foyaites and hydrothermally altered rocks are the main lithotypes of the Plateau; pyroclastic, sedimentary, and mafic rocks also occur. The sedimentary ones are correlated with Paraná Basin stratigraphic units.

The known thermal springs are localized in Poços de Caldas town. These surges are characterized by alkaline-bicarbonated waters with a total dissolved solids up to 200 mg/l and temperatures ranging between 28 and 45°C. These waters are of meteoric origin and both, the silica and Na-Ca-K geothermometers, suggest an infiltration depth of about 2000 m deep.

The exploration model was elaborated based on the known thermal spring situation with an enrichment of data from literature.

This model allowed to select areas with a series of attributes supposed to be favorable to new occurrences. The best place to contain new thermal surges should have the following features:

it must be in a topographic low place site with higher areas surrounding it (at least 150 m);

areas of anomalous high thermal flow ($\geq 60 \text{ mW.m}^{-2}$), supposed to create upflows;

areas characterized by steep gradients of structural parameters, such as frequency and density of lineaments, delimited through first-order derivative map;

areas of reasonable permeability which show anomalies of fracture interconnections and a preponderance of NNW lineaments.

This direction is interpreted as the most suitable fracture openings and, consequently, an appropriate path for subterranean water, under extensional deformation.

Through photointerpretation, field work, computer-based lineament treatment, topographic data, and geothermal maps, it was possible to delineate 24 targets for a detailed survey. Preliminary field check in two selected areas led either to the finding of a new sulfur hot spring in the southern Plateau and to a series of anomalies. A detailed work must be carried out with temperature water systematic measurements through a thermal logging equipment, to detect and to delimit anomalous geothermal areas in the indicated targets.

Fernandes, A.J. 1991. Embu Complex in the eastern of São Paulo state: Contribution to the knowledge of the lithostratigraphy and structural and metamorphic evolution. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 120 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 179 1991 Date of presentation: 9/5/1991

Amélia João Fernandes Advisor(s): Figueiredo, M.C.H.

Committee:

Subject of thesis:

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Ferreira, C.J. 1991. Geology, petrology and zircon typology of the Itaqui intrusive suite (Barueri, São Paulo state). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro,

pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 645

1991

Date of presentation: 8/7/1991

Cláudio José Ferreira

Advisor(s): Wernick, E.

Committee:

Subject of thesis: Regional Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The Itaquí granite, precambrian of south-east of Brazil, is a multiple intrusive pluton composed of nine lithologic units presentable in the 1:50.000 scale. The major types are: Barueri Granodiorite isotropic mesocratic porphyritic rock with medium-to coarse-grained groundmass and K-feldspar phenocrysts 2,5 cm mainly size of longest dimension. Aldeia da Serra Granite isotropic mesocratic porphyritic to seriate rock with medium-grained groundmass and K-feldspar phenocrysts 1,5 cm of longest dimension. Pedreira Cantareira Granite slightly anisotropic leucocratic seriate to porphyritic rock with medium-to coarse grained groundmass and K-feldspar phenocrysts about 3 cm of longest dimension. Mutinga Granite - isotropic leucocratic medium even-grained to seriate rock. This units of Itaquí pluton are classified in the granodioritic or normal K content granitic series. The magmatic structures of Itaquí Pluton are distributed in five types a) Platy flow structures characterized by both banding of cumulate origin and schlieren structures; linear flow structures characterized by very elongated magmatic mafic enclave, fusiform, streak-like surmicaceous enclaves and the paralelism of the major phenocrysts axes. b) Schlieren structures - platy irregular concentrations of K-feldspar phenocrysts, plans enriched in biotita and hybrid zones between mafic and felsic rocks. c) Enclaves they have been separated into three genetic groups: xenoliths, magmatic mafic enclaves (that shows two kinds: products of an incomplete mixing of basic and acidic magmas and cognate cumulates) and restites characterized by surmicaceous enclaves. d) Contacts. e) Primary joints and associated intrusive veins and sheaths. The rocks of Itaquí pluton exhibit seven chief textural aspects: a) plagioclase zoning, b) myrmekite, c) synneusis structure; d) zonally-arranged oriented plagioclase and mafic minerals inclusions in K-feldspar crystals; e) quartz round inclusions in the feldspars; f) mantled K-feldspar by plagioclase (rapakivi texture), and g) needle habit of apatite. The typologic study of zircon populations from rocks of Itaquí pluton classifies the complex in the calc-alkaline (orogenic) hybrid 4a series granites. The structures, textures and zircon typology characterized point out the importance of magma mixing processes on the origin, evolution and diversity of granitic rocks of the Itaquí pluton.

Fonseca, V.M.M. 1991. Brachiopoda of the Strophomenida order from the Itaituba formation, Carboniferous of the Amazonas basin. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1466

1991

Date of presentation:

Vera Maria Medina da Fonseca

Advisor(s): Mendes, J.C.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

This work reviews the taxonomy of strophomenid brachiopods from the Itaituba Formation (Carboniferous, Amazon Basin) belonging to the superfamilies Davidsoniacea, Chonetacea and Productacea. Six new combinations are proposed for species names from that Formation. Since the brachiopods themselves do not provide accurate information on the age of the Itaituba Formation, the late Morrowan/early Atokan age range indicated by the associated fusulinids is here accepted. Biogeographic studies based on fusulinids suggest that the Amazon Basin was part of the Mid-Continent - Andean unit during the Carboniferous. The brachiopod faunas of the Itaituba Formation have been compared to those of other Morrowan-Atokan lithostratigraphic units in both South America and North America. Coeval units in South America that bear correlative brachiopod faunas include: Cano Indio, Rio Palmar and Mucuchachí Formations (Venezuela); Carboniferous beds of Manaure, Sierra Nevada de Santa Marta, La Jagua and Rio Nevado (Colômbia); Cerro Prieto Formation and Tarma Group (Peru). North American brachiopod faunas closely related to that of the Itaituba Formation occur in the Pennsylvanian sequence of Arrow Canyon (Nevada) and in the Amsden Formation (Wyoming), in the Western U.S., as well as in the Marble Falls Formation (Texas), southernmost Mid-Continent Region.

Fortes, P.T.F.O. 1991. Geology of the Mina III gold deposit, Crixás, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M068

DataBase Ref.: 128

1991

Date of presentation: 10/5/1991

Paulo de Tarso Ferro de Oliveira Fortes

Advisor(s): Nilsson, A.A.

Committee:

Raul Minas Kuyumjian

- IG/UnB

Fernando Roberto Mendes Pires

- DG/UFRJ

Subject of thesis: Prospection and Economic Geology

State: GO

1/1,000,000 sheet:

SD22

Centroid of the area:

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Abstract

The Mina gold deposit is situated in the Crixás Greenstone Belt, near the contact between meta-volcanic basic rocks and metasedimentary rocks.

Two litho-structural domains were characterized close to the deposit: one consists of weakly deformed meta-basalts and the other of several intensely deformed lithological types.

The meta-basalts are tholeiitic, display pillow-lava structures that indicate stratigraphic inversion in the region and have a mineral paragenesis of epidote-amphibolite facies.

The intensely deformed rocks are derived from basic volcanic and sedimentary rocks. Percolation of fluids, probably of metamorphic origin, caused retro-metamorphic hydrothermal alteration processes which produced mineral parageneses of greenschist facies.

Four deformational phases were identified: the second one (D2) was responsible for the development of semi-recumbent, asymmetric folds and axial-plane schistosity. Grain rotation and S-C structures suggest ductile simple shear.

The Mina gold deposit deformed rocks and consists of two main ore zones. The upper ore zone is represented by massive sulphide bodies (arsenopyrite, pyrrhotite, calcopyrite) associated with sericitic schists and ferriferous rocks (chlorite-garnet schists and pyrrhotite-magnetite-biotite schist) within dolomite carbonatic rocks and chloritic-carbonatic schists. The lower ore zone is represented by a schistosity-concordant quartz vein in carbonaceous schists.

Chloritic-carbonatic schists and sericitic schists resulted from chloritization and carbonatization and from intense sericitization of meta-basic rocks respectively. Dolomite carbonatic rocks are probably of sedimentary origin, while ferriferous schists and massive sulphide bodies may have originated from ferriferous metasedimentary rocks (silicate and/or oxide iron formation) or from intense alteration of meta-basic rocks. Quartz vein of the lower ore zone resulted from intense deposition of metamorphically derived silica in carbonaceous pelites. Both ore zones are structurally controlled by a lineation associated with the axis of folds generated during the second phase of deformation.

Metasomatism, related to the percolation of hydrothermal fluids is evidenced by mobility of Na, Sr and Rb in almost all rock types. Relative immobility of Ti, Zr and Y allowed amphibole schists and chloritic-carbonatic schists to be genetically linked to the meta-basaltic rocks. Sericitic schists are characterized by enrichment in Ti and K and ferriferous rocks by introduction of S and As.

The association of gold with sulphides, silicates and oxides suggests multi-stage deposition. Preliminary fluid inclusions data from the upper ore zone suggest gold transport by chloride complexes and especially, thio-complexes, with participation of arsenium.

Freitas-Silva, F.H. 1991. Lithostratigraphic and structural framework of the Morro do Ouro gold deposit, Paracatu, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M063

DataBase Ref.: 123 1991 Date of presentation: 8/4/1991

Flávio H. Freitas-Silva Advisor(s): Dardenne, M.A.

Committee: Onildo João Marini - IG/UnB
 Carlos Alberto Rosière - IGC/UFGM

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

The goal of the research developed in this dissertation, was clear up the lithostratigraphic and structural informations related to the Morro do Ouro mine, by the execution of detailed geologic work, and regional profiles to positionate the mine in the regional geotectonic framework.

The stratigraphy of the Paracatu region is represented by the Vazante Formation (base), and the Paracatu Formation (top). These two units were grouped by the designation of Paracatu-Vazante unit. In the studied area, it was possible to recognize two facies related to the Vazante Formation, which are, from base to top: Serra do Garrote, Morro do Calcáreo, Serra do Velozinho, Serra da Lapa and Serra do Landim. In the Paracatu Formation the Morro do Ouro facies (base) and the Serra da Anta facies (top) were recognized.

The Paracatu-Vazante unit was deposited in a individualized sedimentary basin, as an gulf on the western edge of the São Francisco craton, that represented the continental mass. The western limite of the basin was the Canastra paleohigh. The sedimentation of the Paracatu-Vazante unit was processed by peculiar depositional systems in the interior of this gulf, distinct from the depositional systems related to off-shore environments, were the Araxá and Canastra groups (south and west portions of the gulf) and Paranoá group (northern portion of the gulf) were sedimented. At the same time the east edge of the Canastra paleohigh developed a extensive rife line, individualizing a restrict environment with oxygenated sedimentation conditions, between the paleohigh and the reef barrier.

The rocks from the Paracatu-Vazante unit were affected by a single orogenetic deformational event, during the Brazilian cycle, which reached its apex during 650 to 680 my.

This deformational event, here denominated principal deformational event (D1), is characterized by a progressive,, heterogeneous, non-coaxial deformation, generated under simple shearing rate, as the principal deformation component in the principal deformation phase. The late rutil phases of the deformation culminate with a pure shearing component as the principal component.

The structures generated during the D1 event, show the entire deformational evolution, that begins with ductile stage deformation and ends at a brittle stage deformation. These structures were formed progressively with the Poluo of D1 event. Although they

were grouped here as distinct deformational phases, with a didactic purpose of showing the deformational process (almost all phases overlap in time and space).

The Principal deformational structure of D1 event is the regional foliation (S2), generally coincident with axial planes of isoclinal folds (B2), and the thrusts (E2), that characterize the Brasília thrust and fold belt.

The end of D1 event is marked by the F6 rupture tectonic phase, which was generated as a consequence of the decompression of the orogene.

After the principal deformational event (D1), the region was submitted only to epirogenetic reactivations, secondary deformations, during the Neocenoic, which does not obliterate the principal deformation elements.

The major metamorphism, related to F2 phase, in the Paracatu region, is a low grade metamorphism of greenschist facies, in the chlorite zone.

The simultaneous actuation of F2 deformational elements and F4 and F5 megafolds, formed the structural trap where the Morro do Ouro gold mineralization occurs.

The carbonaceous filonite from the Morro do Ouro facies, performed a lithostratigraphic control during the mineralization process, giving rise to a reductor environment favorable to precipitation of mineralized fluids, and probably was the principal metal source, including gold.

The metal extraction, was done probably by metamorphic fluids, that migrate through the channels formed by deformation, and precipitated on chemically favorable zones (structural traps).

Therefore the Morro do Ouro deposit distinguishes itself for being mainly controlled by deformational structures and lithostatigraphy, and subordinately by metamorphism.

Galembeck, T.M.B. 1991. Geology, petrology and geochemistry of the Cabreúva intrusion (Itu granitic complex, São Paulo state). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pp.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 644

1991

Date of presentation: 5/7/1991

Tamar Milca Bortolozzo Galembeck

Advisor(s): Wernick, E.

Committee:

Subject of thesis: Regional Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The Itu granitoid complex shows an irregular elongated shape, with NE-SW general axis and an area of nearly 310 km², intruded in metamorphic rocks of Itapira Complex and with its eastern border partially covered with paleozoic sediments of Paraná Basin.

Through faciological mapping, it was determined that this Complex is formed by four distinct intrusions called Salto, Cabreúva, Indaiatuba and Itupeva, located respectively on the: western; southern and middle-northern; middle; and northern side of the area.

The Cabreúva Intrusion was particularly investigated with respect to the geologic, petrographic, geochemistry and zircon typology. This intrusive body shows an area of nearly 160 km², distributed in three portions called: south, western and eastern sectors. That faciology is represented by ten distinct granitoid facies, composed mainly by equigranular syeno-granites, rosy, with fine/medium, medium and coarse grains, porphyroids syeno-monzogranites, rosy and subordinately by equigranular gray granitoids and gray and rosy porphyritic ones, besides two associations: xenolithic and melagranitoid ones. Regarding modal composition, they constitute three rock groups with distinct tendency: melagranitoids (trondhjemitic to granodioritic; gray and whitish granitoids and almost all of enclaves (with granodioritic to monzonitic tendency); rosy granites (with monzonitic to alkaline tendency). Through zircon typology and geochemistry that facies was determined to be mainly of subalkaline to alkaline nature, with potassium enrichment, and subordinately calcium-alkaline.

Gomes, E.P. 1991. Petrology and geochemistry of the Fazenda Novo Amparo vanadiferous deposit, associated to the Rio Jacaré mafic-ultramafic complex - Bahia state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1732

1991

Date of presentation: 4/2/1991

Edilene Pereira Gomes

Advisor(s): Batista, J.J.

Committee:

Subject of thesis: Metallogenesis

State: BA

1/1,000,000 sheet:

SD24

Centroid of the area:

' -

'W

Abstract

The Rio Jacaré Complex in central Bahia State comprises a sequence of mafic-ultramafic rocks, 40 km long and 1 km wide, which hosts important reserves of vanadium-bearing magnetite. This complex lies along a regional fault zone and is bounded by the Contendas Mirante volcano-sedimentary sequence and by granites and quartz-syenites of Proterozoic age in its western and eastern sections, respectively. The Rio Jacaré Complex consists of pyroxenites, magnetitites, gabbros and anorthosites which have been strongly affected by tectonic and metamorphic events. This complex has as its main structural feature a strong N-S striking regional foliation, while the mineral parageneses shown by its mafic-ultramafic rocks are typical of the amphibolite facies. On the outcrop scale, however, mineral assemblages of the greenschist facies are also present but are confined along shear zone domains. The hornblende-garnet and biotite-garnet geothermometers of the metagabbros yielded temperatures in the range of 553 to 633 °C for the main metamorphic event. Textural features combined with data obtained from the chemistry of the Fe-Ti oxides indicate that the composition of the mineralization was strongly modified by the main metamorphic event. Values of the oxygen fugacity for this temperature obtained from analyses of coexisting magnetite-ilmenite pairs range from -20 to -22 bars.

Bulk-rock geochemistry in the differentiated mafic-ultramafic bodies reveals increase of Al_2O_3 , Na_2O , K_2O and SiO_2 and decrease of CaO , CaF_2 towards the top of sequences. Nevertheless, in Rio Jacaré Complex this trend can be ambiguous or distorted due to the fact that the magma was originally enriched in Fe, Ti and V. Plots in AFM diagram demonstrated that the mafic-ultramafic complex was originally derived from a tholeiitic magma. The similarities in terms of lithological associations, ore paragenesis and geochemistry between the vanadium mineralization of the Rio Jacaré and those of Bushveld suggest that the former is equivalent to the Upper Zone of the latter. Accordingly, the Rio Jacaré Complex shows a suitable tectonic environment for occurrences of economic concentrations of platinum group elements (PGE).

Hachiro, J. 1991. Lithotypes, faciological associations and depositional systems of the Irati formation in São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 175 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1145 1991 Date of presentation: 29/5/1991

Jorge Hachiro Advisor(s): Coimbra, J.C.

Committee:

Subject of thesis: Stratigraphy

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Holz, M. 1991. Taphonomy of the Triassic sequence of Rio Grande do Sul: Death, transport, burial and diagenesis of the paleoherpetafauna. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 824 1991 Date of presentation:

Michael Holz Advisor(s): Barberena, M.C.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The results of a research program, for the first time undertaken on the taphonomic aspects of the Middle and Late Triassic sequence of Rio Grande do Sul State (southern Brazil) are presented in this dissertation.

The study was based on 1096 fossil specimens, including from articulated skeletons to reworked and isolated bone fragments. Stratigraphical and sedimentological data were also used in order to establish a taphonomic model for the mentioned sequence. The diagenetic history and its influence on fossilization has been studied by petrographical analysis of 48 thin sections of bones and associated sedimentary rocks.

The fossil remains were classified in four major reptilian groups (dicynodonts, cynodonts, thecodonts and rhynchosaurs) which occur in three distinct levels of Local Faunas. The physical mode of preservation (articulated, disarticulated, broken etc.) and the spatial distribution were determined, so that the establishment of the following four taphonomic classes was allowed:

I - articulated skeletons;

II - articulated bones;

III - isolated bones;

IV - isolated and broken bones. These classes reflect both the increasing skeletal disorganization and the complexity of taphonomic history. The skeletons of Class I are originated by drifted and rapidly buried carcasses, which are produced by cyclic catastrophic flood events. At the other extremity, the broken elements from Class IV represent those bones not buried by the cyclic events but exposed over a long period, suffering weathering and reworking by factors like trampling and scavenger activity. The study of selective transport (Voorhies Groups) of bone elements from dicynodonts and rhynchosaurs (the most representative groups of the Triassic herpetofauna) revealed that the hydraulic selection by current water was not important as a factor of disarticulation and scattering, although it occurred in some sites.

The computation of the fossil recuperation rate showed that, in a general way, the preservation is low and that there is a preservation bias against skulls (super-represented in the collection) and vertebrae (sub-represented).

The analysis of the size classes of the Triassic reptilian remains (taken as analogous to age classes) showed a distribution very similar to that exhibited by living communities, what indicates that small (= young), intermediate and huge (= old) individuals were buried together in a proportion which approximates the distribution pattern of a living population. This is taken as an evidence of catastrophic rather than attritional death.

Data from the author were integrated to other obtained from the literature, in order to draw a paleogeographical characterization of the southern Brazilian Triassic. This study permitted the elaboration of a regional climatic curve, and also revealed that the appearance of the different Local Faunas is correlated to important eustatic falls and coastal onlap migration registered for the global Triassic. This phenomenon is preliminary explained and commented on.

By bringing together all the stratigraphical, paleontological and taphonomical data, the modelation of the taphonomic history was made possible.

This model postulates a multi-episodic history of catastrophic death and rapid burial of complete carcasses caused by periodic floods, which alternated with periods of exposure of bone elements and little or no burial.

The analysis of the diagenetical aspects pointed out that the main agents of fossilization are calcite (main component) and the iron oxides hematite and goethite (subordinate components). These minerals penetrate the vascular structure of the bones and the displacive nature of the calcite crystals breaks and expands the bone structure and modifies, sometimes almost completely, the macroscopic morphology and distinctive features.

Kellner, A.W.A. 1991. Pterossaura from Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1451

1991

Date of presentation:

Alexander Wilhelm Armin Kellner

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The thesis discusses all published pterosaur material that was found in Brazil to date. The description of some new specimens and the historical background of the study of pterosaurs in Brazil and abroad are presented too. In order to prepare some of the fossils studied, a preparation technique was specially adapted for the fragile pneumatic pterosaur bones. This technique is based on the already well known chemical method that uses organic acids. The results of the systematical analysis show that "Santanadactylus pricei" can be considered as a synonym of Araripesaurus castilhoi. Two other species are here restricted to their holotypes (Araripedactylus dehmi and Cearadactylus atrox). The validity of some previous classifications of Brazilian species relating them to Ornithocheiridae, Criorhynchidae and Dsungaripteridae are discussed. Several species are reassigned to Anhangueridae and Tapejaridae. Some other specimens that were attributed to already established species but lack diagnostic features that could support this classification are being considered Pteradactyloidea indet. The occurrence of pterosaurs in the Brazilian sedimentary basins is restricted to only two formations: Gramame (Pernambuco-Paraíba Basin) and Santana (Araripe Basin). The last one is being considered the world most important fossil site for those vertebrates known until now. This is due to the large quantity of pterosaur remains found therein and the unique preservation of them. The fact that pterosaurs are only reported from few localities can be justified by the lack of continuous collecting programs for fossil vertebrates. The possibility of new findings in other Brazilian formations, specially those of Cretaceous age, is being advocated. Some biological aspects of pterosaurs are considered; these strengthen the view that the best model for these vertebrates are certain groups of birds, although there might be some restrictions like, for example, terrestrial locomotion.

Lima Filho, F.P. 1991. Facies depositional environments of Piauí formation (Pensilvanian), Parnaíba basin. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2198

1991

Date of presentation:

Francisco Pinheiro Lima Filho

Advisor(s): Rocha-Campos, A.C.

Committee:

Subject of thesis: Sedimentology/Sedimentary Petrology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Lima Filho, M.F. 1991. Tectonic-Sedimentary Evolution of the Rio do Peixe Basin (State of Paraíba). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Rio do Peixe basin, Tectonic evolution, Lithic fill, Microfacies, Sedimentary environment

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 597

1991

Date of presentation: 30/1/1991

Mário Ferreira de Lima Filho

Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The Rio do Peixe Basin is located in Paraíba State, NE Brazil. The author's idea is that it was generated by crustal WNW-ESE stretching during Neocomian times with the operation of a transtensive regime. This field of stretching is related to the separation of the South American plate from the African plate. The Brazilian northern margin evolution started with the opening of a graben (Potiguar Basin), extending inland, and the generation of associated rifts located at the junctions of NE-SW faults with the E-W lineaments. The geometric pattern of the Borborema Province, marked by alternation of supracrustal and infracrustal blocks and cut by a NE-SW dextral strike slip fault system, suggest a tectonic evolution starting in the Precambrian.

The whole region was reactivated during the Cambro-Ordovician, with the deposition of molasses. The tectonic evolution continued with the continental plate separation during the three tectonic-sedimentary stages. The basin history starts in Late Jurassic with extensional WNW-ESE tectonic movements imprinting to the NE-SW faults an inflection at junction points of those faults generating transtensional subbasins. During the first evolving stage was generated a sigmoid shape basin, where medium to fine grained sediments deposited. At the second stage and under the same strain field the sigmoidal basin evolved to an area of rhomboidal shape. The depocenter of the subbasins started to migrate; the Triunfo subbasin to the SE and the Sousa subbasin to the NW. At the third stage, with a change in the strain field, the NE-SW faults were reactivated with dextral strike-slip movements, dragging the adjacent sediments. This tectonism influenced in the faciological distribution of the sediments in the basin, where were defined six facies in the fluvial environment with interior drainage, as well as Cambrian-Ordovician sediments.

Lima, C.C.U. 1991. Architectural reconstruction of Marizal formation (lower Cretaceous) in the Recôncavo basin, Bahia state, Brazil. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1302 1991 Date of presentation: 21/8/1991

Carlos C. U. Lima

Advisor(s): Vilas Boas, G.S.

Committee: Arno Brichta - IG/UFBA

José Maria Landim Dominguez - IG/UFBA

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

The Lower Cretaceous Marizal Formation which is a product of fluvial and alluvial systems, is about 50 m thick in the Recôncavo Basin, BA, Brazil. This formation changes gradually from conglomerates into sandstones and mudstones. The conglomerates have been subdivided into massive and stratified. The former includes Cmc (massive clast-supported conglomerates), Cma (massive sand-supported conglomerates), and Cmf (massive mud-supported conglomerates) lithofacies, all of them as a result of sediment gravity flows. The stratified conglomerates are represented by Cec (stratified clast-supported conglomerates) and Cem (stratified matrix-supported conglomerates) lithofacies. Both are result of longitudinal bars in shallow proximal rivers of low sinuosity. In respect to the sandstones, the main lithofacies are Aa (through cross-bedded sandstones), Ap (planar cross-bedded sandstone), and Ah (horizontal laminated sandstone). The Aa lithofacies is a product of dunes in channels about 3 m deep. The Ap lithofacies is a result of transversal bars and sand waves in shallow channels. The Ah lithofacies is a product of the upper flow regime during flood periods. Among the finer sediments, the most common lithofacies is Fm (massive mudstones), which is mainly a result of overbank deposits. Other lithofacies present are Ab (low angle cross-bedded sandstone), Ao (sandstone with ripple marks), Fl (finely laminated siltstone), and Ahi (sandstone with irregular horizontal lamination).

The presence of good continuous outcrops was essential for the architectural element analysis. This method was used to subdivide the fluvial deposits into one or more sets of eight basic three dimensional architectural elements. These elements were identified according to their lithofacies assemblage, internal geometry, and the nature of the upper and lower contacts. Through the study of the outcrops within proximal regions the SG (sediment gravity flows) and GB (gravel bars and bedforms) elements were identified. Within the distal regions the predominant elements were SB (sandy bedforms), LS (laminated sand sheets), DA (downstream accreted macroforms) and less frequently, CH (channels) and LA (lateral accretion deposits). The OF (overbank fines) element was identified in both proximal and distal regions.

The distribution of these elements reveals two distinct domains within the Marizal Formation depositional model. The first domain represents proximal low sinuosity gravelly rivers associated with sediment gravity flows. The second domain is a result of shallow wide river channel depositional model, with sand bed load and low to intermediate sinuosity. The LS local accumulations are an evidence of arid to semi-arid climates during deposition of the sediments. The channel morphology, as well as, the type of bed load were influenced by tectonic events, which are proven in the outcrops by several sin-depositional faults and penecontemporaneous deformation structures.

Luchesi, I. 1991. Petrogenetic and metallogenetic evolution of the Serra da Boa Vista range, Quadrilátero Ferrífero - MG state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 220 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1261 1991 Date of presentation: 23/8/1991

Ivanir Luchesi

Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis: Geochemistry and Petrology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Ludka, I.P. 1991. Geology, petrology and geochemistry of the Jacutinga-Torre intrusive complex, Mimoso do Sul, ES. MSc Thesis, Departamento de Geologia, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 998

1991

Date of presentation:

Isabel Pereira Ludka

Advisor(s): Wiedemann, C.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

A small portion of the Ribeira Mobile Belt (Brasiliano/Panafrican in age) was studied in detail by focussing the Jacutinga-Torre Intrusive Complex in the neighbourhood of Mimoso do Sul in southern Espírito Santo. Geological mapping (1:25.000) of the intrusive units as well as of their enclosing rocks revealed three individual magmatic bodies: the Torre, the Jacutinga and an orthogneissic unit of regional expression. The Torre unit comprises three roughly concentric domains of melanocratic to leucocratic igneous rocks, grading from diorites to quartzmonzonites, with the predominance of monzodiorites and monzonites. The Jacutinga unit comprises meta-gabbroic rocks and is separated from the Torre intrusion by a string of orthogneissic rocks, that, on the other hand, seem to be intimately related to the meta-gabbroic rocks of Jacutinga. The enclosing rocks to this sequence consist of migmatitic banded gneisses associated with sillimanite-quartzites. The schistosity of these banded gneisses is sub-horizontal near the city of Mimoso do Sul, turning to sub-vertical around the contacts of the intrusive Torre structure, where it dips towards its center. A migmatitic ring (granitization ring) grading to a diatexite of leuco-granitic composition characterizes this border region. The Torre intrusive body shows an inversed zoned diapiric structure, with sub-vertical dipping flow structures, grading from a centimeter to a meter scale. Igneous lamination as well as bedding can be clearly observed. The predominant minerals are mesoperthite (K-feldspar and plagioclase An25-35 intergrowth) plagioclases An25-35, microcline, titaniferous biotite, Fe-augite and hypersthene. At the border plagioclase and microcline occur as separated phases. The microcline is only found at the external domain. The clinopyroxenes (calcium-rich Fe-augites) are restricted to the two inner zones. They are replaced by amphibole at the external zone. Orthopyroxene (hypersthene) may be locally found in the internal zone. Geochemical analyses on whole rock samples of the Torre intrusive show high K contents and a very low Rb/Sr ratio, due to the high Sr content. These rocks show calc-alkaline-monzonitic (high K) to alkaline trend. Two genetic hypothesis for the magma generation are discussed: diversification from one parental magma or homogenization of two parental magmas followed by diversification. The age of the massif (490 My., U-Pb in zircon, SOLLNER, pers. com.), associated with the alkaline tendency showing by these rocks, points towards the magmatic-arc maturation, in a distensional tectonic phase. The meta-gabbroic body of Jacutinga comprises gabbro-noritic rocks. The rock composition is variable, grading from very fine grained melanocratic meta-gabbros up to coarse-grained leucocratic meta-gabbros. This suggests an internal structure similar to that of the Torre intrusion. Almost all these Jacutinga rocks show a primary mineral orientation. Despite of these preserved igneous structures, some metamorphic features are observed: hornblende poikiloblasts (evolved from the original minerals), garnet (occurring along fractures) and corona structures (olivine-plagioclase contacts). The metamorphic effects changed the chemistry of these rocks, leading to an open system, with water supply and a probable contamination and mobilization of some elements (Na, K, Rb, Sr). Nevertheless a tholeiitic trend of the original magma can still be recognized.

Machado Jr, D.L. 1991. Geology and metallogenetic aspects of the Catalão Alkaline Carbonatitic Complex (GO state). MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1730

1991

Date of presentation: 4/12/1991

Delzio de Lima Machado Jr

Advisor(s): Chouduri, A.

Committee:

Subject of thesis: Metallogenesis

State: GO 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

The Alkaline-Carbonatite Complex is one of the late cretaceous igneous complexes situated in Southeastern of Goiás State, and Western of Minas Gerais State region, known by Alto Paranaíba Province. This Province is characterized by petrologic association with kimberlite and related rocks and by metallogenic relationship for niobium, phosphate, titanium and diamonds. Catalão II is a complex of central type that has been formed by rocks of mafic-ultramafic-carbonatite association generated in four main phases - Piroxenite Series, Slenite Series, Carbonatitic Series and Lamprophyre Series - that intruded and fenitized Proterozoic metasediments. Between Slenite Series and Carbonatitic Series is a singular magmatic stage represented by phoscorites. The Carbonatite Series is the most important, responsible for the increasing of the complex dimension. It is distributed in five well differentiated stages, which the first one is the protolite of a niobium mineralization located in a residual soil, like the others occurrences in the Alto Paranaíba Province.

Machiavelli, A. 1991. Deformed granitoids from Pien region (PR state): A probable magmatic arc of the new proterozoic. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 89pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1263

1991

Date of presentation: 11/11/1991

Adilson Machiavelli

Advisor(s): Basei, M.A.S.

Committee:

Subject of thesis: Geochemistry and Petrology

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

' -

'W

Abstract**Magalhães, L.F. 1991. The Córrego Geral-Meia Patoca thrust shear belt: Geology, deformation, hydrothermal alteration and associated gold mineralizations, Crixás, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.**

Instituto de Geociências - Universidade de Brasília

Reference: M070

DataBase Ref.: 130

1991

Date of presentation: 20/12/1991

Luiz Fernando Magalhães

Advisor(s): Nilson, A.A.

Committee:

Raul Minas Kuyumjian

- IG/UnB

Eduardo Antonio Ladeira

- IGC/UFMG

Subject of thesis: Prospection and Economic Geology

State: GO

1/1,000,000 sheet:

SD22

Centroid of the area:

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'W

Abstract

The Córrego Geral-Meia Patoca Thrust Shear Belt is an important feature of the northern part of the Crixás Greenstone Belt-Crixás Segment. It involves rock units corresponding to Rio Vermelho and Riveirão das Antas formations (Pilar de Goiás Group).

These rocks exhibit mineral and chemical composition of basic volcanics (tholeiitic metabasalts) and immature sediments (metagraywackes) as well as deformation and hydrothermal alteration, metamorphic features in the chloritic, carbonitic, sericitic and mylonitic lithotypes.

As a consequence of deformation and hydrothermal alteration, metamorphic mineral parageneses show spatial juxtaposition of facies corresponding to regional metamorphism (epidote amphibolite and greenschist facies) with retrogressive (greenschist facies) and dynamic progressive metamorphism (epidote amphibolite facies).

The Thrust Shear Belt is related to the development of the second deformation phase (D2) upon a pre-existing S1 surface which is subsequently deformed by a later deformation phase D3. Phase D2 is represented by simple shear, brittle-ductile deformation yielding mylonitic foliation (S2) and stretch lineation (Lx2). These features suggest the existence of two structural domains, namely a frontal ramp and an oblique-lateral ramp. The development of more than one thrust plane resulted in thrust slices in an imbricate sequence of overstep type. The stretch lineation (Lx2) and other thrust features suggest tectonic transport from west to east, during D2.

Two hydrothermal alteration events are described in association with different deformation phases. The first alteration event is related to D1 and consists chiefly of carbonation and subordinate sericitization, silicification and Fe-metasomatism. The second one is associated with D2 and is represented by sericitization accompanied by sulphidization, with CH4 (as carbonaceous matter) and gold precipitation. These reactions yielded lithotypes corresponding to units B and C, respectively, as well as significant chemical mobility of several elements.

Gold mineralization is responsible for the most important economic metal concentration in the region. It is hosted in sericite mylonite and carbonaceous mylonite-ultramylonite. Orebodies are oriented parallel or subparallel to the direction of stretching (Lx2) or are folded, the fold axes being oriented close to the same lineation. Gold is associated with arsenopyrite, pyrrhotite, pyrite, ilmenite and chalcopyrite. Mineralization is considered epigenetic, being related to the second deformation phase (D2) and second hydrothermal alteration event (sericitization) when metamorphic conditions were of epidote amphibolite facies, corresponding to the metamorphic peak in the region.

Maia, H.N. 1991. Geometric-structural characterization of the gold veins of the Fazenda Maria Preta mine area, Santa Luz (BA). MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 963

1991

Date of presentation: 23/8/1991

Heitor Neves Maia

Advisor(s): Davison, I.

Committee:

Maria da Glória da Silva

- IG/UFBA

Mário C. Reinhardt

-

Subject of thesis: Metallogenesis and Mineral Exploration

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The presents study was carried out at the Fazenda Maria Preta gold mine (Antas I, II, e III targets), which is situated in the northeastern portion of Bahia State, in the central-northern portion of the "rio Ipapicuru" Greenstone Belt.

The lithological types are represented by metasediments, meta-andesites, meta-diorites, meta-dacites and "breccias", with graphitic meta-tuffs interlayered in the metasediments and meta-andesites.

Three tectonic deformational phases partially or totally affected the lithologic sequence in the area. They are recorded as: (i) a simple shear deformation, which took place on a local scale, along particular rock units or along the contact between rock units; (ii) a folding event responsible for asymmetrical folds verging eastward, which folded less competent lithologies (metasediments, meta-andesites and graphitic meta-tuffs) and generated an axial planar foliation; and (iii) a faulting event, which developed north-striking faults.

The ore bodies lie along the shear zones and are composed of a set of quartz-carbonate veins. The large volume of veins located in these shear zones promoted a silicified and/or bleaching appearance in the flanking rocks. The large permeability of the shear zones made it easy the percolation of gold-bearing mineralizing fluids, which were deposited as veins and hence defining the ore bodies.

The geometric-structural analysis of 13,665 veins deposited along the shear zones or away from these disclosed significant differences in terms of length, thickness, length/thickness ratio and the angle between the veins and the foliation of the enclosing rocks. These differences are related to the response of the flanking rocks to the stress field, as a function of the anisotropy and heterogeneity of the enclosing rocks and also of the presence of fluids during the shearing deformation.

Those veins emplaced in the rocks affected by shearing outnumbered the veins emplaced in the rocks not affected by shearing (80% versus 20%). The structural features revealed that 75% of the veins were emplaced forming an angle 0o to 10o with foliation of the enclosing rocks. Among these 75%, an overwhelming proportion (78%) makes a low angle (from larger than 0o up to 10o), whereas a minor proportion (22%) parallels the foliation.

Maniesi, V. 1991. Petrology of the diabase sills from Reserva and Salto do Itararé (Parana state). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 647

1991

Date of presentation: 10/10/1991

Vanderlei Maniesi

Advisor(s): Oliveira, M.A.F.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The Reserva and Salto do Itararé sills, Paraná State, Brazil, are intruded paleozoic sedimentary rocks of the Paraná during the Juro-Cretaceous basaltic flood volcanism. They belong to the de Ponta Grossa Arc, one of them (Reserva sill) in the central axial zone, and the other one (Salto do Itararé sill) in the northern zone.

Thickness of the intrusive bodies is variable. Reserva sill is near 200m thick, and the Salto do Itararé sill is near 100m thick. The sills have been intruded by dikes with NW-SE preferred direction, and up to 300m of apparent thickness.

Lithologies are made up of plagioclase, pyroxenes (augite and pigeonite), with less amounts of opaque grains, apatite, quartz, olivine, zircon and secondary minerals. They vary from olivine diabase to granophire.

The higher levels of the sills have abundant pegmatoid material, distributed into interstitial positions and veins.

Reserva and Salto do Itararé sills are chemically composed of subalkaline basalts, lati-basalts, andesi-basalts, andesites, lati-andesites, dacites and rhyolites.

The tholeiitic nature is shown by the coexistence of modal augite and pigeonite, the relatively low alkali/silica ration, the presence of normative quartz and hiperstene and, although not pronounced, the enrichment of F(FeOt) related to A(Na2O + K2O) and M(MgO).

Mass balance calculation indicates the possibility of fractional crystallization process to explain the evolution of the different basic and intermediate lithotypes. However, the transition from the intermediate to acid composition in the Reserva sill cannot be explained by this means. The suggestion is that, in accordance with petrographic aspects, the acid term is not only an initial residual liquid, but a liquid related to mineral phases in disequilibrium, incorporated by some mechanical process during its migration to lower pressure sites.

Comparison of chemical composition of Reserva and Salto do Itararé sills and volcanics of Paraná Basin, show, in a general way, a strong similarity of the sills with high titanium (TiO2) basalts from the northern part of the basin.

Manzini, F.F. 1991. The cretaceous in the Monte Alto region, state of São Paulo. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 642

1991

Date of presentation: 22/3/1991

Flávio Fernando Manzini

Advisor(s): Fúlfaro, V.J.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

In spite of the existence of many studies on Bauru Group, many questions remain unsolved, such as the tectonic-sedimentary aspects printed in the superior units of the group and post-depositional tectonic events. These aspects are very expressive in Serra do Jaboticabal, region of Monte Alto, State of São Paulo, showing a block faulting system associated with post-depositional intrusive magmatic manifestations, responsible for the actual morphology of the area. Columnar and geologic sections were used to identify and delimit the exposures of Adamantina and Marília formations of the Bauru Group, its tectonic-sedimentary framework, besides promoting the structural interpretation of said region. This paper shows that Marília Formation requires more detailed regional studies in the State of São Paulo and Triângulo Mineiro, State of Minas Gerais, because it is difficult to correlate hereby obtained data with those already available in publications on this unit in the other areas where their sediments are exposed, usually very general in their descriptions or with local validity.

Martins, E.S. 1991. Mineralogical behaviour of gold in the weathering profiles of phyllites and the geomorphology of the Luiziania, Goiás state, and Paracatu, Minas Gerais state, regions. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M067

DataBase Ref.: 127 1991 Date of presentation: 10/5/1991

Eder de Souza Martins Advisor(s): Leonardos, O.H.

Committee: Bhaskara Rao Adusumilli - IG/UnB
Sônia Maria Barros de Oliveira - IGc/USP

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W
GO

Abstract

This work is summarized by the study of morphologic gold particles behavior in weathering profiles over phyllites of the Luziânia, GO, and Paracatu, MG, regions. These profiles developed in neogenic planing surfaces characterized as etchplains (surfaces 1 and 2), in which cavernous and nodular laterites and subsurficial crusts (ferruginous phyllite), and pediplains associated with lateritized colluvium and alluvium. Gold particles in saprolite and cavernous laterite show dissolution features that increase to the top. Cortex botrioidal and crystalline gold may be observed in gold and pyrite surfaces and in the fractures of quartz veins. Dissolution features in gold from nodular laterite are less evident, being the particles secondary spheric gold with spongy surfaces, free and botrioidal over the Fe-oxihydroxides surfaces. In the lateritized colluvium and in the ferruginous phyllites, the secondary gold is lamellar, dendritic or not, and filamentous, originated from substitution of biological rests closely associated with Fe-oxihydroxides. Thin striae surfaces occasionally occur, demonstrating a multiphase colluviation in the lateritized colluvium. A grain size reduction may be noted, product of corrosion, as well as secondary cylindrical gold with spongy surfaces in the stone line profiles. Recent alluvium are associated with gold particles, proximal and distal from the known mineralizations. In conclusion, colloidal chemistry has a major importance in the mobilization, transport and deposition of gold in the supergene environment.

Martins, G. 1991. Petrological and geochemical characterization of the Rio Ceará-Mirim mafic dikes swarm. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 125 pp

Instituto Astronômico e Geofísico - Universidade de São Paulo

Reference:

DataBase Ref.: 1055 1991 Date of presentation: 16/12/1991

Guttenberg Martins Advisor(s): Melfi, A.J.

Committee:

Subject of thesis: Petrology

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

Massoli, M. 1991. Relationships between the crystalline basement and basal sediments of Itararé sub-group in the Sorocaba-Salto de Pirapora region - SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 94 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1143 1991 Date of presentation: 11/4/1991

Marcos Massoli Advisor(s): Petri, S.

Committee:

Subject of thesis: Stratigraphy

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Meireles, A.J.A. 1991. Geologic-Geomorphologic Mapping of the Coastal Quaternary of Icapuí, Extreme East of the State of Ceará. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp. Quaternary, Sea-level variations, Coastal plain, Environmental geology, Environmental impact, coastal management

Advisor: Paulo da Nóbrega Coutinho

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 600

1991

Date of presentation: 8/8/1991

Antônio Jeovah de Andrade Meireles

Advisor(s): Coutinho, P.N.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The present study was effectuated with the purpose to characterize the paleogeographic evolution of the Icapuí coastal plain, in the far east of Ceará state, and to give a contribution to the project "Global Reconnaissance of Coastal Depositional Systems". Various aspects about sea level oscillations and the reconstitution of ancient Quaternary marine terraces have been focused.

Two marine terrace levels have been determined. The first is of Pleistocene age, has a medium height of 7 m above of present sea level and is found at the foot of dead cliffs in the more inland part of the plain. The second Holocene terrace shows an average height of 4 m, occupying a great part of the region. In this lower terrace at 1 km distance from the beach, rests of bivalve shells, coral pebbles and vermetid tubes have been found, giving evidence of an upper backshore beach facies. In the Pleistocene terraces, the calcareous sediment part was probably dissolved by humic acids. Associated to these terraces fluvial-lagoonal, estuarine, mangrove swamp and dune deposits developed. Their morphological and sedimentological characteristics have been presented. The deposits were put in a regional context, and a basic paleogeographic evolution model was established, controlled by transgressive-regressive events which took place during the Quaternary. The study provided subsidies for a more detailed coastal management plan and more specific information for an appraisal of environmental impact on coastal areas.

Mello, E.F. 1991. Structure and mineralization of the Ibiajara gold deposit, BA state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1163

1991

Date of presentation:

Edson Farias Mello

Advisor(s): Pires, F.R.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: BA 1/1,000,000 sheet: SD23

Centroid of the area: ' - 'W

Abstract

The area under study corresponds to a gold prospect with an oxidized ore zone which covers an area with, at least, 1000 m-long, along the strike for about 180 m width. The plane table mapping of the area aimed to represent the orebody zone, trenches, diamond drill holes and to locate samplings and Key-spots structure. Two deformational events are reported which occurred in the area. D1 (Transamazônico)-event is defined by a penetrative axial foliation (S1), which is concordant with the preferential orientation of the lithological contacts, approximately around the azimuth 235° with steep dips, and tight, isoclinal folds. The S1-foliation is folded, transposed and reoriented by a brittle-ductile dextral shear zones (S2) with preferential orientation around the azimuth 258° with steep dips, tectonic transport is supposed to have taken along the azimuth 290° with dips around 60°, corresponding to the D2-event (Espinhaço). These surfaces (S2) can be evolved to a mylonitic foliation. Stretching and crenulation lineations, boudinage and indicative microtextures shear zones are characteristics of the D2-event. Ore zones which are altered to more than 150 m - deep correspond to hydrothermal metamorphogenic lodes, hosted in granitic schist, and consist of: (1) magnetite-quartz massive to banded ore and are related to basic intrusives; (2) pyrite-magnetite massive to banded ore; (3) quartz-siderite-sulfide veins with massive sulfide portions; (4) disseminated sulfide in hydrothermal alteration zones, characterized by chloritization, sericitization, carbonatization, tourmalinization and piritization, with abundant chloritoid. Ore minerals are represented by pyrite, magnetite, chalcopirite, pyrrhotite, and arsenopyrite, cobaltite, glaucodot, native bismuth, bismuthinite, sphalerite and subordinately rutile. Gold occurs mainly in the banded, massive pyrite-magnetite ore, quartz-siderite-sulfide veins and zones of hydrothermal alteration. It may occur as native gold, electrum, either with palladium or native bismuth, included in pyrite, arsenopyrite or chalcopirite.

Menegasse, L.D. 1991. Hydrogeologic study of metasedimentary rocks of São Roque group at NW of Grande São Paulo region: Criteria for the location of deep wells. MSc Thesis; Institute of Earth Sciences,

University of São Paulo, São Paulo, 104 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1262 1991 Date of presentation: 10/10/1991

Leila Nunes Menegasse Advisor(s): Duarte, U.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Menegon, V.A. 1991. General aspects of the Irati formation limestones quarries and geotechnical characterization of the waste disposal in the Rio Claro-Piracicaba region, state of São Paulo. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 655 1991 Date of presentation: 5/7/1991

Valquíria dos Anjos Menegon Advisor(s): Campos, J.O.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The general aspects of limestone (dolomite) mining at the Rio Claro and Piracicaba areas were described, outstanding the mining waste geotechnical characteristics and its utilization.

Several regional nature aspects were researched, and technical aspects of the mining, some environmental impacts from it, and general forms to reduce them to a minimum were described.

A specific variety of mining waste, denominated in this paper as "Lajes", were studied and submitted to a sequence of geotechnical characterization tests. Durability, reactivity and petrographic analysis tests were carried.

The original soils from the mining areas were also submitted to a sequence of tests, like: physical indices, Atterberg limits and grain-size analysis.

An historical research was done about the mining waste and the limestones (dolomites) blocks ("lajs") uses in the region, as well about recent experiences on these materials utilization.

Same applications for the mining waste, not yet diffused in the region, were suggested.

Mesquita, M.J.M. 1991. Petrography of the deformed granitoids at the Canguçu Dorsal shear zone (Piratini/Quitéria, RS). MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 512 1991 Date of presentation:

Maria José Maluf de Mesquita Advisor(s): Fernandes, L.A.D.

Committee:

Subject of thesis: Geochemistry

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

The Canguçu Dorsal (CDSZ) is a sinistral transcurrent shear zone of crustal scale, with a NE trend. This zone has affected and controlled the emplacement of granitic rocks of Brazilian age.

The granitic rocks related to the CDSZ may be divided into pre, syn or tardi to pos-tectonic (D2).

The pre D2 metagranitoides, belonging to Canguçu Complex and Arroio dos Ratos Gneissic Complex, have calc-alkaline character and were deformed during the D1 tangencial regime with a E-W translation direction of rocks masses. That is characterized by dextral sense of movement. Linear D1 structures include stretching and mineral lineations and fold axes with L-W to NW preferential orientation, and low plunge. Microstructural evidence of crystal plasticity, as subgrains and new grains in feldspars, shows that D1 deformation occurred in metamorphic conditions equivalent to amphibolite facies.

The syn-D2 (CDSZ) metagranitic rocks are calc-alkaline to high-K calc-alkaline and peraluminous (Quitéria and Arroio Francisquinho, respectively).

The pre and syn-D2 metagranitic rocks present an early homogenous mylonitic foliation and are cut by several late discrete shear zones (D2), that produce protomylonites, orthomylonites and ultramylonites. The change in feldspar behavior, from ductile to brittle, and the formation of a metamorphic-hydrothermal mineral assemblage composed of albite, epidote, white mica, biotite and/or chlorite demonstrate that this tardi-D2 deformation took place under predominantly retrogressive conditions (green schist facies).

Miltzarek, G.L. 1991. Organic petrography and geochemistry of the coal beneficiation fractions of the Faxinal coalfield, Arroio dos Ratos, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do

Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 514

1991

Date of presentation:

Gerson Luís Miltzarek

Advisor(s): Corrêa da Silva, Z.C.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

'W

Abstract

The results of petrographic and geochemical studies of the coals from the Faxinal Coal Field, Arroio dos Ratos, RS, are presented. The analyzed samples were obtained from the washery at the Faxinal Mine, where they underwent two beneficiation process: Jigging and Sink-Float.

The petrographic study comprised vitrinite reflectance measurements, maceral, microlithotype and mineral determinations, proximate analysis (including ash, volatile matter, moisture and fixed carbon), sulfur and calorific value determinations.

The geochemical analysis comprised total organic carbon determination, pyrolysis, extractable organic matter, liquid and gas chromatographic separation, terpane, esterane and stable carbons isotopes.

The coals present a predominance of vitrinite and inertinite over liptinite. Vitrinite tends to concentrate on the lower density fractions, whereas inertinite and minerals concentrate on the higher density fractions. The amount of minerals increases with increasing density. Liptinite concentrate on the fractions +1.5-1.6 g/cm³ of the ROM coal, the washed coals (CE 4,700 and CE 3,100) and of the refuses, and on the fractions +1.7-1.8 g/cm³ of the washed coals.

The variation on organic matter (vitrinite + inertinite + liptinite) of the ROM coal and the fractions of material not exceeding 0.5mm in diameter controls the volatile matter, moisture and calorific value, whereas ash content is controlled by the content of minerals. The contents of ash and mineral matter tend to increase on the higher density fractions, as opposed to organic matter, volatiles, calorific value and moisture, which concentrate on the lower density fractions.

The values of reflectance on ROM coal and jigging products had no significant change, what indicates the little influence of reduction of minerals in the reflectance of vitrinite in these fractions.

Integrated data of the different geochemical methods show the organic matter to be of low grade of coalification and of woody-plant origin. The extract composition demonstrates the organic matter to be of mixed type and highly influenced by algae and bacteria.

Gas chromatographic separation data show that paraffins present up to thirty carbon numbers, a high pristane/phytane ratio, and bimodal chromatograms, also suggesting a woody-plant origin influenced both by algae and bacteria.

The organic matter is also show to be of low grade of coalification by the final temperature of pyrolysis (less than 440°C), the small number of hydrocarbons, low values of (EO/COT), carbon preference index (CPI) different from 1.0, high P/n-C17 and F/n-C18 ratios, the presence of less stable compounds, and the low values of C31 (22S/22R) and C32 (22S/22R).

In order to choose the correct method of beneficiation it is necessary to consider two main factors: the use of the beneficiated coal and the economical aspect. The detailed study of the samples which underwent the Jigging and the Sink-Float Beneficiation Processes is an auxiliary tool.

Miotto, S.L. 1991. Geological-geotechnical parameters for cementeries location. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 654

1991

Date of presentation: 29/6/1991

Sebastião Luiz Miotto

Advisor(s): Cottas, L.R.

Committee:

Subject of thesis: Geosciences and Environment

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Among recent preoccupations with environmental impacts produced by man, there is one potential source of contamination risk - the cemeteries - which is of interest to some areas of human knowledge. Until now, there are a few studies and discussions about them, despite the possibilities of causing damages to the environment, mainly to the underground water, through the action of pathogenic microorganisms coming from the corpses decomposition.

The purpose of this work is to point out which are the main aspects of the mentioned problem - that is the safe localization of cemeteries - and to present in systematic order, the important steps to reach that purpose, through structuration of the different parts of the methodology.

The chapter "soil-water system" contains the conceptualization of soil, its constitution and shows the soil underground water - contaminants interaction.

The chapter "Pathogenic aspects from necrobiosis in the soil-water system" presents a general explanation about corpses decomposition, its agents, the consequences of necrobiosis on that system, characterizing the cemeteries as a source of contamination.

As a conclusion the chapter "Suitability of soils in the areas designed to the installation of cemeteries", suggests an adequate methodology to that objective, through the mapping of geologic-geotechnical aspects to the practical purpose of this work.

Neumann, V.H.M.L. 1991. Geomorphology and Quaternary Sedimentology of the Suape Area (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Quaternary, Geomorphology, Sediments, Facies analysis

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 598 1991 Date of presentation: 6/3/1991

Virgínio Henrique de Miranda Lopes Neuman Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Geomorphological-sedimentological studies and a geological mapping (scale 1:25,000) were carried out in the Suape area, Pernambuco coastal region, 40 km S of Recife. Conclusions on the Pleistocene to Holocene paleogeographical evolution and physiographical-sedimentary modification have been presented. Field, laboratory and bibliographical research have been effectuated. A geological mapping through orthophotochart analysis, aerial fotointerpretation and sample collection have been made, permitting to classify the Suape area in geomorphological units: 1) the rounded hills with heights between 40 and 80m, concentrated in the north, northwest and centre-west area; 2) colluvium ramps, bordering the hills; 3) coastal plain, extending all along the coastline in a belt 5 to 10 km wide, divided in fluvial and marine terraces, revealing the paleogeographic evolution in two glacio-eustatic fluctuations, during the Pleistocene-Holocene, besides the mangrove swamps and recent beaches. Tidal cycle alternations due to anthropic actions (harbour construction) have been observed influencing the physiographic and depositional aspects of the recent sediments. All coastal plain geomorphological features showed the characteristic cumulative size frequency curves for their respective environments, besides presenting similarity among them, showing a possible same origin (Cabo Formation?).

Neves, P.C.P. 1991. Palynology of sediments from a tropical swamp forest in Terra de Areia, northern coastal plain, Rio Grande do Sul, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 825 1991 Date of presentation:

Paulo César Pereira das Neves Advisor(s): Lorscheitter, M.L.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

A palynological study of sediments from a tropical swamp forest was carried out to obtain data on vegetational and climatic changes during the Upper Quaternary of the area. This forest is located in Terra de Areia, Northern Coastal Plain of Rio Grande do Sul, Brazil lat. 29°33'11"S; long. 50°03'03"W (core collection site), in a filled depression of an old Pleistocene beach ridge. Quantitative and qualitative analyses were carried out on palynomorphs of 23 samples, collected from the bottom to the top of the chosen sedimentary core.

The qualitative analysis revealed 98 palynomorphs: fungi (13), algae (8), bryophytes (2), pteridophytes (12), gymnosperms (2), angiosperms (53), besides others not so representative.

In the quantitative analysis the palynomorphs found were studied with the goal of paleoclimatic interpretations. For this purpose the method used was the pollen concentration and percentual.

Additional analyses were performed on lithology, radiocarbon dating and floristic analysis of the present forest.

The results obtained showed meaningful vegetational and climatic changes starting at the last stage of the Pleistocene glaciation (23,800 ± 500 years B.P.), also at the limit Pleistocene-Holocene (± 11,000 years B.P.) besides minor amplitude oscillations occurred during the Holocene (4,120 ± 90 years B.P.).

The present paper reinforces the author's belief in the Actualism philosophy in order to better understand the geological and biological phenomena acting during the Upper Quaternary in the Northern Coastal Plain of Rio Grande do Sul.

Oliveira Jr, T.R. 1991. Geology of the São Francisco craton far northeastern. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 962 1991 Date of presentation: 7/1/1991

Teobaldo R. Oliveira Júnior Advisor(s): Davison, I.

Committee: Herbet Conceição -

Mário C. Reinhardt -

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA 1/1,000,000 sheet: SC24

Centroid of the area: ' - 'W

Abstract

The studied area is located in the eastern most border of the São Francisco Craton in Bahia State, and has been subdivided into

two sections, namely Domains I e II.

Domain I occupies the western part of the border and comprises the Aporá-Itamira Shear Zone (ZCAI) and the Teotônio-Pela Porco Granitoid Suite (SGTP).

The ZCAI is one of the main megazones of ductile shear in the State of Bahia. This NE-SW trending structure is more than 10 km wide and 75 km long and has acted out as a zone of sinistral transcurrent shear to which shortening has been associated. It affects migmatitic gneisses, amphibolites and granitoids.

SGTP is composed of sin-tectonic to tardi-tectonic Transamazonian (1.8 Ga) tonalites-granites.

Domain II is next to the Atlantic shore and consists of a granitic-gneissic-migmatitic sequence of medium and high amphibolite facies intensively retro-metamorphosed to which is found relicts of granulite-facies rocks. This Domain underwent ductile deformation due to compressive events to which the sinistral transcurrent shear is related. Late shear discordant zones of local expression can be also found.

Brittle structures (faults and fractures) can be found in both Domains and their origin is related to the early ductile structure described.

The results shown up by research suggest a deformational pattern for this segment to which is directly associated transcurrent and compression. The ZCAI is compared as a late equivalent (Archean or Proterozoic) to great transcurrent faulting described on the borders of modern volcanic area or active continental margins, or otherwise ZCAI had worked out as a relief-zone resulting from the shock between two crustal blocks.

Geochemical data indicate calc-alkaline to slightly alkaline affinities for the ZCAI and granodioritic granitoids. The gneisses as well as the coastal-region granitoids have adamellite to granitic compositions and show alkaline affinities, while the amphibolites, have a tholeiitic nature. Certain geochemical data can lead one to suppose that most granitoids have shoshonitic affinities.

The overall geological trend in the area and in its surroundings show strong similarities with many gneissic-granulitic belts elsewhere. A geotectonic environment consisting of recrystallized supracrustal piles and active continental margin is preliminarily proposed here.

Oliveira, N.M. 1991. Mineralogical and geochemical characterization of the gold gossans in São Bartolomeu region (GO state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1071 1991 Date of presentation: 6/12/1991

Nelson Marinho de Oliveira Advisor(s): Oliveira, S.M.B.

Committee:

Subject of thesis:

State: GO 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Oliveira, S.F. 1991. Acrítarcae and prasinofitae of the Ponta Grossa formation (Devonian) in the northwestern flank of the Paraná basin. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2195 1991 Date of presentation: 1/7/1991

Sandra de Fátima Oliveira Advisor(s): Lima, M.R.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Otero, E.P. 1991. Reconstruction of the depositional architecture of a precambrian "erg" (Tombador formation - Chapada Diamantina group, Bahia state). MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1301 1991 Date of presentation: 19/8/1991

Emílio P. Otero Advisor(s): Dominguez, J.M.L.

Committee: Arno Brichta - IG/UFBA

Geraldo da Silva Vilas Boas - IG/UFBA

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The Tombador Formation (Chapada Diamantina Group) of Mid-Proterozoic age, was studied in detail along the eastern edge of the Chapada Diamantina, between the cities of Morro do Chapéu and Jacobina. Eleven (11) lithofacies were identified in this

formation, using a classificatory schem modified from Miall (1977). These lithofacies were grouped into five different lithofacies associations: (1) lithofacies association (Cma, Fme) - interpreted as colluvial deposits showing moderate degree of eolian reworking, (2) lithofacies association (Cma, Asa) - interpreted as alluvial fans (Cma) and deltas (Asa), (3) lithofacies association (Aaf, Apf, Fmf, Flf, Ahe, Abe) - interpreted as wadi deposits and eolian sand sheets, (4) lithofacies association (Ahe, Abe, Aee) - interpreted as a result of deposition in dry (Ahe, Abe) and damp (Aee) sand sheets, and (5) lithofacies association (Aae, Ahe, Abe) -- interpreted as the product of deposition associated with migrating dunes and draas merged with interdune deposits. These lithofacies associations allow the interpretation that the Tombador Formation accumulated in a major erg system. Paleocurrent measurements and the Three-dimensional distribution of the lithofacies associations point out to the existence of a wadi system flowing westwards in the Morro do Chapéu region. This system represented an entry axis of sediments to the basin, where they were later dispersed by wind action. These sediments were transported by the wind in the north direction (towards Jacobina), where they fed extensive dune fields (draas). The lithofacies associations also indicate that wet conditions prevailed during the deposition of the lower half of the Tombador Formation while a possible increase in aridity is recorded toward the end of the deposition of this formation. The lithofacies associations, its geographic distribution and geometry allowed the subdivision of the Tombador erg into two parts, the leading edge, termed fore-erg, characterized by interbedded fluvial (wadis) and eolian sand sheets deposits and the central-erg that reached major expression in the Jacobina region, characterized by draas in which crescentic dunes dominated.

Pereira, V.P. 1991. Rock alteration in the Anitápolis alkaline massif - SC. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 513

1991

Date of presentation:

Vitor Paulo Pereira

Advisor(s): Formoso, M.L.L.

Flicoteaux, R.

Committee:

Subject of thesis: Geochemistry

State: SC

1/1,000,000 sheet:

SG22

Centroid of the area:

' - 'W

Abstract

The alkaline massif of Anitápolis was dated in 130 millions of years. It has a semicircular area of 6 km², which is the product of many alkaline injections responsible for the fenitization of the granitic wall-rocks and for an autometassomatism where the end product results in rocks of the alkali-syenites, nepheline-syenites, ijolites and phlogopite-piroxenitic series distributed in concentric aureoles, where the most felsic terms are next to the edge of the body.

The hydrothermalism, a generator of an apatitic phosphate reserve with 320 millions of tons, has the principal concentration in the glimmerites and late veins wich followed by at least two carbonatitic generations prevailing the sóvitic terms.

The alterite profile developed on those rocks is little evolved, what hinders the existence of higher apatitic phosphate purports in this profile in relation to the inaltered rock.

In the alteration study of different minerals the micromorphologic aspects were analyzed trying to follow the chemical modifications with the evolution of supergenic processes. To do this, analyses were made by X-ray, infrared spectroscopy, scanning electron microscopy and the chemical analyses by EDS, X-ray fluorescence, atomic absorption, resonant nuclear reaction, ionic cromatography, neutron-activation, ICP and others.

The apatites were more deeply studied and the results of the analyses attested fluorine substitutions by oxidril and chlorine, the phosphate ion by carbonate and the calcium by many cations, emphasizing the rare earth elements which are enriched in the final phases, except for the carbonatitic apatites, originally poorer in these elements. The alteritic profiles are predominatly isalteritic and in some places there are aloteritic formations with dissolution and absolute accumulation zones.

As to the chemical modifications decurrent of weathering, it is possible to verify the mobility of Si, Ca, Na, K and Rb, while Fe, Mn and P tend to accumulate in the alterites.

The hydrothermal action remobilizes the Ca, P, Na and Sr and enriches the hydrothermalized facies with Ba and Fe.

The neoformations of clays with 2:1 and 1:1 types show a partial hydrolysis with mono and bisiallitisatation processes and a geochemical alteration of the ferrallitisation "sensu lato" and sialferrallitisation types.

The alteration profiles in Anitápolis are not more developed because the Pinheiros River takes the altered material out of the massif.

Perrotta, M.M. 1991. Alto Rio Grande belt in the South of São Gonçalo do Sapucaí region (MG state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 158 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1203

1991

Date of presentation: 7/6/1991

Monica Mazzini Perrotta

Advisor(s): Brito Neves, B.B.

Committee:

Subject of thesis: Tectonic and Structural Geology

State: MG

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

Pressinotti, M.M.N. 1991. Geologic characterization and genetic aspects of the type ball clay deposits of São Simão, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2196

1991

Date of presentation:

Marcia Maria Nogueira Pressinotti

Advisor(s): Melfi, A.J.

Committee:

Subject of thesis: Sedimentary Geology

State: SP

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Salamuni, E. 1991. Structural analysis of the Betara Nucleous (Rio Branco, Parana state). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pp.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 684

1991

Date of presentation: 17/12/1991

Eduardo Salamuni

Advisor(s): Wernick, E.

Committee:

Subject of thesis: Regional Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The "Núcleo Betara" is situated to the SW of the Rio Branco do Sul city (about 20 Km North of Curitiba) showing a roughly elliptical shape, trending NE-SW.

This paper describes the results of a litho-structural mapping with an area of 300 Km², which also includes an adjacent portion of the Votuverava and Capiru formations.

The core is an antiformal structure of more ancient rocks of the Setuva Complex, consisting by Betara formation, overlaying, and by Meia Lua Complex underlying. The NNW limit with Votuverava formation in made a short extension thrust zone, the Betara Shear Zone, of the low angle. The SSW limit the Capiru formation is the Transcurrent Shear Zone Lancinha-Cubatão, of the high angle, which is the more extensive linear structure of the region.

The map described in this paper shows that, in the Betara formation it is rather common the occurrence of the metavolcanic sedimentary sequence (clastic-chemical or pelitic-carbonatic), but also an occurrence of the iron formations and intrusive metabasites, besides of a stock granitic (Rio Abaixo Granite) with an exposition area of 1.5 Km², as well as basic dykes intruding NW-SE fractures, which direction is N400-600W.

The Meia Lua Complex is formed for genesis as rule derived of the sedimentary rocks, but also other types of rocks imbricates tectonically (quartzites and schists), characterizing a tecton-facies of Setuva Complex.

Three different important system deformation, that occurred progressively, affected intensely both the rocks of the Betara formation and the Meia Lua Complex.

Now-coaxial shearing event (low angle ductile to ductile-brittle deformation), originating thrust faults in several scales, commonly in shape of duplex. A typical mylonitic foliations occurs (S_n), or S-C mylonites, in almost all the lithologies. The probable tectonic transport was from NW to SE (or from WNW to ESE);

Late to this first system a generalized folding takes place, affecting in great scale the Betara antiformal structure, which axial inclination shows undulations to the NE and SW. In the geological map it is possible to see that this structure is a true anticlinorium including the subsidiary folds. There is no evidence of an pervasive axial-plane foliation. It is possible that this folding is related to the thrust system through a progressive deformation of the whole area.

The antiformal structure of the "Núcleo Betara" is a closed monoclinical fold, of inverse limb in its NE part, turning into progressively more open, with normal limb to SE. The vergence of the axial plane is SE.

The last deforming event, regionally important, is the transcurrent movement which produced a more brittle than ductile deformation, with production of local protomylonitic foliation (S_{n+2}) with lenticularization of high angle, that cut the surfaces anteriorly produced. Are also developed a stretching lineation (L_{n+2}), various style foldings and faults. Their lateral extension of the fault zone, as well as the anastomosing of its segments suggest its transpressive movement in the area. This movement originated the refolding or arching of the "Núcleo Betara", and caused rotation at the previous structures, too.

The trend of the main movement of the fault is dextral, with evidences of the sinistral movement.

Finally, a light undulation is associated to the transcurrent movement, with a normal dip to N-S. This feature affects all the above mentioned structures, and is detected in the structure stereograms and in some points of the geologic map.

Although registering a complex tectonism, rocks of the Betara formation preserve signals of primary structures that define an original surface denominated S₀, parallel or subparallel to the S_n. In the quartzites are observed, cross stratifications and anastomosed parallel plans. In the pelitic sediments there is granulometric gradation and in the carbonatic sequences occur bedding with composition differences.

The primary structures preserved in highly deformed zones, demonstrated the heterogenic character of the "Núcleo Betara" finite deformation.

The field data obtained permit to interpret an area as a product of a progressive deformation.

Santos, A.C. 1991. Hydrogeology and Hydrochemistry of the Fissural Aquifer of the Alto Pajeú Region, State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Hydrogeology, Fissural aquifer, Hydrochemistry, Geostatistics

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 554 1991 Date of presentation: 18/12/1991

Almany Costa Santos Advisor(s): Costa,W.D.

Committee:

Subject of thesis: Hydrogeology

State: PE 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

The study area with a surface of 4870 km², comprised within the upper course of the Pajeú river basin (centre-north of Pernambuco State), is totally placed in the semi-arid inland and therefore poor in water resources. The chief aim of this study is to define the more favourable zones for groundwater exploitation, as well as to establish the more representative parameter for evaluation and comparison of the well yields in fissural aquifers of the area.

Making use of data provided by specific bibliography and various publications about hydrogeology, hydrochemistry, geology, hydrology and climate of the study area, besides an assessment of tubular wells, specific studies were undertaken permitting the knowledge about physical realm (fissural aquifer) and hydrogeological features acting in the area.

Considering the great heterogeneity of the fissural aquifer and the great number of data (510 assessed wells), a mathematical-geostatistical treatment was applied. This procedure permitted to delimit zones with major potential well yield, of good quality water and adequate depth for major profit and low cost drilling, aiming an increase of water supply for the region, for human use and application in agriculture and cattle raising.

Santos,M.L. 1991. Paraná river channel bars facies and its evolution in the Porto Rico region, state of Paraná. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 656 1991 Date of presentation: 23/8/1991

Manoel Luiz dos Santos Advisor(s): Landim,P.M.B.

Committee:

Subject of thesis: Geosciences and Environment

State: PR 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Paraná river at Porto Rico (PR) presents a characteristic braided pattern with many islands and bars in its channel. The goal of this dissertation is to study the faciological association and geomorphological evolution of two distinctive bars - Porto Rico central channel bar and Mato Grosso lateral channel bar. Through the faciological parameters (body geometry, sedimentary structures, paleocurrents and organic sediment content) associated with the fluvial processes, some models for these deposits have been constructed.

The central channel bar has strong longitudinal asymmetry, with high dip angles in the foreset. It presents medium to fine sand (sometimes slightly coarse), with few amounts of silt sand and clay. The St facies (sand with cross bedding) is the most common in these kind of deposits.

The lateral channel bar is symmetrical in both longitudinal and transversal sections. It is composed of fine to very fine sand with high percentage of silt and clay. Its main facies are sand, presenting wavy and flaser structures (Sr.), and mud rich in organic sediments (FI and Fm).

The lateral channel bars are stable and tend to be annexed to the channel margins. The central channel bar is easily eroded and migrates down the river.

Sgarbi,P.B.A. 1991. Petrography and geochemistry of the Mata da Corda formation in the Carmo do Paranaíba region, MG. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 999 1991 Date of presentation:

Patricia Barbosa de Albuquerque Sgarbi Advisor(s): Valença,J.G.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This work focuses on relevant geological, mineralogical, petrographic and chemical features of the lavas and subvolcanic rocks of the Mata da Corda formation, as well as on the mode of occurrence and petrographic features of the volcanoclastic and epiclastic rocks of the same formation. The studied area, around 450 km², is situated near the town of Carmo do Paranaíba (western Minas Gerais state), being part of the Cretaceous Sanfranciscan basin. This basin, represented by the Areado and the Mata da Corda formations, is 500 m thick and unconformably overlies folded metapelites of the Upper Proterozoic Bambuí group. The Areado

formation (Lower Cretaceous) consists of fluvial polimitic conglomerates (Abaeté member), lacustrine shales, sandstones, limestones and marls (Quiricó member), and aeolian and fluvio-deltaic sandstones (Três Barras member). The Mata da Corda formation (Upper Cretaceous) overlies the latter formation, separated by local erosive unconformities. It comprises a 40 to 80 m thick pile of K-rich mafic to ultramafic alkaline lavas (Patos facies), volcanic conglomerates and sandstones (Capacete facies) and clayey sandstones with little volcanic contribution (Urucua facies). The lavas and non-volcanoclastic rocks have a larger spatial distribution and are volumetrically more significant than the volcanoclastic rocks. The lavas form small exposures (frequently, very weathered) of massive thin horizontal and subhorizontal, poorly-vesiculated flows (in places, individually, not exceeding 0,5 m thick). In some outcrops, the extrapolated thickness of a sequence of flows may reach 10 m. According to the IUGS classification (Streckeisen, 1980) the Mata da Corda lavas are ultramafites, mafites, leucitites and kalsilitites. These ultramafites and mafites have unidentified felsic phase(s) and estimated values (vol. %) of mafic index from 80 to 70 and 60 to 70, respectively; where as the leucitites and kalsilitites contain leucite (pseudomorphs) and kalsilite (pseudomorphs and fresh and clear grains), and get their names from that more abundant felsic phase. All these lavas are all feldspar-free, with plentiful abundant clinopyroxene (mostly, diopside), perowskite and Ti-magnetite, and show very fine to medium-grained porphyritic to seriated textures. An interstitial material is always present and often intensely altered to zeolites and clay minerals. In some rocks it has been determined as kalsilite based on electron microprobe analysis; but in other rocks this material could not be accurately identified and it has been modally considered as an unidentified felsic phase. The ultramafites and mafites are porphyritic to seriated rocks. The porphyritic types show phenocrysts and microphenocrysts (up to 20 vol. %, and 0,2 to 2,0 mm in size) of olivine (Fo91-84), clinopyroxene (diopside), perowskite, Ti-magnetite, melilite (euhedral and subhedral pseudomorphs), apatite and phlogopite (rarely, as 3,0 mm large plates). The very fine to fine-grained groundmass has clinopyroxene (diopside, up to 40%), Ti-magnetite, perowskite unidentified interstitial material, and may also contain minor amounts of phlogopite and apatite. The seriated types have coarser grains but are modally and mineralogically akin to the previous types. The leucitites and kalsilitites are very similar fine to medium-grained rocks, very frequently with a typical seriated texture. Some of them, however, may develop textures which resemble those of the ultramafites and mafites. Mineralogically, the leucitites and kalsilitites are similar to the latter groups of rock, with the exception that they contain leucite (subhedral pseudomorphs) and kalsilite (euhedral pseudomorphs and/or anhedral fresh grains). Both feldspathoids occur as essential phases in the seriated leucitites and kalsilitites or in the very fine-grained intergranular groundmass of the porphyritic leucitites. In these porphyritic rocks, these feldspathoids, in spite of being found in the groundmass, are absent from the phenocrysts and microphenocrysts, which consists of clinopyroxene (diopside to salite), Ti-magnetite, apatite and perowskite. The above mentioned rocks (usually, the fine-grained type) may contain scarce and small (mostly, <20 mm across) cognate inclusions of fine to medium-grained cumulate rocks, consisting of diopside, perowskite, Ti-magnetite, phlogopite and kalsilite. Most commonly, the inclusions are kalsilite pyroxenites, but more rarely, perowskite modally dominates and they become kalsilite "perowskitites". In both cases, kalsilite is an interstitial phase. Thirty one samples of the Mata da Corda lavas have been chemically analysed. These data indicate that the lavas are all ultrabasic. Fourteen of these samples, which showed more important signs of secondary oxidation and other kinds of alteration, were separated. The other representative rocks were subdivided in two groups (GI and GII), according to the K₂O/Na₂O and K₂O values. GI is potassic and has (WT%) SiO₂=38-42, TiO₂=5-7, Al₂O₃=5-8, Fe₂O₃=4-5, FeO=8-9, MgO=8-14, CaO=11-17, K₂O=1-3 and Na₂O>0-2; whereas GII is ultrapotassic, with (WT%) SiO₂=43-45, TiO₂=5-8, Al₂O₃=7-9, Fe₂O₃=3-4, FeO=7-9, MgO=8-9, CaO=8-12, K₂O=4-7 and Na₂O>0-2. (2) In the Na₂O+K₂O versus SiO₂ plot, the compositions delineate a trend from moderately (GI) to strongly (GII) alkaline. (3) The compositional spectrum of the lavas shows mainly non-linear variation trends of increasing SiO₂, Al₂O₃, K₂O, Na₂O, Nb, Zr and Y, and decreasing FeO, CaO, Cr and Co, with decreasing MgO. (4) Discrimination diagrams using SiO₂, CaO, MgO, and FeO (total iron) exhibit most lava compositions in fields of kamafugitic affinity.

Silva, F.O. 1991. Geology, structure, petrology and Fe, Ti and V mineralizations associated with the Santa Bárbara gabbro-anorthositic layered complex, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M064

DataBase Ref.: 124 1991 Date of presentation: 29/4/1991

Francisco Oliveira da Silva Advisor(s): Nilson, A.A.

Committee: José Caruso Moresco Danni - IG/UnB
Leo Afraneo Hartmann - IG/UFRGS

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

The Santa Bárbara Complex, a layered and metamorphosed gabbro-anorthositic body was emplaced into tonalitic gneiss and leptynite country-rocks and is in tectonic contact with Araxá micaschists through a thrust fault indicating eastward mass transport. It was subdivided in (a) a gabbroic unit and (b) an anorthositic unit.

The gabbroic unit consists of metagabbros (clinopyroxene-plagioclase cumulates), metagabbro norites (plagioclase-clinopyroxene-orthopyroxene cumulates) and norites (orthopyroxene cumulates), with metapyroxenite and metanorthosite metric lenses. The anorthositic unit is made up chiefly of gabbroic metanorthosites (plagioclase cumulates) commonly displaying igneous layering in the form of alternating, pyroxenitic, gabbroic, and anorthositic cumulate layers usually with phase contacts. These rocks display coarse and pegmatoid grain size, as well as rare primary plagioclase grain orientation (igneous lamination). The gabbro-anorthositic rocks of both exhibit primary plagioclase of An₅₀-An₇₀ composition. Several vanadiferous magnetite tenses (magnetite-ilmenite cumulates) are associated with the metanorthositic portion of unit b.

Structures attributed to three deformation phases have been identified in the cumulates and country-rocks. The second phase is responsible for the allochthonous nature of the rock units. The rocks underwent amphibolite and locally granulite facies

metamorphism, followed by retrogressive changes to green-schist facies.

Harker diagrams and the distribution of incompatible element showed that the Santa Bárbara Complex rocks are genetically related through fractional crystallization.

Country-rock leptonites display incompatible element patterns (spidergrams) similar to those of felsic volcanic rocks. Tectonically emplaced ultramafic lenses within the country-rock show high MgO/FeO ratios and Cr and Ni values. They apparently bear no genetic link with the gabbro-anorthositic body.

In conclusion, rock geochemistry data suggest that the gabbro-anorthositic body was generated through magmatic fractionation process from a tholeiitic basalt parent magma of probable high alumina type.

Silva, L.C. 1991. Geochemistry, cartography and evolution of the depleted and non-depleted granulites from Bahia state. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M065

DataBase Ref.: 125 1991 Date of presentation: 6/5/1991

Luis Carlos Silva Advisor(s): Jost, H.

Committee: Reinhardt Adolfo Fuck - IG/UnB
Raul Minas Kuyumjian - IG/UnB
Mário Cesar Heredia Figueiredo - IGc/USP

Subject of thesis: Prospection and Economic Geology

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

Results of a lithostructural and geochemical study of the high-grade terranes exposed within the Itabuna and Ibicarai 30' x 30' Sheets, southeastern Bahia, are presented, and the petrogenetic processes responsible for the evolution of this crustal segment are discussed. Chemical and petrographic criteria to the discrimination of distinct granulitic associations are focused, specially with reference to the Itabuna and Jequié complexes. The Itabuna Complex is the most extensively exposed unit in the area and consists of acid to intermediate gray gneisses, with high Na/K ratio, and tonalitic-trondhjemitic-granodioritic (TTG) composition. They are in close association with basic gneisses, characterizing a bimodal suite. The basic component shows tholeiitic affinities and LREE enriched, similar to extracted from undepleted mantelic source(s). The chemical signature of the acid to intermediate gneisses is characterized by K, Rb and other incompatible elements depletion, specially REE in the trondhjemites, which also show strong positive Eu anomaly. The REE distribution pattern may be attributed to a two stages genetic process: tholeiitic oceanic crust generation followed by subduction, lexiviation and depletion of incompatible elements, subcrustal anatexis with formation of depleted TTG magmas, leaving behind garnet-hornblende-clinopyroxene rich residua. These bimodal association is interleaved with supracrustal aluminous garnet-sillimanite-hypersthene-cordierite gneisses ("kinzigites") besides marble, quartzite and banded iron formations and calc-silicate rocks. The aluminous gneisses (metapelites) suffered widespread anatexis under temperatures of 900-9500 C and pressures close to 8 Kbar, as deduced from some exotic parageneses preserved in the fusion residualite: sapphirine quartz orthopyroxene sillimanite. Textural and structural features in the supra and infracrustal sequences point to a complex deformational history and indicate that the protoliths were deformed and metamorphosed under one single, continuous and progressive event, controlled by ductile shearing associated with over thrust and decollement of lower crustal levels under granulite facies conditions, later retro-metamorphosed under amphibolite facies. The hypersthénitic orthogneisses from the Jequié Complex, meanwhile, exhibit predominantly granodioritic and granitic compositions and may be distinguished from the Itabuna orthogneisses its undepleted geochemical signature. The REE show LREE enrichment, strong negative europium anomaly, without depletion in HREE, typical of the late to post-Archean K-granitoids. Its genesis is best understood in an intracrustal context, through partial anatexis of the bimodal terranes similar to the Itabuna Complex, with later metamorphism in intermediate crustal levels. Some similarities of the Jequié gneisses and the K-orthogneisses from Madras, southern India were also stressed. One of the most interesting consequences of this petrological characterization is a possible inversion in the current popular model of Archean evolution of Bahia, by which the, Itabuna-Caraíba association would represent a pericratonic supracrustal mobile belt surrounding a supposed cratonic, infracrustal block (Jequié Complex). Other consequence is that the identification of primary controls for the elemental depletion in the Itabuna Complex, through the subcrustal two -stages process, minimizes the role of the granulitic metamorphism, while until now is considered the sole reason for depletion phenomena. Água Sumida gneisses have acid to basic chemical signature, restrict geographical distribution and a monzonitic to quartz-monzonitic petrographic composition. They are undepleted, with a strongly fractionated REE distribution pattern, extreme enrichment in the LREE, discrete negative europium anomaly and with an overall high-K calc-alkaline character, possibly linked to a metasomatized mantelic source. This late magmatic pulse signalizes to a tectonic regime inversion during the Early Proterozoic. Microstructural and petrographic complementary studies developed in the Caraíba Complex, in the northeastern region of Bahia (30' x 30' Mundo Novo and Serrinha Sheets), led to a good correlation of the Itabuna and Caraíba and stressed remarkable similarities of these terranes with the Archean gray gneisses from several cratons, especially the Lewisian Complex in Scotland.

Silva, S.M.P. 1991. Analysis and integration of geological, TM/LANDSAT-5 and aerogeophysical data in Irajai region (PE state) - NE of Brasil: An approach aiming applications in geological mapping and mineral prospection. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1341 1991 Date of presentation: 27/2/1991

Sebastião Milton Pinheiro da Silva

Advisor(s): Veneziani, P.

Committee:

Subject of thesis: Remote Sensing

State: PE 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

Silveira, J.S. 1991. Dynamics of sedimentation in a shallow old sea - Caboclo and Morro do Chapéu formations (Mesoproterozoic). MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1299 1991 Date of presentation: 7/6/1991

José S. Silveira

Advisor(s): Dominguez, J.M.L.

Committee: Geraldo da Silva Vilas Boas - IG/UFBA

Ubiratan Ferrucio Faccini -

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The detailed description of Caboclo and Morro do Chapéu Formations, in the Morro do Chapéu region, Bahia State, resulted in a better understanding of the dynamics of sedimentation in ancient shallow oceans dominated by storm and tidal currents.

The Caboclo Formation is composed of interstratified siltstone and mudstone layers in a shallow marine environment dominated by storm. In such environment, clouds of sediments evolved during thunder periods, traveling to distal portions of the shelf and were deposited in the form of lobes. Lobes deposition was oriented according to preferential feeding axes. These axes controlled thickness, geometry and sedimentary structures of siltstone layers (Sub-lithofacies S1, S2, S3 and S4). One complete siltstone layer exhibits diagnostic sedimentary structures resulting from combined unidirectional and oscillatory flows. In an idealized storm sequence the distribution from bottom to top is: tool marks, parallel lamination, climbing-ripple lamination in phase, hummocky cross-stratification, low-angle cross-stratification and wave ripples. High amounts of silt in mudstone (Sub-lithofacies L1 and L2) suggest that the particles were also transported under storm conditions and deposited soon after. Toward the top of the Caboclo Formation storm layers are thickens, culminating in tidal plains over shelf sediments.

The Morro do Chapéu Formation is composed at the bottom of fluvial systems which reworked the Caboclo Formation sediments. The other 2/3 top portions correspond to deposits associated with a large estuarine mouth affected by tidal currents and wave. These tidal currents shaped the sandy bottom in the form of sand waves in subaqueous dunes, periodically intensified during storm conditions.

Souza Filho, C.R. 1991. Gold genesis in Tinguá area shearing zone - Rio das Velhas Greenstone Belt, MG state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1725 1991 Date of presentation: 12/9/1991

Carlos Roberto de Souza Filho

Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The Tinguá area is situated in the Archaean Rio das Velhas greenstone belt the central-northeastern portion of Iron quadrangle.

The western portion of the studied area is composed of a E - W trending volcanic-sedimentary sequence (Tectonic Block I) build up of komatiitic metabasalts, metadacites and metaturbidites. On the eastern portion crops out a possible mafic-ultramafic volcanic sequence and a granodiorite of the Caete Complex, both displaying a N-S structural trend. This portion has been named Tectonic Block II, which has thrusted over Tectonic Block (para-autochthon domain) during the early Proterozoic Transamazonian Cycle. The main Tinguá gold mineralization are hosted by the komatiitic basalt sequence which is composed of interleaved ultramafic rocks and sediments highly hydrothermal altered by processes such as chloritization, sericitization, carbonatization and carbonization. Gold mineralizations are found in (i) quartz-carbonate-sulphide veins, with free gold, controlled by the foliations generated during a simple shear ductile deformation phase (epigenetic lode-type mineralization) and (ii) as replacement of carbonaceous metacherts with disseminated gold in sulphides (epigenetic stratabound-type mineralization). Both types are clearly controlled by deformation, paralleling the regional stretching lineation, and yielded gold deposition temperatures respectively of 394-425 C and 300-363 C.

Takiya, H. 1991. Application of spatial quantitative methods to geological data of the São Paulo basin. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2194

1991

Date of presentation:

Harmi Takiya

Advisor(s): Landim, P.M.B.

Committee:

Subject of thesis: Computation applied to geology

State: SP

1/1,000,000 sheet: SF23

Centroid of the area:

' -

'W

Abstract

Tommasi, A. 1991. Kinematic evolution of the Dom Feliciano belt during the Brasiliano cycle. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 516

1991

Date of presentation:

Andréa Tommasi

Advisor(s): Fernandes, L.A.D.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet: SH22

Centroid of the area:

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'W

Abstract

Kinematic analysis of key areas in the Southern Brazilian portion of the Brasiliano/Pan-Africano Dom Feliciano belt supported the establishment of the approximate evolution of the bulk displacement field for the orogen. The obtained kinematic pattern can be used to constrain geodynamic interpretations of this orogen.

Four key areas were selected as representative of the main lithotectonic assemblages of the Dom Feliciano belt, based on a preliminary tectonic model of a two-stage collision between the Rio de La Plata and Kalahari cratons (Tommasi & Fernandes 1990). This model consists of:

1. Collision between the Kalahari craton and an early magmatic association (AAM I) produced on the eastern margin of the Rio de La Plata craton by westward subduction of a Proto-Atlantic Ocean, resulting in the crustal thickening of these units.

2. This early collision has induced the closure of the back-arc basin, causing the development of a late magmatic association (AAM II). This convergence ended by the collision between the Kalahari craton - AAM I assemblage and the Rio de La Plata craton, promoting the tectonic incorporation of ophiolites (?) into the continental crust (AOM).

The orogen-parallel lithotectonic assemblages formed by this convergence consist of:

1. a "Magmatic Arc Assemblage I" (AAM I), typified by the earlier granitoids (orthogneisses and migmatites) of the Pelotas Batholith (sensu Fragozo Cesar et al. 1986), studied in the Quitéria-Capivarita and Piratini key areas;

2. a deformed back-arc basin, the "Marginal Basin Assemblage" (ABM) - cropping out in the Santana da Boa Vista key area;

3. an "Ophiolite-mélange Assemblage" (AOM), corresponding to the volcano-sedimentary and ultramafic sequences of the western part of the Sul-riograndense Shield;

4. a "Magmatic Arc Assemblage II" (AAM II), represented by the calc-alkaline magmatic association cropping out in the western Sul-riograndense Shield, both (AOM & AAM II) registered in Lavras key area and;

5. syn-collisional granites, which were emplaced during the orogen-parallel movement in the AAM I and ABM.

In the AAM I, km-thick, flat-lying mylonitic sequences with an E-W stretching lineation affecting orthogneisses and migmatites, under upper to middle amphibolite facies metamorphic conditions, were cut by NE-oriented strike-slip shear zones of upper amphibolite to middle/lower greenschist facies. This strike-slip deformation was mostly accommodated along two syntectonic granitic batholiths of calc-alkaline and peraluminous compositions in the Quitéria-Capivarita key area, whereas in the Piratini key area an extensive reworking of migmatites was observed. Thus, the kinematic evolution of the AAM I is characterized by an early tectonic transport transverse to the length of the belt along flat-lying shear zones (probably related to a crustal thickening episode), that is followed by an orogen-parallel movement along strike-slip shear zones with an important associated magmatism. The kinematic pattern of the AOM is specially well exposed in the Santana da Boa Vista key area. In this area, a periclinal structure resulting from late-stage folding puts in evidence flat-lying shear zones with NE-oriented stretching lineations that promoted the tectonic interleaving of supracrustal rocks with sheet-like granites and gneisses of the Transamazonian basement under upper amphibolite to greenschist facies metamorphic conditions. Therefore, the deformation in the ABM was dominated by orogen-parallel movement along flat-lying mid-crustal shear zones.

In the Lavras key area (AOM & AAM II), a calc-alkaline magmatic association (diorites, tonalites and trondhjemites) tectonically interleaved with peridotites (harzburgites) was recognized. The retrogression of the harzburgites to serpentinites and Mg-schists showing a flat-lying foliation characterizes the lowest metamorphic conditions of the shearing event (amphibolite facies), while an E-W-oriented mineral lineation (pyroxenes) and a sub-horizontal banding within more preserved lenses of harzburgites suggest an early high temperature (~900°C) lithospheric flow showing the same kinematic pattern for these rocks. These structures are reoriented next to NE SW and NW SE-oriented strike-slip shear zones functioning under greenschist metamorphic conditions. Thus, the kinematic pattern in the AOM & AAM II is characterized by high-temperature flow transverse to the belt, developed under decreasing metamorphic conditions, followed by movement in strike-slip shear zones parallel and at high-angle to the belt. Therefore, the kinematic evolution of the Dom Feliciano belt has started with a tectonic flow transverse to the belt under metamorphic conditions of upper to middle amphibolite facies, recognized only in the AAM I and probably associated to crustal thickening in this assemblage. This event was followed by partitioning of the deformation in orogen-parallel motions in the eastern, more internal domains of the belt and orogen transverse motions in western, more external domains. This orogen-parallel flow, developed under amphibolite to greenschist facies metamorphic conditions, was further partitioned in high (in the AAM I) and low angle shear zones (in the ABM).

Based on the evolution of kinematic pattern of the Dom Feliciano Belt, the following preliminary geodynamical inferences can be made:

1. The belt was formed by a collisional process between two continental plates: the Kalahari and Rio de La Plata Cratons, that

had a high (ca.90°) initial angle of convergence. This is suggested by the record of early movements transverse to the belt with no orogen-parallel movements associated.

2. The transition of an orogen- -transverse to an orogen-parallel motions regime in the late stages of the tectonic evolution of the eastern, more internal domains of the belt, suggests the effect of changes introduced in the mechanical system during its evolution, as the development of heterogeneities parallel to the plate limits induced by the convergence process itself (magmatic arcs, marginal basin ...), or an increase in the importance of the buoyancy forces due to the early crustal thickening preventing further orogen-transverse displacements.

3. The partitioning of the oro-gen-parallel motions in high and low-angle shear zones suggests a transgressional regime for this deformation.

Thus, the kinematic analysis can place some constraints on the geodynamic interpretations that, if integrated with data from other branches of the Earth Sciences, can be used to build a sound geodynamical model for the Brasiliano/Pan-African evolution of the Dom Feliciano belt.

Tosar, R.A.F. 1991. Mastigatory functional anatomy of Scaphonyx sulcognathus. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 823

1991

Date of presentation:

Richard Alfredo Fariña Tosar

Advisor(s): Barberena, M.C.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This dissertation deals with the masticatory functional anatomy of Scaphonyx sulcognathus Azevedo & Schultz 1987 (Reptilia; Rhynchosauridae) from Caturrita Fm., Late Triassic of Rio Grande do Sul, Brazil.

The teeth morphology is described; a reconstruction of the adductor musculature and a model for jaw elevation are proposed.

A theoretical (i.e. historical, logical and prospective) chapter on Functional Anatomy is included.

The results are compared with the already known model for Scaphonyx fischeri Smith-Woodward 1907, and the ecological implications are discussed.

A palaeoecological niche of relatively less herbivorous specialization, different from the "nut-cracker" adaptation of related species, is proposed. Accordingly, a less extremely arid environment is inferred.

Valadão, R.C. 1991. Dynamics of sedimentation and structural control in a longitudinal turbiditic system: The Bom Despacho turbidites. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1298

1991

Date of presentation: 2/4/1991

Roberto C. Valadão

Advisor(s): Dominguez, J.M.L.

Committee: Geraldo da Silva Vilas Boas - IG/UFBA

José M. Caixeta -

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SD24

Centroid of the area: ' - 'W

Abstract

High and low density turbidity currents played a fundamental role during the deposition of sandstone and siltstone beds of the Candeias Formation which outcrop next to the locality of Bom Despacho, Bahia State. Sedimentary structures are closely related to texture, so that four main lithofacies were identified in the investigated outcrop: (1) Conglomeratic-sandy Turbidite Lithofacies; (2) Sandy Turbidite Lithofacies; (3) Silty Turbidite Lithofacies; and (4) Argillaceous Lithofacies..

The reconstruction of the dynamics of sedimentation of the turbidite lithofacies indicates that low-density turbidity currents correspond to the most common sedimentation event, depositing sandstone layers below 20 cm thick. These include both the Sandy Turbidite and Silty Turbidite Lithofacies. High-density turbidity currents (Conglomeratic-sandy Turbidite Lithofacies) are the result of more localized events. However, these were responsible for the deposition of sandstone layers up to 50 cm thick. The turbidite deposition was in places marked by fluctuations in flow velocity, responsible for (i) repetition of Bouma Tb and Tc divisions within the same layer or (ii) repetition of division Tc also within the same layer. The Argillaceous Lithofacies represent the pelagic sedimentation. Millimeter thick argillaceous strata were deposited and occur interstratified with sandstone and siltstone layers. This relationship is suggestive of intense turbidity currents which frequently interrupted clay sedimentation. The analysis of paleocurrents data indicates that the tectonic framework of the Reconcavo Basin played a fundamental role during the accumulation of Bom Despacho turbidites. The main fault orientation in the basin (N30oW) was responsible for the development of NE/SW structural troughs which parallel the depocenter of the basin. Turbidity currents surging from NW reached these structural troughs and were then forced to change direction and flow southwestwards, building a longitudinal turbidite system.

In the Reconcavo Basin, the source area for turbidity currents is usually attributed to prograding deltaic fronts extending along a tectonic lake. Heller and Dickinson (1985) proposed a model of submarine ramp for the case in which submarine fans are fed by deltaic systems. Such a model can be applied to the Bom Despacho turbidites. However, the model envisages transversal

unidirectional turbidite systems in the construction of the submarine ramps. Such condition can not be confirmed for the Bom Despacho Turbidites, considering that these experienced a pronounced structural control during their deposition.

Valente, C.R. 1991. Use of remote sensing products with emphasis in tectonics and mineral prospection. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1342

1991

Date of presentation: 19/12/1991

Cidney Rodrigues Valente

Advisor(s): Veneziani, P.

Committee:

Subject of thesis: Remote Sensing

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Vasconcellos, E.M.G. 1991. Geological and petrological investigations on the volcanic breccias of the Tunas massif, PR state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 128 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1056

1991

Date of presentation: 18/4/1991

Eleonora Maria Gouveia Vasconcellos

Advisor(s): Gomes, C.B.

Committee:

Subject of thesis: Petrology

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

' -

'W

Abstract

Veiga, A.T.C. 1991. The paleo-environmental and economic significance of the Amazon gold and tin bearing placers. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M062

DataBase Ref.: 122

1991

Date of presentation: 14/2/1991

Antônio Tadeu Correia Veiga

Advisor(s): Dardenne, M.A.

Committee:

Jorge Gomes do Cravo Barros - IG/UnB

Kenitiro Suguio - IGc/USP

Subject of thesis: Prospection and Economic Geology

State: AM

1/1,000,000 sheet:

Centroid of the area:

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'W

PA

Abstract

The tin and gold bearing alluvial deposits of the Amazônia high terrains are characterized by immature, poorly sorted sediments, with highly variable ore grades. These features indicate formation through mass movements: short transportation under torrential conditions, and rapid deposition with little reworking.

The studied placers - widely distributed in the Amazon register the occurrence of at least two semi-arid depositional cycles, correlated to glaciations in the high-latitude regions. So they have Pleistocene age, and reflect strong paleoenvironmental changes in the peripheral regions of the Amazon during the Quaternary. The polished-stone artifacts present in these sediments testify the human occupation of the region in ancient times, resulting in a great enlargement of our knowledge about its Prehistory.

The sediments transported to the valleys by mass movements preserve many features indicative of the nature, the size and the site of both primary and secondary source rocks, which are invariably located nearby. In this sense, the study of the alluviums' parameters - distribution pattern of gold and tin values, characterization of the heavy minerals assemblage - can help us in the search for its sources, surmounting some limitations of the geochemical prospecting techniques usually applied in the region.

Veríssimo, C.U.V. 1991. Geological evolution of manganese protoores and ores in eastern São Paulo state and southern Minas Gerais state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 683

1991

Date of presentation: 9/12/1991

César Ulisses Vieira Veríssimo

Advisor(s): Hackspacker, P.C.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The main occurrences of manganese protore and ores noticed in São Paulo and Minas Gerais States are associated with proterozoic metasediments of the Itapira Complex. The erosion resistance allow to distinguish elongated little mounts on topography in agreement to regional trend of other Itapira lithologies.

The distribution of manganese rich sediments and associated rocks inside a well defined zone (Paraíbaides Geosynclinal Belt in the classical sense of Ebert 1956), suggests an unique tectonic setting.

The protore that originated the manganese ores are of two different kinds: silicate and calc-silicate.

The greater contents of MnO from calc-silicate protore suggests that these represent the most important contribution in the formation of economical deposits in the studied area.

During regional deformational events the protore beds has been stretched and disrupted by boudinage along two different structural trends NW-SE and NE-SW.

The process of alteration and enrichment of protore begun probably at Lower Tertiary as a result of different effects of climatic changes together with tectonic reactivations.

The Lithiophorite ((Li, Al) MnO₂ (OH)₂) is a usual ore mineral of the Itapira manganese deposits, representing a intermediary phase on the cryptomelane formation. Its nucleation was supported by graphite, the source of the epitaxial growth, giving rise to Graphite-lithiophorite lamellas.

The manganese ore of Itapira-SP presents vertical and lateral textural changes related to petrographic-geological features (including composition, banded structures, size of bands and granulation) added to actuation of supergene factors.

On special conditions of redeposition of manganese oxide along fractures and vacants ore contents rise up to 45 percent Mn. Preliminary works determine a total of 2.1 million tons of ore averaged about 23 percent Mn. By the Morro das Palmeiras, contents have found ranging from 23 to 38 percent Mn.

Viero, A.P. 1991. Petrology and geochemistry of the Lomba Grande basic complex, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 515

1991

Date of presentation:

Antônio Pedro Viero

Advisor(s): Roisenberg, A.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

'W

Abstract

The Lomba Grande Basic Complex is located in the Gravataí district, RS, and formed by three hypabyssal bodies, informally named Olivine-gabro, Shell-dolerite and Oriental Dolerite, intruded in the sedimentary rocks of the Botucatu and Sanga do Cabral Formations. The Olivine-gabro constitutes more than 95% of the Complex total volume; it is an irregular body with approximately 0.47km³ and with an actual thickness up to 480m. It is relatively primitive in character, with high concentrations of MgO, Cr, Ni and Co, low concentrations of incompatible elements (K, Rb, Ba, Zr and REE), and a transitional affinity. The REE pattern is similar to the P-MORB pattern, with low fractionation (LaN/YbN~4.3) and without negative anomaly of Eu (Eu/Eu*~0.83). The K-Ar ages are of approximately 160 Ma (Late Triassic), what is similar to the early volcanic activities of the Paraná Basin. The chilled margin (MgO~11%) suggests that the magmatic liquid is derived from a picritic magma by crystal fractionation processes at a pressure of 10 Kb. The evolution of the magmatic chamber comprises a combination of replenishment with magmatic differentiation processes. The latter, probably, occur by olivine and plagioclase fractionation, which produces segregation of a residual liquid by convective movements.

The shell-dolerite envelopes partially the Olivine-gabro and presents K-Ar ages of approximately 120 Ma. It is formed by two types of dolerites, chemically similar to the low-TiO₂ volcanic rocks of the Paraná Basin (TiO₂ < 1.54; MgO = 3.0 to 6.5%; low concentrations of incompatible elements). The REE pattern presents low fractionation (LaN/YbN~5.) and a discrete negative anomaly of Eu (Eu/Eu*~0.7). The parental liquids are probably originated by crystal fractionation processes of a picritic magma, with a low degree of upper crust assimilation.

The Oriental Dolerite is a small body formed by an olivine dolerite and a non-olivine dolerite, with K-Ar ages of approximately 125 Ma. The former presents the highest MgO, Cr and Ni contents. The contents of TiO₂ and incompatible elements are similar to the low-TiO₂ volcanic rocks of the Paraná Basin.

The REE pattern presents a low fractionation (LaN/YbN~5.1) and a discrete negative anomaly of Eu (Eu/Eu*~0.7).

Aillon, M.P. 1992. Petrochemical and metamorphic characterization of granulitic rocks from Cachoeira - São Felix region - Cruz das Almas, BA state. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1303 1992 Date of presentation: 13/11/1992

Marília P. Aillon Advisor(s): Barbosa, J.S.F.

Committee: Herbert Conceição -
Shiguemi Fujimori - IG/UFBA

Subject of thesis: Petrology Applied to Mineral Research

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

Six main lithological units have been identified in the Cachoeira - São Félix - Cruz das Almas area: (i) interleaved hornblend-bearing basic granulites and acid quartz-feldspathic granulites; (ii) intermediate and basic granulites; (iii) biotite-bearing granulites; (iv) charnockitic to alkali-feldspathic charnockitic rocks; (v) syenitic rocks and (vi) granitic and mylonitic rocks. Mesozoic sedimentary rocks and tertiary to quaternary sediments have not been studied in the present work. At least two deformation phases have acted upon the region. The first one, F1, has given rise to an overall N30oW strong banding/foliation which dips from 45 to 80oSW. The second one, F2, has produced a remarkable subvertical west-dipping NNE-SSW banding/foliation, which transposes former structures. The São Félix syenitic massif, which had not identified so far, does not contain orthopyroxene and has intruded synchronously to F2 recurrence in a shallower crustal level than that where granulitic metamorphism had happened. Petrochemical data suggests that hornblend-bearing basic granulites protoliths are similar to non-depleted ocean floor basalts/gabbros. The quartz-feldspathic acid granulites to which they are interleaved show contrasting chemical and petrographical features and do not seem to be genetically linked to them. The intermediate to felsic granulites range from metandesites/metadiorites to metadacites/metatonalites and are chemically similar to rocks of low-K calc-alkaline series, either volcanic or plutonic. The biotite-bearing basic granulites vary from basalts/gabbros to andesites/rhyolites, and have been generated from shoshonitic magmas. The charnockites and alkali-feldspathic charnockitic rocks seem to have calc-alkaline affinities and resemble granulite facies plutonic charnockites which occur in surrounding areas. They are also similar to charnockites from Madras, India. The São Félix syenitic massif shows remarkable petrographical, petrochemical and geotectonic similarities with the Itiúba massif, localized northward, and have been derived from a mantellic source alkaline magma.

Granulite facies metamorphism in the region has been of the medium pressure (5-6 kbar) and high temperature (800-850°C) although local retrograde amphibolite and greenschist facies paragenesis have been found.

Remarkable geological resemblances can be found between the rocks studied in the present research work and the ones from the "Domínio da Costa Atlântica" (Atlantic Coast Domain), localized southwards.

Almeida, J.C.H. 1992. Geological mapping of Luminárias sheet - MG state (1:50.000), with emphasis on structural analysis of the metasediments from Andrelândia depositional cycle. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1158 1992 Date of presentation:

Julio Cesar Horta de Almeida Advisor(s): Trouw, R.A.J.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Almeida, M.E.M. 1992. Harris' lines in the Zé do Espinho Sambaqui, Guaratiba Sepetiba, Rio de Janeiro state, Brazil, and the reconstitutions of the prehistoric paleonutritional and health conditions. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 833 1992 Date of presentation:

Maria Eloísa Maciel de Almeida Advisor(s): Ferigolo, J.

Committee:

Subject of thesis: Palaeontology

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

This dissertation deals with an analysis of tibiae and femora of the Sambaqui Zé do Espinho individuals, looking for Harris' lines (HL), on the basis of radiological studies. The analysis showed the highest percentuals of HL at the distal end of tibiae, following

the proximal end of the tibiae and the distal end of femora. The highest percentuals of HL were found at the age intervals in which occurs the greatest osseous growth of individuals, in general between the two and four years, and between ten and sixteen years old, as is usually referred in the literature. Such percentuals can be due to paleonutritional deficits, metabolic impairments or to other diseases proper to these periods. In spite of this, as the highest percentuals were found exactly in the periods of the highest osseous growth, it seems probable that such percentuals were due to some extent to the growth peaks, more than to any other process. Some of these lines can also be the result of multiple and complex biomechanical forces proper to the physical activities developed during such periods of life, and that can be preserved until adult age. The almost complete absence of articular biomechanical studies which could determinate which trabeculae are part of the normal structure of bone, particularly during those periods of the highest physical activities or of important changes in such activities, permit us to suggest the urgent necessity of these studies in living individuals and in laboratory animals. These studies would permit to determinate which trabeculae are part of the normal structure of bone and the ones which could actually be HL, related to paleonutritional, metabolic or resultant of different diseases. Corroborating this observation, it is worthwhile to refer the incongruity between the general contestation of the importance and meaning of the HL in works dealing with extant populations, and the indiscriminated use of the HL by paleopathologists, whose studies have, as a basic aprioristic assumption, that all lines of a certain kind are HL, and that these lines have usually paleopathological implications. This has led to the attribution of deficits and diseases to populations that, on the basis of other evidences such as the alimentary remains and habitats, apparently did not suffer important environmental stressing conditions.

Almeida, S. 1992. Petrography and geochemistry of ultramafic rocks of Liberdade and Carrancas region, Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1003

1992

Date of presentation:

Soraya Almeida

Advisor(s): Junho, M.C.B.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Six bodies of ultramafic rocks, four exposed next to Liberdade (Fazenda da Roseta, Serra da Garça, Morro do Corisco and Arantina) and two next to Carrancas (Serra do Moleque and Fazenda da Areia), are object of this study. In Liberdade, the bodies are surrounded by metasediments of Proterozoic age and, in Carrancas, they are situated at contact zones between Proterozoic metasediments and Archean basement. In both regions, the ultramafic bodies are considered allochthonous and show, at their edges, schistosity in concordance with regional structures. In those rocks, mineralogical compositions vary significantly. In Liberdade they are predominantly websterites, hornblendites, spinel harzburgites and spinel orthopyroxenites in the Fazenda da Roseta body; serpentinites, spinel hornblendites and dunites in the Morro do Corisco; orthopyroxenites and rocks rich in anthophyllitic amphiboles in the Serra da Garça region and chlorite olivine fels in Arantina. In Carrancas, hornblendites, serpentinites, talc schists and talc fels are associated in the Serra do Moleque ultramafic body; spinel orthopyroxenites, serpentinites and rocks made up predominantly of chlorite are observed in the Fazenda da Areia body. Mineral parageneses in those rocks indicate metamorphism under amphibolite facies conditions. In some specimens, however, it is still possible to recognize mineralogical relations that indicate equilibration under granulite facies conditions. Eighteen samples, eleven from Liberdade and seven from Carrancas were chosen for chemical analyses. Geochemical characteristics suggest that the ultramafic bodies of Liberdade are genetically related. However, one of them, the Arantina body, showed distinct compositional behavior, similar, on the other hand, to the chemical compositions of Carrancas rocks. Genetic relations between ultramafic rocks of both regions are, however, uncertain. Mineralogical compositions and geochemical and textural data suggest that the ultramafic bodies were derived from differentiated tholeiitic magmas rather than tectonic slices of upper mantle or Alpine-type bodies.

Amorim, J.L. 1992. Evolution of the filling of the Taquipe Canyon, Neocomian of the Recôncavo basin, under the focus of the modern stratigraphy. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 415

1992

Date of presentation:

Jane Leão de Amorim

Advisor(s): Della Favera, J.C.

Committee:

Subject of thesis: Stratigraphy

State: BA

1/1,000,000 sheet:

SC24

Centroid of the area:

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Abstract

Fault movements and lowering of the lake level had formed the Taquipe Canyon in the southern part of the Recôncavo Basin during the Aratu Stage (Barremiano/Hauteriviano). The canyon fill consists of shales, marls and sandstones, and it was called the Taquipe Formation. This sedimentary section was deposited during the time corresponding to the ostracode subzones NRT's 005.4 up to 006.2 (Aratu). It resulted from resedimentation of the Pojuca Formation (sandstones and shales) via gravity-induced processes such as slumps, debris flows

and turbidity currents, triggered by the lowering of the lake level and seismic quakes. The basin sedimentation outside of the canyon does not correlate with the canyon fill because during its filling time the canyon acted as a sub-basin, where the lake level stood high, while in the basin the lake level was lowering and so different types of sedimentary environments developed. Stratigraphic correlations within the canyon fill are difficult, due to the high frequency of erosional events in contrast to the "normal" sedimentation outside of the canyon, which is characterized by good stratigraphic markers.

Appi, C.J. 1992. Stratigraphic analysis of metasedimentary section of Itajaí group in Santa Catarina state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1404

1992

Date of presentation:

Ciro Jorge Appi

Advisor(s): Rodrigues, M.A.C.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: SC

1/1,000,000 sheet: SG22

Centroid of the area: ' - 'W

Abstract

The Itajaí Group, in Eopaleozoic metasedimentary section (older than 540 My, according to radiometric datations), crops out in the Itajaí River valley, state of Santa Catarina, Brazil. This group can be divided into two depositional sequences: the lower one is formed by polymictic conglomerates with lenses of cross-bedded sandstones, and hummocky/wavy-bedded sandstones and shales. It represents fan delta and transgressive systems, respectively. The upper one is composed of pebbly mudstones and conglomerates associated with massive and/or graded sandstones, siltstones and dark shales; siltstones and shales with wavy bedding; conglomerates and cross-bedded sandstones. These associations indicate turbidite, shelf and fan delta systems, respectively. Based on the modern concepts of "Sequence Stratigraphy", it was possible to interpret the lower sequence of the Itajaí Group as deposited in a ramp-type basin. The upper sequence is separated from the lower one by a type 1 unconformity; it represents a type 1 sequence and it encompasses three systems tracts. The lowstand tract is composed of slope-fan and lowstand wedge systems; the transgressive-systems tract has retrogradational parasequence sets of shelf sandstones and shales; the highstand systems tract is formed by aggradational and progradational parasequence sets of deltaic origin. In the Itajaí Group on fossils have been found yet to properly assign age and environmental setting.

Baitelli, R. 1992. Geochronology of alkaline massifs from southern Brazil by means of the fission track method. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 523

1992

Date of presentation:

Ricardo Baitelli

Advisor(s): Soliani Jr, E.

Committee:

Subject of thesis: Geochemistry

State:

1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This dissertation presents 24 ages carried out by Fission Track Method on samples from Piratini (RS), Lages and Anitápolis (SC), Tunas (PR) and Jacupiranga (SP) alkaline massifs. The Anitápolis Massif has the majority of age determinations (15), and revealed to be multi-episodic: at least four igneous phases were detected through the corrected ages to 130°C isotherm. The first one, about 200 Ma, was correlated to a phase of Jacupiranga Complex, whose age was the oldest one. The subsequent igneous episode ranged from 160 to 150 Ma; the third one registered at Anitápolis, between 140 and 130 Ma, exhibits ages that are concordant with those of Piratini and Tunas massifs; on the other hand, the youngest magmatic phase settled between 120 and 100 Ma is also represented by a similar result found still at Tunas Complex. From all those studied regions, Lages provided the most recent results, about 90-80 Ma. The fission track ages were in good agreement with values obtained by others isotope systems (K-Ar and Rb-Sr). The projected track length measurements allowed to outline the thermal history from the studied massifs. It has been recognized a continuous cooling process to the Anitápolis, Lages and Jacupiranga complexes and an acceleration in the cooling rate to the Piratini and Tunas massifs. Besides their temporal correlation, it can also be noticed that the cooling pattern of Piratini, Anitápolis and Tunas revealed a similar behaviour. The Lages and Jacupiranga complexes were submitted to different cooling histories from the others and they are also distinct between themselves. Considering that the main purpose of this work was achieved, i.e., to verify the applicability of the Fission Track Method on rocks such as founded at the alkaline massifs from Southern Brazil, we suggest the application of this methodology on other alkaline regions and the retaking of the studies in the same bodies here analyzed to characterize aspects that were only outlined.

Bandini, M.P. 1992. Urban planning consideration in geological risk areas - Parque Lanel case story, Franco da Rocha, state of São Paulo. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 659

1992

Date of presentation: 7/8/1992

Marcos Pellegrini Bandini

Advisor(s): Cavalheiro, F.

Committee:

Subject of thesis: Geosciences and Environment

State: SP

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The aim of this work is to gather data about the impactant process of urbanization in Franco da Rocha, São Paulo state, to search the areas of geological hazard to urban occupation and provide aid for the reordenation of the soil use in impacted areas. With these purposes, it was been followed a methodology little used in Brasil in order to inventory the landscape physical elements by ascribing values in different classes concerning with its adequates properties to the urbanization, considering the minimal, tolerable, strong and critical impacts. This method was applied in the sampling area of Parque Lanel district, urbanized since 1975 and subject to several process of geological hazards. This methodology was applied and showed to be feasible. It became evident that 62% total of 163 habitations of this district are located in critical or of geological hazard areas, confirming that this area should not be lotted for urban settlement. In this way, we advise the adoption of the following emergency arrangements: transfer of habitations, implantation of drain system and protection of slopes, as well a reordenation of the soil use in the studied area.

Barreto, S.B. 1992. Chemical-Mineralogical Characterization of the Tenente Ananias Beryls (State of Rio Grande do Norte). MSc Thesis, Departament of Geology, University Federal of Pernambuco, pp.

Beryl, Pegmatites, Mineralogy, Chemical composition

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 628

1992

Date of presentation: 17/12/1992

Sandra de Brito Barreto

Advisor(s): Silva, R.R.

Committee:

Subject of thesis: Mineralogy and Petrology

State:

1/1,000,000 sheet:

Centroid of the area:

06 25 's - 38 10 'W

Abstract

This thesis is concerned with the study of crystals of beryl collected in the Mina Velha, Telhado, Jorge and Jerimum mines, located in the Tenente Ananias county in Rio Grande do Norte State. The studied area is located within the following coordinates: latitude 6022'11" and 6028'05" S and longitude 38°07' 25" and 38°12'00" W. Pegmatites bearing beryl are described, discussed and characterized as belonging to the mixed type group. A methodology for the mineralogical characterization of these beryls is proposed on X-ray spectrography and diffractometry infrared spectrography, chemical analysis (major and selected trace components), density and refraction indices determinations. The result obtained allowed the characterization of the Tenente Ananias beryls as potassic and sodic potassic, poor in alkalies and alkali-earths (Rb, Cs, Ca, Sr, Ba), where octahedric and tetrahedric substitutions occurred, as well as the presence of ions and molecules in the structural channel. The substitutions in the Si tetrahedron occur with P and Al; in the Be tetrahedron with Si, Al and Li and in the Al octahedron with Fe, Mg, Mn, Ti, Zr, V, Ni and Zr. Alkaline metals (Na, K, Rb, and Cs) and earth metals (Ca, Sr and Ba) were found in the structural channels beside H₂O molecules, which maintain the eletrostatic neutrality in the crystalline net. The consequences of these substitution for the parameters of the unitary cell a_0 and c_0 are discussed and the tetrahedric substitution showed a strong influence in a_0 when compared with the octahedric ones. "Omission structures" were observed and attributed to Be deficiency. The intense blue color of these beryls may be related with the concentration and/or charge exchange of Fe³⁺, Fe²⁺, and Zn²⁺.

Barros, C.E. 1992. Petrography and lithochemistry of the Santo Antonio Monzogranite - Dom Pedrito, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 520

1992

Date of presentation:

Carla Ennes de Barros

Advisor(s): Nardi, L.V.S.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH21

Centroid of the area:

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Abstract

The Santo Antônio Monzogranite is an elliptically-shaped body of approximately 30km² surface area, with its major axis oriented NW-SE. It exhibits intrusive contacts with the Santa Maria Chico Granulitic Complex and with the volcanic rocks of Hilario Formation. Dominant rock types are monzogranites, with minor amounts of quartz monzonites, quartz monzodiorites and granodiorites. The mineralogy is plagioclase (An₂₅₋₃₅), alkali-feldspar, quartz, magnesium-hornblende, salitic-augite, biotite, titaniferous-magnetite, apatite, zircon and sphene. Three textural facies were identified: equigranular, medium - porphyritic and fine - porphyritic. The crystallization of these rocks occurred under pressures lower than 1Kb, and the main differentiation process was that of mineral fractionation. The geochemical characteristics of the Santo Antônio Monzogranite, mainly the SiO₂ × (Na₂O+K₂O) relation, associated with its potassic character, allows its identification as a member of the shoshonitic series. Furthermore, the high contents of Ba and Sr, together with moderate values of Zr, LREE, TiO₂, and P₂O₅, support such classification. This monzogranite was generated at the final stages of the Brasileiro Orogeny, presenting an age (Rb-Sr) of 645

Ma. and initial ratio of 0.70462. Its petrological and geochemical characteristics permit to include it in the Lavras do Sul Shoshonitic Association.

Bergamaschi, S. 1992. Sedimentologic analysis of the Furnas formation in the band of outcrops of the northern flank of Ponta Grossa structural arc, Paraná basin, Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1402

1992

Date of presentation:

Sérgio Bergamaschi

Advisor(s): Rodrigues, M.A.C.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

The present research characterizes sedimentologically the Furnas Formation, outcropping at the Northern flank of Ponta Grossa Structural Arch. A complex trait of depositional systems genetically related was recognized in that area, based upon facies analysis and descriptions of sedimentologic profiles and sections. Using this kind of approach, based upon the process-product point of view, a fluvial, a transitional and a coastal-marine environments were identified. Among these environments, the fluvial one, presenting a braided character with high to moderate energy, is more representative of the lower part of the Furnas Formation. Both, the transitional and the coastal-marine systems dominates the middle and the upper positions of the Furnas Formation. The former shows mouth-bar facies, which is partially fluvial and partially tidal dominated. The latter is represented by foreshore and upper shoreface facies deposited under tidal and storm conditions. The relative sea-level rising at this Eastern boarder of Paraná Basin, during the Early Devonian, led to a retrogradational sedimentary pattern. The transitional/coastal-marine deposits at the upper Furnas Formation, of Pragian age, are conformably overlaid by the lower shoreface/offshore deposits of Ponta Grossa Formation, of Emsian age at its base. Recent data on the age of uppermost levels of Furnas Formation reduce the possibility of a significative hiatus between the Furnas Formation and Ponta Grossa Formation at the investigated area.

Bezerra, F.H.R. 1992. Geology and petrology of the Canindé do São Francisco gabbroic complex, Sergipe and Alagoas states-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M071

DataBase Ref.: 131

1992

Date of presentation: 7/2/1992

Francisco Hilário Rego Bezerra

Advisor(s): Nilson, A.A.

Committee:

Reinhardt Adolfo Fuck

- IG/UnB

José Haroldo da Silva Só

- IG/UFBA

Subject of thesis: Prospection and Economic Geology

State: SE

1/1,000,000 sheet:

SC24

Centroid of the area:

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AL

Abstract

The Canindé do São Francisco Gabbroic Complex and its country rocks are located at the boundary between Sergipe and Alagoas states. These rocks continue to the west, in Bahia state. Six major lithologic units were recognized. The Gneissic-Migmatitic Unit and the Metavolcano-sedimentary Sequence are the oldest rocks. The brasileiro Canindé Complex intruded this last unit. The brasileiro Poço Redondo Granite intruded the Gabbroic Complex, while the also brasileiro northern Granitic Batholith shows magma mixing and enclaves of the mafic complex. Late basic dykes are younger than the granitic rocks, some of them being of Mesozoic age. Four deformation phases have been distinguished in the area. Dn, Dn1, and Dn2 are ductile deformation events. Dn3 is a brittle-ductile deformation. The most representative Dn1 structure, developed transcurrente and transthrust shear zones. The geochemical characteristics of the Canindé Complex suggest low tholeiitic affinity compared to the Skaergaard trend. The Metavolcano-sedimentary sequence is composed of two volcanic groups: (meta) basaltic rocks and andesitic-rhyolitic ones. The first group has calc-alkaline to tholeiitic trend. The second one has tholeiitic affinities.

Bitencourt, A.L.V. 1992. Palaeoenvironmental reconstitution of the Banhado do Colégio region, Camaquã, RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 465

1992

Date of presentation:

Ana Luisa Vietti Bitencourt

Advisor(s): Villwock, J.A.

Schmitz, P.I.

Committee:

Subject of thesis: Marine Geology

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' - 'W

Abstract

The study of the paleoenvironmental reconstitution of the Banhado do Colégio area, Camaquã municipality, involves the interdisciplinary approach of Quaternary Geology and Archaeology, introducing the archaeological sites in the environmental context of the area.

This approach includes the observation of three scales: the Macro-environmental, where the general aspects of the Coastal Province of Rio Grande do Sul are reported, the Meso-environmental, with the approach of the geomorphological and geological aspects of the area, related to two systems: a fan-delta and a lagoonal, both controlled by positive and negative oscillations of the sea-level during the Quaternary; and the Micro-environmental, which characterizes the archaeological sites and their distribution in the Meso-environment.

The chart of the environmental reconstitution presents the proposed compartmentation of the area with its systems of fan-delta and lagoon depositions, and the superposition of the archaeological sites.

Brito, C.M. 1992. Geological, geochemical and petrological characterization of proterozoic mafic dikes of Salvador region, Bahia state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 96 pp

Instituto Astronômico e Geofísico- Universidade de São Paulo

Reference:

DataBase Ref.: 1078 1992 Date of presentation: 14/8/1992

Cleuber Moraes Brito Advisor(s): Melfi, A.J.

Committee:

Subject of thesis:

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

Campos, J.E.G. 1992. The record of the permo-carboniferous glaciation in northeast of Minas Gerais state- Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M072

DataBase Ref.: 132 1992 Date of presentation: 13/2/1992

José Eloi Guimarães Campos Advisor(s): Dardenne, M.A.

Committee: Detlef Hans-Gert Walde - IG/UnB
Almirio Barros Franga - PETROBRÁS

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This text represents a stratigraphic and environmental work of two areas in the northwest of Minas Gerais State, Brazil. The study was based on outcrops observation, mapping and some laboratories proceedings including thin section analysis, heavy mineral separation and X ray diffraction.

The work possibillited the identification of the Permo-Carboniferous glaciation in the São Francisco Basin, not describe yet. A stratigraphic subdivision is proposed for the glaciogenic strata - The Santa Fé Group - which is composed of the Floresta and Tabuleiro Formations. The Floresta Formation is the basal unit and is composed of three members: Brocotó Member (Tillites), Brejo do Arroz Member (red mudstones and siltstones with a variety of dropstones) and Lavado Member (red sandstones). The Tabuleiro Formation (homogeneous sandstones) overlies all Floresta Formation members. The arkoses of the Três Marias Formation (Upper Proterozoic) are the regional basement for the glaciogenic sequency.

The Santa Fé Group is a proglacial system with tillite facies (Brocotó Member), fluvio-glacial facies (Lavado Member), glacio-lacustrine and turbiditic facies (Brejo do Arroz Member) and periglacial eolic facies (Tabuleiro Formation). The glacial sedimentation was controlled by advance and retreat of the ice sheet.

Diagenetic reactions are not well developed because of the incipient burial history. The major diagenetic feature was a calcitic pervasive cementation.

The provenance areas for the glaciation are interpreted from heavy mineral analysis, striated pavements and dropstones composition. The Setentrional Espinhaço region is proposed as the source area.

The economic features of the region are related to the presence of diamonds in recent alluviums. "Garimpo" activity is known since the 18th century in the largest drainage. The work has demonstrated that recent alluviums are sourced by the Canabrava Formation Conglomerate. The Canabrava Formation is here considered as Upper Cretaceous. It overlies all the Santa Fé Group Facies and the Três Marias Formation. A coarse braided river environment system is proposed as depositional model.

Castro, D.D. 1992. Morphology of the brazilian south-southeastern continental margin and seismic stratigraphy of the continental slope. MSc Thesis, Departament of Geology, University Federal of Rio de

Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1400

1992

Date of presentation:

Dayse Daltro de Castro

Advisor(s): Kowsmann, R.O.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The Southeast-South Brazilian continental margin encompasses the region between 21° and 30°S and between 42° and 33°W. It was formed as result of the continental rifting and drift that separated the South American and African continents. Its sedimentary cover has developed since the Cretaceous and extends beneath the continental shelf, slope, São Paulo Plateau and rise over two different types of basement continental and oceanic crust. Seven depositional sequences were mapped on the continental rise. These sequences however can be grouped into two megasequences, separated by Unconformity IV (Middle Eocene/Oligocene - 43.6 My). The Lower Megasequence was deposited in structural lows controlled by fracture zones, while the deposition of the Upper Megasequence was more widespread along the continental margin. A most conspicuous change in depositional regime occurred during the deposition of the Upper Megasequence when the deep-water submarine drainage system was formed and the bottom collar thermohaline circulation developed. These bottom currents were able to transport sediments of the continental rise, producing sediment drifts, in places where their action was more intense. Both large and small scale surface features positive and negative relief have been mapped in the study area. Notable positive features include, on the continental rise, seamounts genetically related to oceanic fracture zones and, on the São Paulo Plateau, bulges due to salt diapirism. The most striking negative features is the complex drainage system of canyons and submarine channels which extends from the upper slope to the Brazil Basin, acting as a major route for sediment transport across the margin. This system display a proper morphologic pattern of tributaries which develop across the continental rise and São Paulo Plateau, converging on the continental slope a large scale deep-sea channels (mean width, 20 km). The drainage system is fundamentally controlled by the low continental slope gradients (around 2°) and by the gentle transition between the slope and continental rise, due to the existence of the intervening São Paulo Plateau. The gentle slopes across the boundaries of the physiographic provinces allowed the erosional character of turbidity currents to be maintained for very long distances (circa 900 km) across the continental margin. The Carioca deep-sea channel is the principal pathway for the sediments originating in the southeast continental margin to reach, via submarine canyons, the Brazil Basin.

Conceição, J.C.J. 1992. Structural patterns associated to igneous intrusions in sedimentary basins. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 970

1992

Date of presentation:

João Claudio de Jesus Conceição

Advisor(s): Dayan, H.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

Structural geology has been adapted to the modern concept of global tectonics, in as much as a given set of structural styles distinguishes a specific tectonic habitat within a lithospheric plate. The purpose of this research is to define and to classify the structural styles related to magmatic intrusions in the extensional basin setting. During the emplacement and growth of some igneous bodies, the original stress field may be locally modified to generated a new stress field that is able to deform the sedimentary host rocks. These deformations were studied and classified based on geometrical features of magmatic bodies and the associated structural components in the wall rocks. The study area included Brazilian sedimentary basins of Paleozoic age, namely Solimões, Amazonas, Maranhão and Paraná. Field work was restricted to the last two. Fourteen structural styles were defined in these basins, related to dykes, sills, laccoliths, bismaliths, wedges and magmatic apophyses. The recognition of the seismic expression of structural styles associated with igneous intrusions was performed by comparing outcrop data with geophysical profiles. Computer simulation was used as an aid in this phase of the research. A good correlation between outcrop and seismic data was obtained in most of the structural styles. According to the model of field stress changes and structuration of host rocks proposed in this research, some deformations take place under plastic flow conditions, while others present a brittle behavior, depending on the spatial relationship between the host rocks and the igneous bodies. Some structural styles associated to the emplacement of magmatic bodies are able to trap oil, mainly in tectonically quiet sedimentary basins. The term "Intrusive Tectonics" is proposed to characterize the environment of deformation related to the emplacement of igneous intrusions.

Costa, A.F. 1992. Microstructural study of the rocks from the Caeté granitic-gneissic complex, in the Nova Lima group contact region, Quadrilátero Ferrífero - State of MG. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 121 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 03

DataBase Ref.: 2347

1992

Date of presentation: 3/4/1992

Andréa Fonseca da Costa

Advisor(s): Rosière, C.A.

Committee: Peter Christian Hackspacker - IGCE/UNESP
Hanna J. Evangelista - DEGEO/UFOP

Subject of thesis: Geology and Mineral Resources

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Costa, R.D. 1992. Geotectonic modelling of the Quadrilátero Ferrífero. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 54 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 04

DataBase Ref.: 2348 1992 Date of presentation: 4/12/1992

Ricardo Diniz da Costa Advisor(s): Rosière, C.A.

Committee: Peter Szatmari - PETROBRÁS
Antônio Wilson Romano - IGC/UFMG

Subject of thesis: Geology and Mineral Resources

State: MG 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Costa, S.O. 1992. Morphostructural characterization under the optical microscope of Paleocene / middle Eocene calcareous nannofossils of the Espírito Santo basin. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1445 1992 Date of presentation:

Simone de Oliveira Costa Advisor(s):

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This study concerns calcareous nannofossils recovered from cuttings of the Paleocene - mid Eocene section of five boreholes in the Espírito Santo Basin (eastern Brazilian continental margin). Its basic aim is to present detailed L.M. (light microscope) descriptions of the calcareous nannofossils in view of the following reasons: (a) scarcity of published papers on the subject; (b) need of objective criteria for the recognition of relevant species with the L.M., so as to optimize their use in routine biostratigraphy. Altogether, 87 species have been described, of which 5 are new and 9 recorded for the first time in Brazil. They are assembled into the following structural groups: pentoliths, placoliths, asteroliths, fasciculoliths, helicoliths, helioliths, spenoliths, nannoliths of Pontosphaeraceae and Zygodiscaceae, and nannoliths incertae sedis. Taxonomic classifications of previous workers have been maintained for most species. Descriptive criteria followed herein include: (a) the build and arrangement of structural units in the nannolith; (b) the specimen size; (c) the kind of ornamentation; and (d) optical behavior of the specimen in both cross-polarized and transmitted light. The terminology employed in this study makes up a glossary aimed to supplement the descriptions give in this dissertation. Biostratigraphic considerations presented herein are based on the schemes of Antunes (1984, 1990) for the Espírito Santo Basin. The nannofossil biochronostratigraphy of the five wells investigated allowed introduction of the following improvements in Antunes (op. cit.) framework: (a) addition of 25 species of auxiliary value in the identification of the biozones; and (b) changes in the range of other 11 species.

Dantas, E.L. 1992. Tectono-magmatic evolution of the polidiapiric massif of São Vicente-Florância - Rio Grande do Norte state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 687 1992 Date of presentation: 17/12/1992

Elton Luiz Dantas Advisor(s): Hackspacker, P.C.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The São Vicente-Florância massif has a near elliptical, domal shape, with N10E oriented main axis. It is bordered by Jucurutu Formation metasediments through intensely deformed tectonic contacts. The contacts are made by NS sinistral strike-slip fault at the E edge of the dome, and by an dextral lateral ramp.

The Jucurutu Formation is made by biotite paragneisses, fine grained gneisses, intercalated with marbles, iron formations (iron

quartzites and amphibolites), talc schists and mica schists. As xenoliths in the massif, there are occurrences of bimodal metabasites (tholeiitic amphibolites I and metaultramafic rocks), and aluminous metasediments (garnet-staurolite schists and kyanite quartzite), suggesting the existence of a granite-greenstone association.

Orthoamphibolites I are fine grained, hornblende, plagioclase, biotite, quartz, clinopyroxene bearing.

The granitoids of the São Vicente/Florência massif may be grouped as follows:

Gray gneisses suite (São Vicente group): metagabbros, hornblende-biotite gneisses and biotite granodiorites;

Granitic suite (Caicó group): fine grained orthogneisses, monzonitic to sienogranites, heterogeneous diatexites, granitic augen-gneisses, pink granites, and subordinated pegmatites. The term suite is taken as the whole of lithologies occurring in a great mapping unity.

Orthoamphibolites II are gross grained, amphibole and plagioclase bearing, and are intruded in the orthoamphibolites I. There are some associations with hornblendites, made by 90% hornblende, that crops out as subcircular bodies. The metabasites (clorite-actinolite schists) are present in the whole area, together with amphibolites and hornblendites.

Igneous textures are preserved inside the dome, in the low strain domains. In these sites, the foliation associated with a tangential tectonic has an NW trend, and is characterized by a high temperature subsolidus deformation. After the NW thrust, NW sinistral strike-slip shear zones have developed, related with a viscous plutonism.

Field relations show a mingling between Caicó and São Vicente lithologies with different viscosities, leading to the formation of banded gneisses. This ductile deformation occurs in a subsolidus pre-full crystallization state. The heterogeneous banded gneisses crop out in the border of the dome, as a 300-500 m long mappable unity, intermediate between the gray gneisses and the granitic gneisses suites. The banded gneisses are related to NW strike-slip shear zones.

Migmatites are progressively generated through thrusts during the emplacement and uplift of the dome, and are controlled by strike-slip shear zones, suggesting the occurrence of successive events of melting and anatexis of distinct intensities affecting the granitoids. There are evidences of high temperature subsolidus mixing between granodiorites and Caicó migmatites. The neosome generated is mafic, including the above mentioned lithologies.

Anatectic pink granites and pegmatites have been generated during the late evolution of the massif, cropping out near the contact with supercrust metasediments and in localized transcurrent zones.

The regional deformation are characterized by high temperature blastomylonites, formed by dynamic recrystallization through grain boundary migration of plagioclase, microcline and hornblende, suggesting a ductile deformation in the deep crust. The dynamic recrystallization is responsible for grain size reduction with increasing deformation.

A secondary mixing between lithologies occurs because of increasing deformation, resulting from the changing of pre-existing rocks through deformational processes.

Superposition of solid state microtextures generated in solid state and regional deformation microtextures indicates a short time span between the igneous diaphic and the metamorphic histories, indicating a progressive tectono-magmatic evolution during Transamazonian cycle (Hackspacher and Dantas, 1992).

NE dextral strike-slip shear zones have developed at the end of the dome evolution.

The present work shows that the Jucurutu formation metasediments have been submitted to deformation and kinematics similar to the massif lithologies. The intense recrystallization of the metasediments in contact with granitoids suggests an allochthonous situation to these contacts. In the strike-slip shear zones the biotite are epidote enriched.

An hypothesis involving magma mixing between basic (amphibolites and hornblendites) and tonalitic (hornblende-biotite gneisses) melts has the following aspects: dyke swarms, microgranular mafic enclaves, cumulate hornblendites and hybrid textures between both end members.

Dornelles, J.E.F. 1992. *Cerritosaurus binsfeldi* Price 1946 and *Chanaresuchus* sp. (theodontia, proterosuchia, cerritosauridae) from the Santa Maria formation, Triassic of Rio Grande do Sul state, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 829

1992

Date of presentation:

José Eduardo Figueiredo Dornelles

Advisor(s): Barberena, M.C.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This dissertation deals mainly with the osteological revision of some cranial features of the type material of *Cerritosaurus binsfeldi* PRICE 1946, as well as with the description of *Chanaresuchus* sp. These cerritosaurid thecodonts were collected in sediments pertaining to the Santa Maria Formation (Middle to Late Triassic) in Rio Grande do Sul State, southern Brazil.

Careful evaluation of the taphonomic effects in *Cerritosaurus binsfeldi* permitted the detection of deformational features that blurred the visualization of significant diagnostic characteristics in the skull. After elimination of altered conditions in reference to the length snout, shape of premaxilla and architecture of the temporal region and posterior end of the lower jaw, it became possible to offer a revised diagnosis of this species in terms of cranial elements.

The skull here determined as *Chanaresuchus* sp. by exhibiting a higher degree of distortion, demanded a very detailed evaluation of the taphonomic influence upon the preserved structures. The comparison with specimens of this genus from Triassic sediments of Argentina facilitated this task, so that the restoration attempted may be considered as provided of a fair degree of confidence. Nevertheless, no significant characteristics for a taxonomic decision at the specific level were detected.

The last ten years have brought an increasingly usage of geobiotic units (local faunas) for determining the biostratigraphical and geochronological characteristics of the Permian and Triassic tetrapod-bearing sediments of Brazil and Argentina. *Cerritosaurus binsfeldi* (Alemoa Local Fauna) and *Chanaresuchus* sp. (Pinheiros Local Fauna) confirm the Late Chanarian to Early Ischigualastian and Chanarian ages already attributed to their respective local faunas. This dissertation also presents a review of the results already obtained by means of geobiotic units. Such results proved to be consistent, though the continuation of field

work may bring them some adjustments in the future.

Feijó, F.J. 1992. Continental sequences of the prerift and rift phases of the central Alagoas subbasin. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 417

1992

Date of presentation:

Flávio Juarez Feijó

Advisor(s): Tomazelli, L.J.

Committee:

Subject of thesis: Stratigraphy

State: AL

1/1,000,000 sheet:

SC24

Centroid of the area:

' -

'W

Abstract

Ten third-order genetic stratigraphic sequences, bounded by flooding surfaces, were defined in the Central Alagoas Sub-Basin, Northeastern Brazil, based on well data, with some outcrop and seismic additional information. Two of the sequences can be assigned to a pre-rift stage, and the remaining eight sequences are related to the rift stage, which are split by the Pre-Aratu Unconformity. Those sedimentary rock packages were deposited between the Late Tithonian and the Early Aptian (150-120 m.a.), and depict almost all the preserved Central Alagoas Sub-Basin sedimentary fill. The studied facies allowed alluvial fan, braided fluvial, deltaic, evaporitic and lacustrine, including shelf and turbiditic depositional systems to be recognized. Their distribution is basically controlled by climatic constraints and tectonic setting. The sub-basin deepens northeastward, both through regional dip and normal faults, leaving only the older sequences in its southwestern side, where the younger ones have been removed by erosion. Conversely, only the younger sequences were sampled in the northeastern side of the sub-basin, since the older ones are at too great depths. It is possible to find stratigraphic traps for oil or gas in the more shaly parts of the sequences, but to detect them will demand more detailed mapping, with four - or fifth - order sequences being identified.

Fernandes, L.A. 1992. Suprabasaltic cretaceous cover in Paraná state and Pontal do Paranapanema (SP state) : The Bauru and Caiuá groups. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 129 p

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1639

1992

Date of presentation: 25/9/1992

Luiz Alberto Fernandes

Advisor(s): Coimbra, A.M.

Committee:

Subject of thesis: Regional Geology

State: SP

1/1,000,000 sheet:

Centroid of the area:

' -

'W

PR

Abstract

Fernandes, M.L.S. 1992. Geology, petrography and geochemistry of granitoid rocks of Pedra Azul region - MG. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1002

1992

Date of presentation:

Maria Lourdes Souza Fernandes

Advisor(s): Wiedemann, C.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The granitic rocks from Pedra Azul region can be subdivided in two groups. The first one is derived from migmatitic rocks and is characterized by garnet as accessory mineral. These rocks are included in the Complexo Jequitinhonha. The second group has two porphyritic facies and one homogeneous and is intrusive in the Complexo Jequitinhonha. These rocks contain xenoliths of saccharoid granites and dark microgranular-hornblende bearing enclaves. These rocks constitute the Complexo de Medina. The granites of Complexo de Medina have signatures of I-type, are late to post-orogenic with calc-alkaline character, dominantly metaluminous, plotting in the STRECKEISEN diagram in the granitic and granodioritic fields. The elliptical form, the presence of xenocrysts and the intern foliation parallel to the border of microgranular enclaves permit to interpret their genesis by commingling. The distribution patterns of REE of granites and enclaves are similar and compatible with a crustal origin. Allantite and titanite are responsible by REE pattern, being more concentrated in less differentiated rocks. Field features, petrographic and geochemical data indicate that the K-feldspars megacrysts were formed together with the ones of the groundmass. All the evidences pointed to a crustal origin for granites and enclaves, being the magma mixing and magmatic differentiation responsible by their evolution.

Ferreira, J.C.G. 1992. Evaluation and LANDSAT-TM, geophysical and geological data integration through

techniques of images digital processing and geographic information system. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1339 1992 Date of presentation: 25/2/1992

José Carlos Garcia Ferreira

Advisor(s): Mattos, J.T.

Committee:

Subject of thesis: Remote Sensing

State: MT 1/1,000,000 sheet: SE21 Centroid of the area: ' - 'W

Abstract**Fornari, A. 1992. Petrology, geochemistry and metamorphism of charnockitic-enderbitic rocks from Laje-Mutuípe region, Bahia state. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp**

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1304 1992 Date of presentation: 20/11/1992

André Fornari

Advisor(s): Barbosa, J.S.F.

Committee:

Herbet Conceição -

Mário Cesar Heredia Figueiredo - IGc/USP

Subject of thesis: Petrology Applied to Mineral Research

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

The enderbitic-charnockitic rocks from Laje and Mutuípe, Bahia, represent a batholithic body which has been intruded in high grade metamorphic rocks including basic to acid banded granulites, kinzigites, quartzites, banded iron formations, meta-igneous rocks and granulitic migmatites.

The region has suffered at least two ductile deformational episodes. The first one (D1) which can be characterized as tangential shearing, has given rise to NW-verging overturned folds. D2, the second one, has been of transcurrent shearing nature and generated NNW-SSE high-dipping foliations.

The enderbites, charno-enderbites and charnockites are intermediate to acid rocks. Geochemistry has defined two calc-alkaline series. One of these series has low Ti, Fe, K, P, Rb, Zr, Ba, Y and REE contents and the other shows higher contents of these elements. Both of them range from enderbitic to charnockitic compositions.

All these enderbitic-charnockitic plutonic rocks have been re-equilibrated by high temperature and low to medium pressure granulite facies metamorphism during (D1) deformation episode. During (D2) episode these rocks have suffered amphibolite facies retro-metamorphism, specially along zones of strongest deformation.

U/Pb date from zircons, obtained by the "SHRIMP" (Sensitive High Resolution Ionic Microprobe) technique, have shown that this enderbitic-charnockitic rocks crystallised between 2700 and 2800 million years. The Sm-Nd method has modeled (TDM) mantle extraction around 3000 million years.

Fraga, L.M.B. 1992. Structure at Morro do Bule region, Dom Bosco synclinal, Quadrilátero Ferrífero - MG state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1162 1992 Date of presentation:

Leda Maria Barreto Fraga

Advisor(s): Pires, F.R.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Three lithological sequences, bounded by expressive thrust faults have been identified: Bela Vista Complex, Rio das Velhas Supergroup and Minas Supergroup. Granitic gneiss of the Bela Vista complex dips east-northeast over Rio das Velhas phyllites and quartz-phyllites. The Rio das Velhas supercrustal sequence overlies the Minas Metasediments, which are largely composed of phyllitic rocks with minor amounts of quartzite, dolomite and itabirite. In the Minas Supergroup the Batatal and Moeda formations - Caraça Group - and the Cauê and Gandarela formations - Itabira Group - and eight lithological units in the Piracicaba Group have been mapped. Interpretation of superimposed folds, faults and foliations allows their grouping into four generations, related to the deformation phases D1, D2, D3 and D4. Pre-Minas aged D1 deformation phase is represented by S1 foliation, identified in the rocks of Rio das Velhas Supergroup. D2 deformation phase led to the development of prominent foliation, S2, axial plane to isoclinal or closed folds. S2 may correspond to crenulation or slaty cleavage or to a mylonitic foliation. B2 axis, oriented about 070-120/20-45°, are parallel or subparallel to the mineral lineation Lm2. D2 is also associated to the evolution of Morro do Bule Thrust System (MBTS) and locally developed ductile shear zones. The MBTS is responsible for most of the tectonic mapped lithologic contacts. D2 resulted in intense west-northwest-directed transport of thrust sheets. During D3, folds

were shaped in the micro, meso and macroscopic scales and crenulation cleavage was locally developed. B3 axis trend east-west, and axial surfaces S3 dips 40 to 85°, either north or northeast. D3 was also responsible for the evolution of the Alto da Pedra Sabão Synform and Rodeio Fault. D4 deformation phase generated north-south-trending folds in the micro and mesoscopic scales, with axial surfaces dipping past or west. Two metamorphic events M1 and M2 characterized by greenschist facies temperature and pressure conditions have been recognized. M1 affected pre-Minas rocks. M2 resulted in intense synkinematic crystallization and recrystallization, during D2 deformation phase.

Godoy, H. 1992. Geological and geotechnical characteristics of granite and gneisses alteration products in the neighbouring of São Paulo city. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 148 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1264

1992

Date of presentation: 8/6/1992

Helder de Godoy

Advisor(s): Carvalho, A.

Committee:

Subject of thesis:

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

Guimarães, M.L.V. 1992. Petrogenesis of the pre-cambrian rocks from the Itabira/Morro do Pilar region, southeastern border of the Serra do Espinhaço Meridional range-MG state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1860

1992

Date of presentation: 25/6/1992

Marcelo Lopes Vidigal Guimarães

Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis: Mineralogy and Petrology

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

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'W

Abstract

Huhn, S.R.B. 1992. Geology, structural control and genesis of the Babaçu gold deposit, Rio Maria region, southern Pará state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M076

DataBase Ref.: 136

1992

Date of presentation: 10/3/1992

Sérgio Roberto Bacelar Huhn

Advisor(s): Fuck, R.A.

Committee:

Othon Henry Leonards

- IG/UnB

Zara Gerhardt Lindenmayer

- DG/UNISINOS

Subject of thesis: Prospection and Economic Geology

State: PA

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

The Rio Maria granite greenstone terrain in southern part of Pará State is one of the very well preserved Archean block with an area of about 8.000,00 sq. km.

Structural studies on this terrain have revealed wrench fault deformation. The most characteristic features of this tectonic regime are: (1) Losange shaped blocks. In these blocks in with pronounced gradient in deformation from well preserved nucleus to highly disturbed mylonitized margins, is recognized; (2) Sedimentary accumulations along margins of blocks of informal basins bounded by shear zones.

Contacts between granitoids and greenstones are usually tectonic. The granitoids are intruded into the greenstone belts. The general consensus is that isn't a tectonic fabric previous of the shear zones.

Progressive deformation was followed by N-S compression resulting on the development of E-W thrust shear. The deformation also resulted in a E-W fold trace and sometimes by extensional crenulation cleavage. In the transtensional, superposition of deformation episodes of permeability of hydrothermal fluids through foliated zones, is recorded.

The structural patterns on gneissic rocks surrounding the greenstone belts is defined by linear shear belt distinctive of discrete conjugate shear zones of the granite greenstone terrain.

The gold deposits and occurrences are situated on regional shear breaks. Curvilinear fault, secondary shear, crosscutting of shears and transtensional sites seem to be the principal controls.

The Babaçu lode gold deposit consists of a gold bearing vein system in metavolcanic rocks, both are cut by younger granites and rhyolite dikes, aged on 1,8 Ga. The veins were emplaced during or after a greenschist facies metamorphism and affected by pervasive hydrothermal process.

Main types of veins are: grey saccharoidal, greyish white saccharoidal, and whitish. They are formed by a succession of crack seal

dilation diffusion accretions. Subsequent simple shearing caused their deformation. Alteration zones represent reaction fronts of interrelationship between wall rocks and hydrothermal fluids. Mass balance shows that Na, K, CO₂, N₂, S and B were derived from the walls. The ore bearing fluids were defined from microtermometry and Raman studies of fluid inclusions in the Au-qz-veins parallel to shears.

Two types of fluids in relations with the ore stage are distinguished: (a) Fluids of moderate temperature (250-3000C) with a more complex composition in the CO₂-N₂H₂ONaCl and a low salinity (11% NaCl). Data indicate that the gold deposition must have occurred between 0,8-2,1 Kbar; (b) Aqueous fluids with H₂O-NaCl-KCl of lower temperature (1500C) and a low to moderate salinity (20% NaCl). The latter seen to be the main process of remobilization and reconcentration of gold.

Laranjeira,N.P.F. 1992. The mixed siliclastic-carbonate platform of the Paranoá Group in the Unaí region, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M074

DataBase Ref.: 134 1992 Date of presentation: 14/2/1992

Nina Paula Ferreira Laranjeira Advisor(s): Dardenne,M.A.

Committee: Paulo Roberto Meneses - IG/UnB
José Maria Landim Dominguez - IG/UFBA

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

In the region of Unaí city, northwestern of Minas Gerais, is observed a succession of rocks of sedimentary origin. This group of rocks was divided, in this work, into seven litho-stratigraphic units (I to VII). All the units were deformed and submitted to anquimetamorphic temperatures during Brazilian .Cycle (Late Proterozoic).

The major units studied (I to V), previously considered as part of the Bambuí Group, after field works and depositional environments interpretation, were correlated to the top of Paranoá Group.

The I to III units are composed by siliclastic and carbonate sediments deposited on a shallow shelf. The first two units are constituted by an alternance of deltaic sediments and tidal flat carbonate sediments.

At the base of third unit there is an alternance of platformal distal carbonate and terrigenous sediments. Stromatolitic constructions occur as bioerms, at the top of the unit and at the boundary of regions with lesser (eastern) -and greater gradient (western).

Possibly, when the sea level was relatively low, sediments on the platform were reworked and deposited to the west (IV and V units), as turbiditic

Presence of stromatolitic structures, dolomitization and silicification, were paleo-environmental indicators of great importance and characterized peritidal and subtidal environments

All the units were compressively deformed from SW to NE, resulting in folding, faulting and fracturing.

An expressive inverse fault, with a directional component, occurs at the eastern boundary of I unit, and put it in the same level of the younger unit (Bambuí Group). Possibly this fault constitutes an older lineament reactivated in Brazilian Cycle.

The contact between Paranoá Group and the VI unit (Vazante Formation) is a tectonic one.

The TM image lineaments pattern and the structures observed at the field, show a shallow crustal level deformation, in a ruptile-ductile regime. .

Leal,L.R.B. 1992. Rb-Sr and K-Ar Geocronology, isotopic evolution and tectonic implications of the mafic dyke swarms of Uauá and Vale do Rio Curaçá, Bahia state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 118p

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1616 1992 Date of presentation: 6/4/1992

Luiz Rogério Bastos Leal Advisor(s): Teixeira,W.

Committee:

Subject of thesis: Geotectonics

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

Leite Jr,W.B. 1992. Oriente Novo massif (RO state) and the tin-tungstiferous associated mineralization. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1954 1992 Date of presentation: 26/9/1992

Washington Barbosa Leite Jr Advisor(s): Bettencourt,J.S.

Committee:

Subject of thesis: Mineralogy and Petrology

State: RO 1/1,000,000 sheet: SC20 Centroid of the area: ' - 'W

Abstract

Lessa, G.M. 1992. Descriptive study of *Xenorhinotherium Bahiense* Cartelle & Lessa, 1988 and comparison with other species of Macraucheniidae (Litopterna, Mammalia). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1452

1992

Date of presentation:

Gisele Mendes Lessa

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Pleistocene findings of Macraucheniinae were reported for the State of Bahia who recognized them as belonging to a new species and genus, *Xenorhinotherium bahiense*, which would have been restricted to intertropical Brazil. An accurate morphological analysis was performed based on approximately a thousand (1.000) perfectly preserved bone samples. By means of tables and charts, it was possible to determine a high level of intraspecific variability in the skull and in the post-cranial skeleton as well. This fact explains why until now, scattered Pleistocene findings of this macraucheniid in intertropical Brazil were assigned by several researchers to the austral species *Macrauchenia patachonica* Owen, 1838. Despite their similar dimensions, *X. bahiense* differs from *M. patachonica* mainly in cranial characters, which also suggests a closer relationship of the former with *Macrauchenia* *insenadensis* Paula Couto, 1945.

Machado, M. 1992. Taxonomic-populational study of the tusk-bearing dicynodonts of Rio Grande do Sul state, by means of the discriminant canonical analysis (size-free). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 828

1992

Date of presentation:

Marcos Machado

Advisor(s): Araújo-Barberena, D.C.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This thesis presents a taxonomic study on the tusk-bearing dicynodonts of Rio Grande do Sul State from a populational point of view. For this purpose, discriminant canonical analysis (size-free) was applied to a sample composed of 33 skulls. The specimens are included in the Pinheiros and Chiniquá Local Faunas, Santa Maria Formation, of Triassic age. The above-mentioned populational approach enables to estimate the variability of the morphological characters in and among groups of specimens and also other aspects such as: 1) the analysis of the influence of the allometric growth over the shape; 2) the data obtained from the application of discriminant canonical analysis on the sample; 3) the assumed absence of discrete osteological characters enabling a non-subjective diagnosis; and 4) the relationships between morphology and ecology. Based on these theoretical data, the taxonomy of the tusk-bearing dicynodonts is discussed. Remarks upon the evolution of the nutritional habit in the dicynodonts were also made. In this evolutionary pattern, which was a complex phenomenon, a series of morphological (specially, in upper and lower jaws), biomechanical and physiological changes were involved, all of them related to an inferred progressive decrease in food availability. Besides, the fossil record and the paleoclimatic data show that dicynodonts dispersed from Africa towards South America along the Triassic, running away from the progressively arid environmental conditions. Thus, it is claimed that the climatic changes, the decrease of available food, and dispersion and changes in the nutritional habit are intrinsically related to the evolution of the dicynodonts in Triassic times.

Mane, M.A. 1992. Radon measure by eletrets technique, observation of surface anomalies. MSc Thesis; Astronomic and Geophysical Institute, University of São Paulo, São Paulo, 121 pp

Instituto Astronômico e Geofísico - Universidade de São Paulo

Reference:

DataBase Ref.: 1212

1992

Date of presentation: 22/12/1992

Miguel Angelo Mane

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Marques Jr, F. 1992. Geology of pegmatitic field of Berilândia, CE state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 152 p

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1636 1992 Date of presentation: 8/7/1992

Francisco Marques Junior

Advisor(s): Ellert, R.

Committee:

Subject of thesis: Geology

State: CE 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract**Martinez, N.A. 1992. Evolution and genesis of granulitic and charnockitic rocks of the Mangalô region, MG: A proposal based on the study of fluid inclusions. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 100 pp**

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 02

DataBase Ref.: 2346 1992 Date of presentation: 3/4/1992

Neliane Alves Martinez

Advisor(s): Costa, A.G.

Committee:

Lydia Maria Lobato - IGC/UFGM

Rosa Maria da Silveira Bello - IGC/USP

Subject of thesis: Geology and Mineral Resources

State: MG 1/1,000,000 sheet: SF23

Centroid of the area: ' - 'W

Abstract**Mello, C.L. 1992. Sedimentary facies, depositional architecture and morpho-stratigraphic relationships in an alluvial holocenec fans system: Manso Alloformation - middle Rio Paraíba do Sul valley (SP/RJ states). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.**

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1398 1992 Date of presentation:

Cláudio Limeira Mello

Advisor(s): Moura, J.R.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: SP 1/1,000,000 sheet: SF23

Centroid of the area: ' - 'W

RJ

Abstract

Quaternary stratigraphic studies in the middle valley of Paraíba do Sul river (SP/RJ, Brazil) have been based on the analysis of the sedimentary record using allostratigraphic approach. This approach has allowed to recognize regional stratigraphic markers individualizing a sequence of events during late Quaternary landscape evolution. Manso Alloformation is the major event identified. It corresponds to a Holocene sedimentary sequence formed by very distinctive fluvial and hillslope deposits, closely interfingering. These deposits are distinguished from the subjacent units by a remarkable erosional unconformity. Manso Alloformation does have a great distribution over the regional landscape. It is represented by the widespread filling-up of the regional drainage basins. The same stratigraphic and geomorphological relations that characterize this unit as a major Holocene marker in the middle valley of Paraíba do Sul river suggest very important questions about significance of this event in Quaternary landscape evolution. In regard to these questions, it was performed detailed facies analysis of the sedimentary deposits related to Manso event. These analysis have made evident sedimentary processes and mechanisms that were involved in. In order to establish a paleoenvironmental picture using the perspective of depositional systems. The methodology employed is based on the depositional architecture point of view. In this way, it was emphasized the identification of the external geometry and internal lithofacies arrangement of the sedimentary bodies. Detailed vertical profiles have contributed to interpretation of the sedimentological relations. The major architectural elements recognized can be summarized as following: a) lenticular to approximately sheet-like sandy bodies composed of fine to coarse sands showing planar to low angle cross-stratification and trough cross-bedding. They are associated with shallow and relatively wide channels. Planar erosional surfaces indicate fluctuations of the depositional regime; b) sheet-like sandy bodies composed of coarse horizontally-stratified sands produced by flash-floods in ephemeral streams; c) convex-up to relatively sheet-like sedimentary bodies composed of massive, extremely poor sorted clayey sand materials with granules. These materials are associated with debris/mud flows; d) relatively extensive sheet-like bodies composed of massive to laminated, very poor sorted silty clays and clayey silts. It usually shows fine layers of sand materials, bioturbated levels and plant remnants. This architectural element has been interpreted as a product of overbank and waning floods associated with punctuated and intense flows - inundites. These architectural elements have been identified in meaningful relations as interbedding, and lateral and vertical intergradation. Sediment gravity deposits and sheetflood deposits grade into overbank fine deposits that are related to low sinuosity river deposits. The facies analysis has identified the

sedimentary record represented by Manso Alloformation as a result of high-intensity depositional events related to alluvial fans and low sinuosity rivers. The sedimentary dynamics would be directly associated with a Holocene high-magnitude erosional event. It has resulted in a widespread filling-up of the fluvial valleys that can be recognized in the regional drainage basins. It could represent a Holocene period of high-intensity and concentrated precipitation over landscape which could be characterized by a high retention of sediments and with a limited vegetal cover. If we take into consideration the regional tectonics, the remarkable structural control on the spatial distribution of the Manso Alloformation sedimentary deposits suggests neotectonic mechanisms.

Menegat, R. 1992. From the copper and coal mines to the model of continental collision: A contribution to the study of the epistemological mutation of the models for the precambrian of the Sulriograndense shield (1823 to 1990). MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 521

1992

Date of presentation:

Rualdo Menegat

Advisor(s): Fernandes, L.A.D.

Committee:

Subject of thesis: Geochemistry

State:

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

In this dissertation the results of an epistemological analysis of mutations suffered by geological models proposed for the Pre-Cambrian Sul-Rio-Grandense Shield between 1825 and 1990 are reported. After an introductory discussion of epistemological concepts, the nature and status of a research program or geological epistemology was evaluated under the light of the New Epistemology. This possibility was traduced by the heuristic simulation of a geological research program in terms of the Black-box Problem, through which the main characteristics of a scientific problem become clear and the classical methods of science (neutrality of observation, existence of an unique method, the inductivistic logic, the concept of cumulative knowledge, and the absence of a close relationship between subject and object of science) can be refuted. The deductivist and inductivist logic as well as falseability and verifiability can thus be contrasted. The concepts of paradigm and research program are enunciated in terms of the consistency between model, theory of object, methods and the relations between paradigm and cosmovision, bringing into evidence the relationships between subject and object of science. The second part of this work is a historical account on the evolutionary models for the Rio Grande do Sul Shield, taking into account their epistemological characteristics, and specially trying to identify in each research program its core and protective belts (models). Five different periods were recognized: (i) the NATURALISTIC (1825-1908), represented by Smith's model; (ii) the GEOGNOSTIC-MINING (1909-1940), represented by Carvalho's model, during which the first scientific test of the Continental Drift theory was undertaken by Du Toit's model; (iii) the EPIROGENIC-MINING (1941-1958), represented by Leinz's and Beurlen-Martins' models; (iv) the GEOSINCLINE-METASSOMATIST (1959-1977), represented by Picada-Tessari's model; and (v) the PLATE TECTONICS (from 1978 onwards), represented by Ribeiro's, Fragoso-César's and Tommasi-Fernandes' models. Each of these models were identified in terms of the composing elements of the research program which has permitted the recognition of four principal epistemological mutations. These could be enunciated according to their methodological nature. The change in models can result from significant shifts of the core of the research program or as a function of different emphasis of its protective belt. It was possible to demonstrate that (i) no research program was totally overcome; (ii) there were mixtures of some elements of protection belts of different research programs; (iii) no mutation of the type 'complete rupture' was verified; (iv) Du Toit's model was an epistemological singularity during the geognostic-mining period and, although it has not promoted an epistemological revolution in Kuhn's sense, it promoted the renaissance of the geological research program; (v) there was a rationality of the epistemological mutations guided by a progressive realization of the time represented by the record, which was made possible as long as the recognition of the relations of sucession between several registers and processes, previously regarded as local or fragmentary, has obliged to consider them in a regional scale so that they could also be integrated to latter analyses. The consequent identification of hierarchies in the geological record has made complex their correlation in terms of their synchronous/diachronous nature, in such a way that it could only be possible as long as the sucession of processes responsible for the record could be established. Considering the spatial limits (the Earth), such processes had to be placed in terms of the hierarchy of global chrono-geodynamical systems, according which the depth of time could be perceived as far as its factorization could be given, according to a hierarchy of processes with which the hierarchy of registers could be correlated; (vi) that through the identification of the role played by discontinuities (faults in special) in the geological record, it was permitted to recognize the relative ages of development of geological processes (in increasing scale and complexity) putting into evidence the need for compatibility between tectonic theory and the stratigraphical record during each analyzed historical period; (vii) and that the construction of geologic object implies that global process of one period become local in the following and vice-versa; and, i.e., when the record was regarded as regional, another relationship of the compartimentation of space can be established so that a new global process is then necessary to explain the new configuration. Thus, the old compartimentation becomes just part of the new one in such a way that the global process that previously explained it, now is valid only for this part.

Menezes, A.B. 1992. Mafic dikes swarm of Uauá-Bahia: Petrological and gheochemical characterization. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 126 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1074

1992

Date of presentation: 13/7/1992

Angela Beatriz de Menezes

Advisor(s): Girardi, V.A.V.

Committee:

Subject of thesis: Geochemistry and Petrology

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

Menezes, M.A.S. 1992. Ferro-bacteria in underground water: Case study in Ceará. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2199 1992 Date of presentation:

Maria Amelia Souza Menezes

Advisor(s): Rebouças, A.C.

Committee:

Subject of thesis: Hydrogeology

State: CE 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Moraes, J.F.S. 1992. Petrology of the mafic-ultramafic rocks of the Monte Orebe volcano-sedimentary sequence, Pernambuco-Piauí. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 964 1992 Date of presentation: 14/8/1992

João F. S. de Moraes

Advisor(s): Fujimori, S.

Committee: Maria da Glória da Silva - IG/UFBA
Moacyr Moura Marinho -

Subject of thesis: Metallogenesis and Mineral Exploration

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

In the western part of the state of Pernambuco, northeastern Brazil, on the border region to the state of Piauí, a zone of meta-mafic rocks occurs, intercalated with schists and quartzites, and including concordant and subordinated bodies of meta-ultramafic rocks. This suite is named Monte Orebe volcano-sedimentary sequence, considered as early proterozoic in age. With a length of more than 90 km, E-W direction, the sequence presents a regional metamorphism ranging from the high greenschist facies to the epidote-amphibolite facies. Petrologic studies performed in mafic and ultramafic rocks, had the main purpose to characterize the chemistry, the definition of pre-metamorphic lithologies, their relationships, and to investigate the probable geotectonic setting they were generated. The mineralogical composition of the mafic schists is clinoamphibole of the tremolite-actinolite series, plagioclase (AN 32-47), epidote, chlorite, minor quartz and rare garnet porphyroblasts (dominantly almandine). The main minerals present in the meta-ultramafic rocks are tremolite-actinolite series, chlorite, talc and serpentine, distributed in variable proportions. The chemical characteristics of the mafic rocks suggest an igneous origin, from a tholeiitic sub-alkaline magma. The meta-ultramafic rocks present more altered outcrops than the mafic rocks, and are considered as igneous-ultrabasic derived, given the chemical composition. The high normative pyroxene content of the meta-ultramafic rocks is comparable to the composition of pyroxenite rocks. The meta-mafic rocks seem not to present genetic correlation to meta-ultramafic rocks. The meta-mafic ones don't show chemical affinities to komatiitic basalts. The similarities between meta-ultramafic rocks and typical komatiites do not are conclusive. The meta-mafic rocks are comparable to modern tholeiites of ocean floor geotectonic setting, and, in this region, may represent a segment of ancient oceanic crust. Geochemical anomalies of gold were detected within the Monte Orebe sequence, probably associated to shear zone. It seems possible to correlate the sequence to the Brejo Seco mafic-ultramafic complex. This could extend the Monte Orebe sequence for more than 100 km westward.

Moraes, R. 1992. Metamorphism and deformation of the Juscelândia volcano-sedimentary sequence, Goiás state-Brazil, and the geochemistry of its amphibolites. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M075

DataBase Ref.: 135 1992 Date of presentation: 21/2/1992

Renato de Moraes

Advisor(s): Fuck, R.A.

Committee: Hardy Jost - IG/UnB
Maria Angela F. Candia - IGc/USP

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The ca. 1300 Ma Juscelândia volcano-sedimentary sequence is situated in the central part of Goiás, Brazil and is part of the Barro Alto Complex.

In a geological section from the south to the north, the following tectonic-stratigraphic succession is recognized: i) fine grained (garnet) amphibolites (metabasalts) with intercalations cherts and calcisilicate rocks, ii) alternation of fine grained (garnet) amphibolites and (garnet) biotite orthogneisses (metagranitoids), iii) Orthogneisses, feldspathic schist, mica schist (felsic volcanics, tuff), iv) the top section comprises several kinds of metasediments (kyanite-staurolite-garnet-mica schist, muscovite-biotite schist and phillites) and metavolcanic (amphibolites and muscovite-biotite gneisses), latter representative of bimodal volcanic activity. In the study area, four phases of deformation were characterized. The first two phases of deformation were generated in one progressive event, while the later phases are related to the generation of open folds and associated retro-metamorphic minerals of greenschist facies. The main foliation (S_n) is defined by amphibolite facies minerals. It has EW direction and dips 55° to the N, and with direction stretching lineation associated. This relationship indicates that the structures were formed in a lateral ramp of a major thrust structures, with tectonic transport from the west to east. Garnet, staurolite and kyanite overgrow the main foliation, indicating that peak of metamorphism post-dates the main deformation. The geochemical composition of amphibolites shows that the original volcanics were subalkaline, tholeiitic rocks with transitional basalts (T MORB) characteristics. An origin in a back-arc basin is suggested.

Motta, J.F.M. 1992. Evaluation of the ball and plastic clay in São Paulo state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 685 1992 Date of presentation: 12/6/1992

José Francisco Marciano Motta Advisor(s): Landim, P.M.B.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Ball and plastic clays are important raw materials for whiteware ceramics providing properties such as plasticity, binder and suspension during the making process. A great deal of ceramic goods for house purposes, such as sanitaryware, tableware, floor and wall tiles and technical ceramic products like isolators, are made using up to 50% of these clays.

This study deals with a geological evaluation of ball and plastic clay in the State of São Paulo. Based on literature and field trips to some Brazilian mines was modelling two types of ore deposits: sedimentary and supergenic. The former is the most important and is mainly related to young sediments while the supergenic type can be found in older sedimentary rocks weathered during the Cenozoic times.

Selected areas were studied during field works and several samples were studied at laboratory and the results are presented here. From the analysis of these data would be possible to classify several clay samples as a ball clay-like material from both deposit types.

The geological evaluation in São Paulo State indicates possibilities of ore deposits in some Quaternary alluvial plains, tertiary sedimentary basins and Phanerozoic Paraná basin.

Moura, F.A.P. 1992. Geostatistics of the Groundwater Quality of the Paraíba Coast. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Hydrogeology, Lithostratigraphy, Aquifers, Geostatistics

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 532 1992 Date of presentation: 6/3/1992

Francisco Alberto Pires de Moura Advisor(s): Costa, W.D.

Committee:

Subject of thesis: Hydrogeology

State: PB 1/1,000,000 sheet: SB25 Centroid of the area: 07 02 's - 35 01 'W
PE

Abstract

This investigation is concerned with a geostatistical treatment of groundwater quality of the coastal strip of Paraíba State. The study area comprises about 4000 km² along the coast of the states of Paraíba and part of Pernambuco. The main lithologic types in the area are: Precambrian basement; Paraíba Group (Beberibe Formation, Gramame Formation and Maria Farinha Formation); Barreiras Formation and Recent Sediments. The aquifers in the study area are represented by the Beberibe and Barreiras Formations. The Beberibe Formation aquifer is the most important, with average transmissivity between 1.0 and 2.0 x 10⁻³ m²/s and storage coefficient vary from 3.0 x 10⁻⁶ to 5.0 x 10⁻². The ground water flux is to eastward following the main water courses of the area (e.g: Paraíba and Mamanguape rivers). The surface water in the study area is represented by the hydrographic basin of the Paraíba and Mamanguape rivers. The geopolitic map of the Beberibe aquifer shows its hydrochemical anomalies: Rio Tinto (K, dry residue, Mg, total hardness), Mamanguape (Na, Cl, sulphate) and Sapé (Ca and pH). The geopolitic map of the Barreiras aquifer shows the hydrochemical anomalies of the following villages: Mataraca (Cl and sulphate), Baía da Traição (K), Rio Tinto (Cl), Mamanguape (Cl), Santa Rita (total hardness), Sapé (Mg and pH), Pedra de Fogo (Na, pH) and Pitimbu (Cl). The hydrochemical concentration observed for the Beberibe aquifer does not impose problems to human consumption, though the Rio Tinto and Lucena counties show total hardnesses above 200 mg/l (isovalues map). The Barreiras aquifer shows total hardness above 200 mg/l in the Santa Rita county. The water quality of the Beberibe aquifer, but for irrigation purposes the Barreiras is more recommended. Continued statistical work dealing with water quality for these aquifers can be made in the near future with an

increasing number of water wells, specially for Rio Tinto, Lucena and Santa Rita counties where the highest anomalies were found.

Murad,A. 1992. Geology, petrography and geochemistry (major and minor elements) of the Conceição de Muqui intrusive massif - ES. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1001

1992

Date of presentation:

Amin Murad

Advisor(s): Wiedemann,C.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

The Conceição de Muqui igneous complex is located in southern Espírito Santo state and covers about 50 km² of outcrop area. In the eastern border of the outcrop area it is emplaced in schistoid biotite porphyroblastic gneisses. In the northern and western border it is emplaced in migmatitic gneisses and at the southern border into a orthogneissic sequence associated with amphibolites and banded migmatitic gneisses. The intrusive body consists of 4 petrographic and trasitionals domains: 1) Mixed Zone A (at central-eastern border) consists of a strong interfingering of irregular rock bodies of monzonitic to dioritic composition (mainly monzodiorites), with a medium to coarse granular texture and incipient planar flow layering. 2) Mixed Zone B (at southern border), consists of more melanocratic, irregular and interfingering fine-grained rock bodies with monzonitic to dioritic compositions, with strong planar flow layering cut by felsic more leucocratic coarse-grained rocks in a network pattern. 3) Monzonitic Rocks (mainly at western border), it is one of the most homogeneous unities of the intrusive massif; it consists of a coarse-grained leucocratic rock. The flow structures were slightly developed in the central zones and strongly developed on the borders. 4) Granitic Rocks (mainly at northern border) consist of medium to coarse grained rocks which basically corresponds to an increase of quartz content in the monzonitic rocks. The intrusion is rich in sin-to-post-intrusive dikes, with dioritic to granitic compositions, intermediary composition also exists. The more felsic ones shows the younger relative ages. A post-intrusive phase consists of granitic rocks rich in enclaves, some of them containing quartz-plagioclase-titanite-allanite amygdals. Its is remarkable the composition and the interrelation evolution among feldspars. Calcic plagioclase evolves to a less sodic one. Later they became surrounded by poorly twinned alcalifeldspars, and/or micro-grained to coarse-grained, mesoperthites. Microcline with plagioclase nucleous evolves towards a micropertitic texture with a non-perthitic border. The micro grained mesoperthites occurs mainly at the mesocratic monzonites and monzodiorites; where as the leucocratic monzonites, shows coarse grained mesoperthites. The interrelation becomes simpler on the granites, where the feldspars are homogeneous. The main mafic mineral is biotite, which usually surrounds amphiboles (Fe-Hastingsite). Crystals of pyroxenes (Fe-Augite and Hypersthene) occur predominantly in mafic phases, rarely evolving to amphiboles and biotites. The main accessory minerals are: titanite; allanite and zircon (more felsic phases); pyrite; magnetite; hematite; muscovite and apatite, which increases in size and amount in the mafic phases. The rocks analysed in this study belong to the High-K Monzonitic Calc-alkaline Trend (LAMEYRE & BOWDEN, 1982). The planar and/or linear flow structures are well preserved, dipping sub-horizontally in the central part of the intrusion to sub-vertically, mostly in the marginal areas. Marginal shears striking radially are common. Country rocks septa and xenolithes are abundant inside the intrusion, often discordant with foliations of the flow structures. These facts suggest, that the intrusive massif has a shallower erosion level than other studied massifs in the region. Thirty three lithogeochemical analysis showed an alkaline trend, with normative nepheline and an agpaite index ($1, Na/K \text{ ratio} > 1$, in about 50% of basic rock groups, and an inversion of this in most of the intermediary and acid rocks. High amounts of K, P, Ba, Sr and Zr are indicative of incompatible elements in the more basic rocks. Anomalous amounts of Cr and Ni in quartz-monzonites and granites suggest a mantellic source influence in the acid rocks origin. Based on field, petrographic and geochemical data assemblage, plus regional geochronological data and comparison with neighbouring massifs, the age of the intrusive body is suggested herein as Precambrian - end of the Brasileiro Cycle. The placement environment would alternate from extensional to compressional, which is very common at the end of any tectonic cycle.

Nummer,A.R. 1992. Geologic-lithostrucutural mapping and experimental tectonics of the Andrelândia Group in Santa Rita do Ibitipóca - Lima Duarte region, south of Minas Gerais state. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1160

1992

Date of presentation:

Alexis Rosa Nummer

Advisor(s): Trouw,R.A.J.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

'

-

'W

Abstract

Oliveira,É.V. 1992. Quaternary fossil mammals of Rio Grande do Sul state, Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 832

1992

Date of presentation:

Édison Vicente Oliveira

Advisor(s): Ferigolo, J.

Committee:

Subject of thesis: Palaeontology

State: RS

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This dissertation deals with fossil land mammals from the State of Rio Grande do Sul, correlated to the fauna of Lujanian Age (Late Pleistocene - Early Holocene). Seven new occurrences are reported: cf. *Holmesina*, *Chlamyotherium sellowi*?, *Glyptodon* aff. *reticulatus*, *Neothoracophorus* aff. *elevatus*, *Myiodon darwini*, *Glossotherium* (*Pseudolestodon*) *myloides*?, and cf. *Trigodon*. The material, previously described as *Plohophorus paivai* for the Pantano-Grande locality, and that identified as *Megalonychops primigenius* for the São Gabriel locality are revised. Some taxa previously referred without description or illustrations to *Pampatherium*, *Propraopus grandis*, *Doedicurus*, *Hydrochoerus hydrochaeris* and *Tayassu*, are confirmed by the description of the material. On the basis of the data concerning the evolutionary history of the groups, the Great American Interchange, and from the supposed alimentary habits it is concluded that this mammalian fossil fauna of Rio Grande do Sul was composed, predominantly, of grazers probably adapted to open-country environments, like savannas or steppe, and by browsers living in lowlands adjacent to the watercourses. The extinction of the mammals of the Touro Passo and Sanga da Cruz II local faunas may be correlated tentatively to the important environmental changes which occurred between 14,000 and 11,000 years B.P., when a more humid climate, with a more diversified vegetation substituted the colder and dryer climate of the last glacial.

Penha, U.C. 1992. Structural geology and tectonics of the Andreândia group in Baependi-São Lourenço-Pouso Alto region / State of MG, in the context of the Rio Paraíba do Sul shearing belt .. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 123 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 01

DataBase Ref.: 2345

1992

Date of presentation: 11/2/1992

Ulisses Cyrino Penha

Advisor(s): Ladeira, E.A.

Committee:

Carlos Alberto Rosière

- IGC/UFMG

Yoceteru Hasui

- IGCE/UNESP

Subject of thesis: Geology and Mineral Resources

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

Pereira, E. 1992. Stratigraphic analysis of middle Paleozoic of Alto Garças sub-basin, southwestern of Goiás state, Paraná basin, Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1403

1992

Date of presentation:

Egberto Pereira

Advisor(s): Rodrigues, M.A.C.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: GO

1/1,000,000 sheet:

SE22

Centroid of the area:

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'W

Abstract

The Middle Paleozoic stratigraphic analysis of Alto Garças sub-basin (Paraná basin) was based on study of large outcrop expositions located in SW Goiás State, Central Brazil (51°W-53°W; 16°S-17°S) and of well data from Petrobrás (AGst-1-MT, JAst-1-GO and TLst-1-MT). The results obtained made possible a redefinition of the lithostratigraphic unit boundaries and to build a depositional sequence framework. Basin sedimentation starts with pre-Vila Maria sequence (? Ordovician age). The Eosilurian sequence is the second depositional event. This sequence is completely constituted by Vila Maria sediments. The sequence is a marine glacial system tract and is associated to Eopaleozoic Gondwana glaciation. The next depositional episode is marked by Sequence I (Eodevonian age), consisted of sediments from Furnas formation and middle member of Ponta Grossa formation. This depositional episode is characterized by initial braided fluvial system. The braided system is graded into continental to transitional sediments. The deposition ends with sediments of shoreface and proximal-distal inner shelf origin. Sequence II is the last event during Middle Paleozoic sedimentation, consisting of an initial sedimentary progradational wedge. The sedimentary wedge is considered as a shallow marine wave dominated shelf (middle member of Ponta Grossa formation). The continuous sea level rise drowns the shelf and leads to sub-basin marine off-shore conditions (upper member of Ponta Grossa formation).

Pereira, L.F. 1992. Tectono-stratigraphic relationships between the Canastra and the Ibia unities at the Coromandel region, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M077

DataBase Ref.: 137

1992

Date of presentation: 17/7/1992

Luciana Felício Pereira

Advisor(s): Dardenne, M.A.

Committee:

Detlef Hans-Gert Walde

- IG/UnB

Carlos Alberto Rosière

- IGC/UFGM

Subject of thesis: Regional Geology

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

' -

'W

Abstract

The studied area is located in the Alto Paranaíba region of the central portion of the Brasília Fold Belt, between the towns of Coromandel and Guarda-Mor, Minas Gerais.

The stratigraphic column established for the Canastra Group in this region, represents a regressive mega sequence of sediments deposited on an open-sea continental platform. The following units occur from base to top: a turbiditic sequence with arenaceous and argillaceous intercalations; an arenaceous sequence containing storm beds; and a clay-rich arenaceous sequence with structures reflecting shallow marine and tidal flat environment.

The Ibiá Group overlies the Canastra Group on an erosional disconformity. This unit's base consists of a metadiamicrite (Cubatão Formation) which glacial origin is attested to by the compositional, size and shape diversity of clasts, and by the occurrence of striated and faceted clasts, and of esker-like sands channel within the diamicrite. The uppermost unit (Rio Verde Formation) comprises an extensive and monotonous package of banded calcareous phyllites. The contact between the formations is gradational, accompanying an upward decrease in clast size and density near the contact. Both units have the same mineralogic composition.

The Canastra and Ibiá Groups were affected by a single event of progressive deformation, E1, during the Brasiliano Cycle, manifested as two distinct compressional stages. The earliest, most compressive stage, D1, represented by thrust tectonics, is responsible for the generation of numerous structures associated with shear zones and the genesis of the fault juxtaposing the Canastra and Ibiá Groups over the Paracatu-Vazante Unit. A greenschist facies metamorphism is associated with this stage of deformation. The second stage of deformation, D2, is characterized by a dominant component of pure shear in a ductile-brittle regime, causing east-west-oriented shorting, and generating structures associated with shear zones in symmetric, conjugate pairs. Joints and structural lineaments also occur as conjugate pairs, displaying similarity with the strain ellipse defined for D2, so, they are, at least in part, attributable to this final stage.

Microstructures do not, record a very great magnitude of deformation, with the predominance of annealing processes over those of dynamic recrystallization. Three mechanisms of deformation are associated with these structures: mass transfer by diffusion, crystal plasticity and intergrain frictional slip, the later being the principal responsible for the accommodation of deformation and generation of sheath folds.

When compared with those similar units that are related to rocks presently forming part of the determined geochronological record, the stratigraphic, sedimentological and structural characteristics of the studied units show that the Ibiá Group metadiamicrites are contemporaneous with the Jequitáil Tillite, with a probable age of deposition between 900 and 1000 Ma. The Canastra Group is therefore older than 1000 Ma.

Piekarz, G.F. 1992. The Passa Três granite, PR state and their associated auriferous mineralizations. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1740

1992

Date of presentation: 28/2/1992

Gil Francisco Piekarz

Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

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'W

Abstract

The proposition of a metallogenetic model to explain the origin and control of gold mineralization that occurs associated to the Passa Três Granite (PR) is the main aim of this work. This granitic body is believed to be a mesothermal NE-SW aligned intrusion with about 5 km², controlled by a dextral strike-slip fault (ZCT). It has been intrusive into the Setuva Group rocks and shows tectonic contacts with younger Acungui Group. Geochemical and petrographical gathered data led it to be classified as a less evolved quartz-syenite with shoshonitic filiation and whose most probable source were garnetiferous mafic igneous rocks. Late to post-magmatic hydrothermal alteration connected with granitic evolution and mineralization includes: potassic, phyllic, argilic propylitic and silic alterations. Gold deposits occur as quartz-sulphide veins filling shear zones and fractures inside the Passa Três Granite. They occupy synthetic, antithetic, extensional and pressure positions in relation to the ZCT. Paragenetic assemblage is made up by quartz, fluorite, pyrite, chalcopryrite, Bi and Cu sulphosalts and gold. The latter occurs in pyrite fractures in native state. The deposit can be classified as plutogenic, with strong tectonic control by the effect of the ZCT. Gold was probably incorporated to the granitic body at some stage of its magmatic evolution, been concentrated in the final steps of the alteration-mineralization system, at temperature and pressure ranges around 265-280°C and 1240 bar, respectively.

Porcher, C.C. 1992. Characterization of the flow conditions at a tangential shear zone in the Santana da Boa Vista region (RS). MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pp.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 522

1992

Date of presentation:

Carla Cristina Porcher

Advisor(s): Fernandes, L.A.D.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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Abstract

Tectonic interleaving of Lower Proterozoic (Eburnian) sialic basement and a metavolcano-sedimentary sequence of Upper Proterozoic age (Brasiliano Cycle) was recognized in the western part of the Dom Feliciano Belt, Santana da Boa Vista region. The trondhjemitic-tonalitic gneisses (Encantadas gneisses) and intrusive granites of the basement, as well as the supracrustal rocks belonging to the marginal basin sequence, were deformed along a thick flat-lying shear zone responsible for their tectonic intercalation. This structure was recognized on the basis of characteristics of developed tectonites showing widespread grain-size reduction and the non-homogeneous and non-coaxial nature of the deformation. During late stages of structural evolution of these rocks, a regional - scale NE - periclinal antiform, which controls the outcrop pattern, was developed.

Each lithostructural unit affected by the shear zone presents a typical association of mesoscopic and microscopic-scale structures, which permit to characterize the tectonic flow regarding its kinematics and rheologic behavior, as well as the thermal history of deformation. The attitude of pervasive planar structures that characterize the fabric indicates that the shearing-plane was sub-horizontal with a NE-SW transport direction (if the effects of late folds are subtracted). Through the analysis of kinematic indicators of several types and scales (mainly microscopic) it was possible to demonstrate a top to NE transport sense of movement for the upper block. Amphibolite to green schist syntectonic retrogressive metamorphic conditions were inferred from microstructures and parageneses in the deformed quartzofeldspathic and metasedimentary rocks, respectively.

Structural correlation of this flat-lying shear zone with other similar structures of the Dom Feliciano Belt was established mainly on the bases of their kinematic evolution, since the radiometric data obtained in this work do not reflect the age of deformation. The data obtained, however, have allowed the preliminary recognition of the mylonitized granitoids as a part of the Early-Proterozoic basement.

Taking into account the direction and the sense of tectonic flow, thermal history of deformation and the radiometric data it was possible to conclude that: (i) the flat-lying shear zone described in Santana da Boa Vista region can be extended further south (until Cerro dos Porongos region), being recognized as one of the most important mid-crustal movement zone of the Dom Feliciano Belt and if (ii) it's synchronicity with the strike-slip Dorsal de Canguçu (to the east) and Caçapava do Sul flat-lying (to the west) shear zones can be demonstrated, they could represent an important tectonic event with belt-parallel tectonic transport ('K2' - Fernandes et al. 1992).

Although the geodynamic meaning of the belt-parallel movements in tectonics belts is still not well understood, the increasing recognition of events as such in deformation belts suggests that it is a dominant mode of deformation in Phanerozoic and Upper Precambrian orogenic zones (Vauchez & Nicolas 1991). The comparative analysis between the models proposed for well-known orogens and the Dom Feliciano Belt has allowed speculations about the role played by the flat-lying Santana da Boa Vista shear zone during the belt-parallel K2 deformation.

Pressinotti, P.C. 1992. Regional and detailed analysis for potential mineralizations of Sn and W: A methodological approach applied in the southeastern region of the São paulo State. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 686

1992

Date of presentation: 17/9/1992

Paulo Cesar Pressinotti

Advisor(s): Hasui, Y.

Committee:

Subject of thesis: Regional Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

The lithological framework of the Southeast of São Paulo State consists of high to low grade metamorphic assemblages, including varied orthogneisses and metavolcano-sedimentary supracrustal rocks, intruded by granitoid stocks and batholiths. Some Sn-W deposits are known in the area, related to: (1) greisens, and (2) skarns in roof pendants.

An interactive methodology using remote sensing and geological data was developed to search new Sn-W prospective targets related to granitic plutons and is here presented

The investigated area has 32.000 sq. Km and is difficult to access, presents rough relief, dense forest cover, tropical climate conditions, and scarcity of rock outcrops the proposed methodology is fundamental in this scenario to optimize results under a cost-time evaluation basis, when compared with geochemical prospection and geological systematic survey.

The methodology can be implemented through the following steps (1) detailed statistical investigation of lineaments from Landsat and Radar imagery, in order to obtain maps of frequency, density, azimuth mean deviation and maximum fracturing axis; (2) drainage analysis, looking for morphostructural structures; (3) compilation of geological data, with definition of tectonic domains, also enhancing features which may represent post-orogenic or anorogenic granitoid intrusives or cupolas; (4) remote sensing analysis and fotointerpretation to delineate intrusive and discordant plutons.

The thematic maps thus obtained allowed to recognize trends and regional controls of granitic intrusions, and to delimitate several prospective targets. Airborne survey radiometric data for U, Th and K (total counting), and Bouguer gravity anomalies were taken into account to prioritize the best targets.

Such an integrated approach applied in a preliminary exploration program at the Southeastern São Paulo State has proved its efficacy by detecting granitic plutons and cupolas showing alteration processes, which are diagnostic of mineralization.

Ragatky, C.D. 1992. Geology of Capão do Lana mine: A contribution to the knowledge of topaze genesis in Ouro Preto region, Minas Gerais state, Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1159

1992

Date of presentation:

Célia Diana Ragatky

Advisor(s): Pires, F.R.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

Ramos, M.I.F. 1992. The subfamily Coquimbinae Ohmert, 1968 (ostracoda) in the Brazilian continental shelf - Taxonomy, ecology and geographic and bathymetric distributions. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 831

1992

Date of presentation:

Maria Inês Feijó Ramos

Advisor(s): Ornellas, L.P.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

This dissertation comprises, at the specific level, the systematics of the genera *Coquimba* Ohmert, 1968, *Nanocoquimba* Ohmert, 1968 and *Cornucoquimba* Ohmert, 1968 found at the Brazilian Continental Shelf with the respective geographical and bathymetrical distributions and ecological data of their species. Through the data obtained, eight new species were identified; three of the genus *Coquimba*: *Coquimba ornellasae* sp. nov., *Coquimba punctata* sp. nov. and *Coquimba alata* sp. nov.; two of the genus *Nanocoquimba*: *Nanocoquimba inflata* sp. nov. and *Nanocoquimba caudata* sp. nov. and three of the genus *Cornucoquimba*: *Cornucoquimba reticulata* sp. nov., *Cornucoquimba conulata* sp. nov. and *Cornucoquimba diminuta*. It was also registered the presence of *Coquimba tenuireticulata* Kotzian, 1982 (In: Bertels, Kotzian & Madeira-Falcetta, 1982) emend Sanguinetti, Ornellas & Coimbra (in press) and *Coquimba bertelsae* Sanguinetti, Ornellas & Coimbra (in press). The geographical distribution studies of this species made it possible to establish one South association and another one North/East, separated by the Faunal Transition Zone previously established by Coimbra & Ornellas (1989).

Rios-Netto, A.M. 1992. Planctonic foraminifera of the Tertiary of Espírito Santo basin: Systematics and biostratigraphy. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1443

1992

Date of presentation:

Aristóteles de Moraes Rios-Netto

Advisor(s):

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

Planktonic foraminifera assemblages from the upper Lower Paleocene through lower middle Miocene have been studied in boreholes 1-ESS-37c and 1-ESS-52 drilled in the offshore portion of Espírito Santo Basin. The consideration of systematic and biostratigraphic aspects allowed the recognition, description and illustration of 80 species and subspecies. Tentative generic reassignments have been proposed for some species. The advantage of giving priority to phyletic relationships in the systematics of the planktonic foraminifera (both at specific/subspecific and generic levels) are emphasized in this study. Twelve biozones and four biostratigraphic hiatuses have been recognized based on the zonation proposed by Noguti & Santos (1972) for Brazilian marginal basins. The inadequacy of some Noguti & Santos (op. cit.) biozones for the Tertiary in the Espírito Santo Basin, as pointed out in this work, supports the need to restudy and redefine them. Based on bibliographic data, the Oligocene/Miocene boundary is changed from the top of Globiferina ciperoensis Zone of Noguti & Santos (1972), as commonly accepted, to an indeterminate level within this biozone.

Rocha, P.L.F. 1992. Preliminary map of top contour of the crystalline basement of the Baixada de Jacarepaguá - RJ state - Brazil, based on the gravimetric prospection. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1583

1992

Date of presentation:

Paula Lucia Ferrucio da Rocha

Advisor(s): Fernandes,C.E.M.

Committee:

Subject of thesis: Geophysics

State: RJ

1/1,000,000 sheet:

SF23

Centroid of the area:

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Abstract

In this work, we present the results of a geophysical survey, by gravimetric measurements, in a 6 km by 17 km area, at Baixada de Jacarepaguá (Rio de Janeiro - Brazil) aiming to determine depths for the basement complex. Measurements were performed at 66 sites with an Autograv CG-3 Scintrex gravimeter, owned by UFRJ, the distance between nearest sites being typically 1 km. The results of the survey allowed us to construct a contour map for the crystalline basement, in a 1:25.000, scale. Detailed computations, based on geological, geomorphological and gravimetric data revealed the existence of an irregular paleorelief, corresponding to the original subsurface which then formed the bottom of part of a sedimentary basin (Pliocene, according to Roncarati and Neves, 1976) in which sedimentation was beginning. The possible existence of faults and intruding bodies in the basement is also discussed. The contour map is considered to be preliminary due to the fact that our interpretation lacks depth control to basement by boring and also due to the fact that the station density for the area is not sufficient to completely cover the rock interface irregularities.

Rodrigues,L.C.R. 1992. The geological and structural setting of the Caraça Natural Park and surroundings at the "Quadrilátero Ferrífero" region, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M073

DataBase Ref.: 133

1992

Date of presentation: 14/2/1992

Luiz Cláudio Ribeiro Rodrigues

Advisor(s): Jost,H.

Committee:

Marcel Auguste Dardenne

- IG/UnB

Carlos Alberto Rosière

- IGC/UFMG

Subject of thesis: Prospection and Economic Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

The Caraça Natural Park and its surroundings is located in the eastern part of the Quadrilátero Ferrífero, state of Minas Gerais, Brazil, and contains a stratigraphic framework made up of most supracrustal block in a rather complex structural relationship.

Most part of the studied are consists of quartzites originally attributed to the Tamanduá Group and that are redefined as a part of the Moeda Formation, Caraça Group.

Structures in the studied are genetically related to three deformational phases (D1, D2, D3) which took place under crustal compression representing one progressive deformational event. Each phase is responsible for the building up of folds, axial plane surfaces, lineations, mylonitic foliation and faults. Deformation progresses from ductil to brittle regimes. A fourth phase is responsible for gravity faults parallel to D1-phase faults.

The study area corresponds to a fault system with frontal, lateral and oblique ramps controlled by preexisting structural highs and lows and structures reactivated or reoriented during the three phases.

The weaker deformation occurs in the central part of the Serra of Caraça, preserving primary structure such as bedding, channel and tabular cross bedding, gradational and parallel plane stratification and ripple marks.

The Caraça Fault System is proposed to have been formed during Late Proterozoic (Brasiliano Event, 0.75-0.45 Ga) and it was controlled by the preexisting structures. The regime was compressional with a EW tectonic transport.

Rolim,S.B.A. 1992. Evaluation of the use of IHS trasform in the integration of geophysical (aeromagnetometry) and remote sensing (TM-LANDSAT) data for the geological investigation in the Pojuca area (Serra dos Carajás, PA state). MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1340

1992

Date of presentation: 1/9/1992

Silvia Beatriz Alves Rolim

Advisor(s): Paradella,W.R.

Committee:

Subject of thesis: Remote Sensing

State: PA

1/1,000,000 sheet:

SE22

Centroid of the area:

' -

'W

Abstract

Rolim, V.K. 1992. Study of application of quantitative methods and kinematic indicators to zones of deformation concentration. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 971

1992

Date of presentation:

Vassily Khoury Rolim

Advisor(s): Dayan, H.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

This is a potential study of the strain analysis methods and of kinematic indicators as information procedures and, therefore, as supporters in the understanding of genetic and tectonic models of structures and regions. The first chapter makes a synthesis of some 2-dimensional strain analysis methods in rocks: 1. Strain determination using initially circular markers; 2. Strain determination using initially elliptical markers: 2.1 Rapid methods; 2.2 Rf/(diagrams; 2.3 Theta curves in Rf/(diagrams; 2.4 Method of Elliott (1970); 2.5 Method of Matthews et al. (1974); 2.6 Method of Shimamoto & Ikeda (1976); 2.7 Method of Robin (1977); 2.8 Method of Miller & Oertel (1979); 2.9 Method of Dunnet & Siddans (1971); 2.10 Methods of Wheeler (1984 and 1986). 3. Strain determination using point distribution techniques. This first chapter still deals with some considerations about competence contrast between marker and its matrix problem; about the best field data number that may be collected; and about the sedimentary fabric influence on strain analysis. It also shows a computer program that makes easier the strain calculations through some of the given methods. The second chapter focusses on the 3-dimensional strain analysis, and it suggests a mathematical solution for the deformation ellipsoid calculations, which uses the combination of three or more elliptical sections with any orientation. A computer program which process this mathematical formulation, and the application of this method in the strain analysis of meta-conglomerates of Sopa-Brumadinho Formation, in the central part of Southern Serra do Espinhaço, MG, Brazil, are also presented. The third chapter studies the progressive deformations, through the fibrous crystals which grow syntectonically in pressure shadows, and the use of these fibrous crystals in strain increments and finite strain analysis. It is shown a computer program that makes a numerical simulation of pressure shadows growth, and also the application of this program on simulations of pressure shadows found in rocks of the Bambuí Group, near the city of Sete Lagoas, MG. In all chapters, conclusions about the capacity of the studied methods to provide the means to understand structures and tectonic processes, and the contributions of their applications to the understanding of the tectonic structuration of the studied areas, are also presented.

Rozelli, M.L. 1992. Characterization of the environmental impact caused by organic polimer base fluids in ground water drilling. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 658

1992

Date of presentation: 27/5/1992

Marcelo Lacerda Rozelli

Advisor(s): Sinelli, O.

Committee:

Subject of thesis: Geosciences and Environment

State: SP

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

The objective of this study was to describe the environmental impact on groundwater caused by organic polymers in based mud. For assssing the impact, there were used the results of physical-chemical and bacteriological analyses of: groundwater, mixture water, biofilms, organic polymer based mud. The results of biodeorability test of organic polumers were used. The samples were collected from water wells, drilled in São Paulo State and Sarir Project-Libya. It was verified that organic polymer had induced the contamination by heterotrophic bacteria and that the pollution occurred by residual organic materials. The disinfection operations must reach the source of contamination, such mixture water, equipments and drilling fluids (mud). The reutilization of drilling fluids (muds) is not a good practice. The simbiotic biological association as comensalism or mutualism can create suitable micro-environments for the development of corrosion process. The corrosion does occur with the electrochemical disequilibrium on a metal surface influenced by microorganisms.

Ruiz, A.S. 1992. Contribution to the geology of the Cachoeirinha district - MT state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 118 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1246

1992

Date of presentation: 10/11/1992

Amarildo Salina Ruiz

Advisor(s): Brito Neves, B.B.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: MT 1/1,000,000 sheet: SD21 Centroid of the area: ' - 'W

Abstract

Salazar Junior, O. 1992. Geology and primary gold deposits of the Morretes region, Paraná state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M078

DataBase Ref.: 138 1992 Date of presentation: 4/9/1992

Oscar Salazar Junior Advisor(s): Fuck, R.A.

Committee: Onildo João Marini - IG/UnB
Alberto Pio Fiori - DG/UFPR

Subject of thesis: Prospection and Economic Geology

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

The studied area located in Morretes region is made up of a gneissic and a gneissic-amphibolitic complexes, both belonging to the Coastal Complex (or Joinville Massive) of which evolution has been polyphase from the Eo-Proterozoic (?) to the Neo-Proterozoic/Eo-Palaeozoic. They enframe the Graciosa and Marumbi granitic intrusions, numerous rhyolitic and microgranitic dikes, mesozoic basic intrusives and lie under recent continental sediments.

The Gneissic Complex comprises granitic gneisses and hornblende-biotite gneisses, of granitic and tonalitic composition, with intercalations of andesine-labradorite amphibolites and metaproxenites. Metamorphosed to the amphibolite facies, these rocks display frequent zones of high deformation generated under ductile conditions.

The Gneissic-Amphibolitic Complex comprises albite-amphibolites, albite-oligoclase-amphibolites, granitic gneisses with muscovite, biotite, amphibole and chlorite, in variable proportions, and magnetite quartzites. These rocks underwent effects of retrometamorphism in the greenschist facies as a result of hydrothermal processes either pervasives or restricted to deformation zones. Talc-schists, magnetite-schists, muscovite-quartz-schists and veins of auriferous quartz-sulfide, among other intercalations, represent products of high deformation and hydrothermal alteration.

The present study deals with the auriferous deposits at Rio do Ouro and São João areas, both located north to Morretes townsite. Gold mineralization relates to saccaroidal quartz veins within ductile shear zones with silicification, sericitization and piritization. Carbonatation and argillization effects are subordinated or related to the gneissic-amphibolitic host rocks.

Gold occurs as inclusions in disseminated pyrite crystals with subordinated chalcopyrite and galene. Besides Cu, Pb and Zn, other associated elements are As, Ag, Hg, Se and Bi. mineralization is found in the quartz veins and in the deformed host-rocks, as such mylonitic schists and gneisses. Previous studies on fluid inclusions in Rio do Ouro deposit have indicated aqueous-carbonic fluids, probably related to the mineralization, with salinity ranging between 9.5 and 14.7 wt% NaCl, 0.2 and 3.4 mol% CH₄, and total homogenization temperatures between 221.3 and 378.50°C.

The regional structure of the Gneissic-Amphibolitic Complex characterizes a dextral transcurrent shear zone. The veins at São João deposit lie in structures parallel to the regional structures (N30-60E) whereas the Rio do Ouro deposit lie within a P-type shear zone.

Sander, A. 1992. Petrology and lithochemistry of a part of the volcanosedimentary sequence belonging to the Brusque metamorphic complex in the region of Ribeirão do Ouro, SC. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 518 1992 Date of presentation:

Andrea Sander Advisor(s): Hartmann, L.A.

Committee:

Subject of thesis: Geochemistry

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

This dissertation deals with the main petrologic and lithochemical aspects of part of the vulcano-sedimentary sequence of the Brusque Metamorphic Complex, in Ribeirão do Ouro region, Santa Catarina State, with special emphasis on its metabasic and meta-ultrabasic rocks.

The primary structures preserved in the lithotypes of sedimentary or igneous origin of this Sequence, together with petrographic criteria, allowed to individualize and to map four different lithofacies units, named as their protoliths: 1) Pelitic-Arenaceous Siliciclastic Unit; 2) Arenaceous Siliciclastic Unit; 3) Carbonaceous Unit; and 4) Volcanogenic Unit.

A lithochemical study was performed only in respect to the Volcanogenic Unit, whose chemical variations show two different populations: a) a high-MgO and low-alkalic one, formed by metagabros, porphyritic metabasic rocks and magnesian schists; b) a low-MgO and high-alkalic one, constituted of metabasalts and variolitic metabasalts. The lithochemical characteristics of these rocks suggest that they came from only one magmatic source, with a transitional nature between tholeiitic and alkaline magmas, compatible with a volcanic mid-plate regime.

The petrographic and lithochemical studies revealed that the circular structures of the variolitic metabasalts in the Volcanogenic Unit were formed by fast cooling and consequent fractionation of the spherulitic quartz and albite.

The integration of the field, petrographic and lithochemical data led to the paleoenvironmental interpretation of the facies units

and to the working up of a depositional model related to platform and submarine fan deposits.

Santana, R.G. 1992. Fossil tetrapods of the Sanga do Cabral formation (Early Triassic of RS). MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 830

1992

Date of presentation:

Rosemary Gomes Santana

Advisor(s): Araújo-Barberena, D.C.

Committee:

Subject of thesis: Palaeontology

State: RS

1/1,000,000 sheet:

Centroid of the area:

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Abstract

This dissertation deals with the osteological description of fossil remains from the Catuçaba Local Fauna (Sanga do Cabral Formation, Early Triassic of the State of Rio Grande do Sul). The fossils are poorly preserved, owing to the fact that they are found within intraformational conglomerates. Thus, taxonomic determination is difficult. Even so, it was possible to identify some fragments of reptiles and amphibians. Among the remains related to reptiles there are elements such as: maxillae, premaxillae, and a mandibular fragment, ascribed to *Procolophon* sp.; another mandibular fragment, that shows morphological features common to many procolophonids, but which differs from the genus *Procolophon*, was therefore classified only at the level of the Family Procolophonidae; a group of ten isolated vertebrae show affinities with those from reptiles of the Order Cotylosauria. Several amphibian cranial remains, identified upon the only taxonomic criterion available, namely, the ornamentation of the dermal bones, indicated the presence of Order Temnospondyli. Apart from those fragments, identified with reasonable confidence there are other, more problematic. Among them, there is a fragmentary maxilla that could be attributed to the Family Lydekkerinidae, as well as appendicular bones that resemble those from cynodonts and six isolated vertebrae whose morphology does not correspond to any of the groups known in the time interval considered here. This assemblage, containing amphibians and reptiles, indicates a strong correlation between the Catuçaba Local Fauna and the Lystrosaurus Zone of Southern Africa, and equivalent Biozones, specially in Australia and Russia. All of them show a relative predominancy of the amphibians over the reptiles.

Santoro, J. 1992. Speed erosion processes in the São Pedro (São Paulo state) area - Phenomenological study with geotechnical emphasis. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 657

1992

Date of presentation: 4/5/1992

Jair Santoro

Advisor(s): Fúlforo, V.J.

Committee:

Subject of thesis: Geosciences and Environment

State: SP

1/1,000,000 sheet:

Centroid of the area:

' -

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Abstract

This paper deals with the steps necessary for prevention or correction of gully erosion ("boçorocas") susceptibility areas, starting with the diagnosis of the phenomenon through geological as well as geomorphological and geotechnical studies. These studies lead to the characterization of the boçoroca development processes. The sediments of a boçoroca, located in the municipality of S. Pedro, central-eastern S. Paulo State, Brazil, were studied both in the field and laboratory. Their characteristics were analysed from the perspective of susceptibility to erosion. The following attributions of these sediments were pointed out: a) granulometric homogeneity; b) low values of the shear strength parameters; c) high void ratios; d) permeability values (K_{20}) are distributed around $4,27 \times 10^{-3}$ cm/s; e) the porosity values, around 42%. As for the Atterberg limits the samples are considered as non plastic.

Schenato, F. 1992. Study of the alteration of the Capivarita anorthosite - RS: Mineralogical and geochemical evolution. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 519

1992

Date of presentation:

Flávia Schenato

Advisor(s): Formoso, M.L.L.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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Abstract

The Capivarita Anorthosite, located to the northwest of the Pelotas Batholite of the Dom Feliciano Belt, constitutes a mass of metanorthositic rocks associated with polydeformed rocks in crustal-scale shear zones, at high grade metamorphic conditions. Microstructural evidences of crystalline plasticity mechanisms show that dynamic recrystallization has occurred under upper amphibolite facies conditions.

Younger granitic intrusions in the metanorthosite are responsible for the partial tectonic uplift of the area and for non-extensive hydrothermal activity, related to solution diffusion in rock-to-open spaces (joints, veins, etc.) direction. Intense activity of descending superficial solutions, in the uplifted zones near granite-metanorthosite contact, resulted in the formation of large kaolin deposits of residual type, where rock is homogeneously altered to kaolinite. Structural and mineralogical transformations near the intrusions mark the evolution of a primary mineralogy (plagioclases, amphiboles) to a secondary mineral assemblage constituted essentially by halosites (7-10Å) and kaolinites. Mineralogical (crystallinity, morphology and texture) and chemical (Fe+3 - kaolinites) features of kaolinite are comparable to those of kaolinites crystallized in supergenic conditions. Primary mineral transformations of rocks localized in flat and distal (from the intrusion) areas present distinct evolutionary features marked by incipient alteration, where pseudomorphic crystallizations (di and trioctahedral vermiculites, smectites and kaolinites) are directly influenced by the nature of the primary minerals.

Silva, A. 1992. Post-miocenic sedimentary evolution of the northeastern Campos basin area. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1399

1992

Date of presentation:

Adalberto da Silva

Advisor(s): Gorini, M.A.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: RJ

1/1,000,000 sheet:

SF24

Centroid of the area: 21 33 's - 40 15 'W

Abstract

The area is situated between 346 and 394 km E UTM and 7536 and 7584 km N UTM (CM = 39oW), between lat 21o16' and 21o50'S and long 40o01' and 40o29'W, on northeastern Campos Basin (RJ, Brazil), and is a key area in terms of sedimentary development in post-miocenic times. The clastic continental deposits associated with ancient Paraíba do Sul river bypass a huge carbonatic section on the central and outer shelf and feed the slope deposits. Synchronism of these events puts some constraints on the interpretation of the depositional systems on the area: the well known relation clastic versus carbonatic deposits leads us to explain several aspects apparently mutually excluding. The studied section lays over the Marco Cinza, a well developed seismic-reflector that truncates a miocenic set of reflectors. It is pliocenic in age. Above it, a horizon named Marco P marks a variation on depositional style with frequent eustatic sea level fluctuations. It has been inferred as pleistocenic in age. Three sectors are characterized by increasing dip angles over the area at these two periods of time. Smaller gradients at proximal area pass to somewhat larger ones on outer shelf; abruptly, slope gradients are installed at the eastern part of the area and are better characterized in pliocenic times. Near shelfedge, a group of buried canyons, ancient correlatives of the Northeastern Group Canyons of Brehme (1984), is characterized on eastern face and typically migrates offshore since Miocene. A fourth canyon, named Paraíba do Sul, isolated from previous group, indents mio-pliocenic outer shelf and is filled with sediments during Pliocene. The sedimentation is typically aggradational on shelf area and develops progradational beds over slope areas. The outer shelf sedimentation was deposited in carbonatic banks environment, as it is denoted by interval velocity and geometric patterns, that grades to carbonatic muds and mixed deposits towards the continent. Observed seismic patterns concatenated with well informations and paleontologic data are in good correlation with eustatic sea level variations (Vail et al., 1977; Haq et al., 1987). The proposed depositional model tries to set compatibility of clastic versus carbonatic deposition postulating an episodicity of events over the area. Prodeltaic sediments are transferred through the channels from central and inner shelf in pulses, episodic in character, bypassing the carbonate sector in restricted areas and in short-term cycles, and feeding slope deposits with clastic material.

Silva, A.M. 1992. Geology and petrochemistry of the mafic dike swarms of the "Quadrilátero Ferrífero" and of the "Espinhaco Meridional", Minas Gerais state. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M079

DataBase Ref.: 139

1992

Date of presentation: 25/9/1992

Adalene Moreira Silva

Advisor(s): Kuyumjian, R.M.

Committee:

José Caruso Moresco Danni

- IG/UnB

Fernando Flecha de Alkmim

- DEGEO/UFOP

Subject of thesis: Regional Geology

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area: ' - 'W

Abstract

Mafic dykes are abundant in the Quadrilátero Ferrífero and Southern Espinhaço regions of the southeastern part of Minas Gerais state. Proterozoic and Phanerozoic dykes ranging from 1,7 Ga to 120 Ma form at least four swarms that differ from one another in trend, mineralogy, composition and radiometric age.

The oldest swarm has a K-Ar age of about 1,7-1,5 Ga, trends north-south, the dykes vary in width from centimeters to meters, and are deformed and metamorphosed to schists composed of chlorite, sericite, quartz, plagioclase (An5-25) and ilmenite. Their rare earth element patterns are light-REE enriched, (La/Sm) N = 3,68, and heavy-REE depleted (Dy/Yb) N = 0,82. These dykes (and sills also) are related to the opening of the Espinhaço Basin.

Northwest-and northeast-trending mafic dykes have a U/Pb age of about 906 Ma. They are commonly about ten meters wide, and

Page 324 of 639

Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1157

1992

Date of presentation:

Rogério Rodrigues da Silva

Advisor(s): Trouw, R.A.J.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

Silveira, E.G. 1992. Uranium hydrogeochemical study in Águas de Lindóia, state of São Paulo. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 660

1992

Date of presentation: 26/8/1992

Ene Glória da Silveira

Advisor(s): Bonotto, D.M.

Committee:

Subject of thesis: Geosciences and Environment

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

A preliminary investigation concerning to the geochemical behavior of uranium isotopes (^{234}U and ^{238}U) was performed on spring waters from Águas de Lindóia city, São Paulo State. The reason for this study is because the natural radioactivity of these waters is poorly known, and no uranium content data have been published.

Measurements of Uranium-238 contents and $^{234}\text{U}/^{238}\text{U}$ activity ratios in groundwaters were performed on the following springs issuing in the urban area from Águas de Lindóia: Levíssima I, Levíssima II, Beleza, São Roque, Lindália and Santa Isabel.

Several additional parameters were evaluated in the same waters as an aid to interpret the obtained data. They are: pH, Eh, temperature, dissolved oxygen content and partial pressure of dissolved carbon dioxide.

Sobreira, J.F.F. 1992. Thermo-mecanical analysis of Alto de Vitória region. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 972

1992

Date of presentation:

Jorge Fiori Fernandes Sobreira

Advisor(s): Falkenheim, F.U.H.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Thermomechanical regional analysis of the portion of the Southeastern Brazilian Continental Margin, dominated by the geologic feature known as "Vitória Arch" was carried out, taking as theoretical model for the basin formation and evolution, uniform lithospheric extension (McKenzie, 1978). The main technique used to achieve results was the local backstripping (Steckler and Watts, 1978) to which geological and geophysical data were input. Once established, the lithospheric stretching pattern of the Vitória Arch Region was correlated to those already determined northern and southern adjacent regions, namely, the Espírito Santo and Campos Basins, respectively, here regarded as structurally and stratigraphically similar on the whole. The results obtained for the Vitória Arch area, itself, point out to the non-fit of the McKenzie's model application. The sedimentation in this area would be, otherwise, basically related to flexural effects occurring during the post-rift phase. For the stretched portion located off Vitória Arch, where McKenzie's model proved to be more adequate, the results point out that the Espírito Santo and Campos Basins behave differently with regard to the amount of tectonic subsidence, the former being characterized by a higher regional gradient of the lithospheric stretching factor. The results also suggest that the thermomechanical border between these portions would be located off Vitória Arch. These results would certainly imply on different exploratory prospects with regard to hydrocarbons, as comparing Espírito Santo and Campos Basins, notwithstanding their similar stratigraphic and structural evolution as a whole.

Souza, K. 1992. Petrology and Geochemistry of the Brasiliano-age São Rafael Calc-Alkaline Granitic Batholith (State of Rio Grande do Norte) and the Barometric Significance of Magmatic Epidote. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Magmatic epidote, Granite, Brasiliano age, Geothermometry, Geobarometry, Seridó Group.

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 533

1992

Date of presentation: 6/3/1992

Kleber de Souza

Advisor(s): Sial, A.N.

Committee:

Subject of thesis: Mineralogy and Petrology

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

The São Rafael granitic batholith (Rio Grande do Norte State), SE of São Rafael, occupies an area of about 250 km², intruding Seridó Group metasediments, parallel to regional metamorphic structures. It exhibits sharp contacts with Seridó Formation micaschists at its eastern and southern borders, and with Jucurutu Formation gneisses at its western and northern borders.

Two granitic facies are present. One facies is porphyritic, quartz-monzonitic to granitic in composition, with randomly-oriented microcline in an equigranular matrix. The second one, is equigranular, composed of plagioclase, microcline, quartz, biotite, muscovite, apatite, and sphene.

The equigranular matrix of the porphyritic facies is constituted of plagioclase, microcline, quartz, biotite and amphibole, and the accessory epidote, apatite, allanite and rare opaque minerals. Epidote is the most abundant accessory phase, occupying up to 5% in volume, being observed in three textural relationships: (a) as strongly pleochroic, euhedral, iron-rich twinning crystals, enclosed by biotite; (b) at amphibole rims, suggesting a reaction between amphibole and the magma; (c) with zoned, euhedral allanite core. Zoned allanite is also observed as isolate crystals. Some epidote crystals show embayment, penetrated by quartz, and rarely is observed enclosed microcline or plagioclase being absent from the equigranular facies. The amphiboles are edenite, ferro-edenite, edenitic hornblende and ferro-edenitic hornblende. The composition of epidote varies from Ps27 to Ps29, within the range of composition for igneous epidote.

The pressure of solidification of the amphiboles is between 2.5 to 4.0 kbar (geobarometer of Johnson & Rutherford, 1989) or between 3.0 to 4.5 kbar (geothermometer of Schmidt, 1991), corresponding to crystallization of the granitic magma at a depth of about 10 to 15 km. Hornblende-plagioclase pair equilibrated between 650 and 710°C, estimated by the method of Blundy & Holland (1990).

Spadini, A.R. 1992. Depositional processes and cyclicity in albian carbonates of shallow shelf of the Campos basin. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1401 1992 Date of presentation:

Adali Ricardo Spadini

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The upper part of the lower-middle Albian section of the Macaé Formation (Lower Macaé), Campos Basin, in southeastern Brazil, is composed by a succession of infratidal symmetric depositional cycles. These cycles were formed in response to successive sea level rises, either eustatic or tectonic controlled, with magnitudes ranging from 6 to 20 m. The major control in the facies distribution within the cycles of shallow carbonate banks reflects the sedimentary environments defined by the regional paleogeographic setting of the Campos Basin. However, facies variations also occur as a result of halokinesis and of the sedimentation process itself, in a cause vs. effect relationship. The lower portion of the cycles define a typical shoaling upward pattern. In the shallow carbonate banks a complete shoaling cycle comprises peloidal packstones containing planktonic microfossils (representing a drowning episode), followed upwards by oncoid packstones/grainstones, ending with the deposition, under the effective influence of high-energy currents, of oolitic grainstones. In the depositional lows of the carbonate platform, the sedimentation processes were dominated by suspension; floodings are represented by fine-grained carbonate mudstones, showing intense chemical compaction. The shoaling-up succession is characterized by the thickening upward of the strata, which is reflected by negative shifts of the gamma-ray curve and by an associated increase in porosity. Bioturbation reflect the relative depth of the water column. Diverse sedimentary facies recorded in the shallow carbonate banks, and depositional relationship between the oolitic and the peloidal limestones, as found in the carbonate succession of the Macaé Formation, may be correlated with diverse models of Recent carbonate sedimentation observed in the Bahamas Banks, southeastern Florida.

Távora, V.A. 1992. Ostracoda from the Pirabas formation (lower Miocene) in the state of Pará, Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1444 1992 Date of presentation:

Vladimir de Araújo Távora

Advisor(s): Ferreira, C.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: PA 1/1,000,000 sheet: SA23 Centroid of the area: ' - 'W

Abstract

This thesis deals with the taxonomy of ostracodes of the Capanema facies of the Pirabas Formation (Lower Miocene) from Aricuru near the town of Maracanã, northern Pará. We give descriptions of 48 species, with pictures obtained by SEM. The deposition of these sediments is mainly related to a environment characterized by shallow (batimetry less than 3 m), high salinity (around 37%), hot and oxygenated waters. The thickness variations of the water body, which must have taken place during at least five events, were due to the evaporation of the Aricuru lagoon under dry, hot climate conditions. The presence of five hardgrounds interbedded in clayey or sandy carbonates related to other faunistic occurrences allowed us to define the ciclicity of the depositional events. The abundance of Bairdia in the hardgrounds suggests that some species of the genus prefer more resistant substratum in contrast to the Cytherura genus dominate in the other beds, indicating that they lived in soft fine grained substratum. The Loxocorniculum genus is dominant in coarse grained substratum showing that it were more easily adapted in this one. The more abundant species of ostracodes, Bairdia bradyi, B. machaquillaensis, Cytherura sp.1 e Loxocorniculum postdorsolatum appear to be eurihalynes because they live in marine water or in more saline water, although they prefer the latter. All species lived in shallow, hot, oxigened and current water of the Aricuru lagoon, and the abundance varies according to the nature of the substratum (hard/soft, clayey/sandy) all of them being epibenthonic ostracods. For the first time are recorded in the Pará State two biostratigraphic zones with basis on ostracode distribution propoused by Bold (1983) to the Caribbean Region. The presence of Quadracythere brachypigala defines the Pokornella saginata / P. laresensis zone which corresponds to the time interval limited by the biozones N2 to the N5 Blow (1969) zones for planktonic foraminifera. The coexistence of the species Hermanites tschoppi and Cushmanidea howei allowed to recognition the Hermanites tschoppi zone, which stratigraphic range corresponds to the N4 zone (Blow, op. cit.).

Vargas, M.C. 1992. Geology of the granite-gneisses from the granite-greenstone terrains of the Crixás, Guarinos, Pilar de Goiás and Hidrolina region, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M080

DataBase Ref.: 140 1992 Date of presentation: 28/9/1992

Márcio Coutinho Vargas Advisor(s): Fuck, R.A.

Committee: Nilson Francisquini Botelho - IG/UnB
Moacyr Moura Marinho - IG/UFBA

Subject of thesis: Regional Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The granitic rocks of the granite-greenstone terranes of the Crixás region, State of Goiás, central Brazil, have varied compositions and often show a gneissic appearance. The contact relations with the supracrustal rocks are always tectonic and defined by low-angle shear zones, striking approximately N-S, with westerly dipping foliations.

Two cycles of granitic rocks generation were recognized by field relations and available ages. In the first cycle the rocks are mainly of tonalitic composition, of the high aluminum type, which show highly fractionated REE patterns without Eu anomaly. The chemical characteristics of the tonalites suggests they were derived by partial melting of basalts and/or eclogites. In the second rock types are granodiorites and granites, with subordinated tonalites and trondhjemites. The granites and granodiorites form a calc-alkaline trend and display REE patterns with moderate negative Eu anomalies. They may have been generated by low degrees of partial melting (10 to 25%) of sialic rocks from the first cycle, but the tonalitic compositions would need at least 90% of melting to be produced. The trondhjemites are generally associated to the volcanic supracrustal rocks and appear to have been derived by partial melting of the deep roots of the greenstone-belts.

The rocks of the first cycle have not been adequately dated so far. The granodiorites of the second cycle show a Rb-Sr isochronous age of 2.653 +/- 40 Ma.

Nearby the city of Itapari there are banded paragneisses which were dated 629 +/- 11 Ma, by the Rb-Sr method, revealing that the area was affected by the Brazilian Cycle.

Vargas, T.C.M.A. 1992. Alluvioner prospecting and geological and geomorphological survey of the Padre Paraíso - Americanas chrysoberyl productive region (Minas Gerais state, Brazil). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 627 1992 Date of presentation:

Thaís Cristina de Monte Alverne Vargas Advisor(s): Cassedanne, J.P.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This research was achieved by using the conventional method of prospecting based on the panning of old alluvium overburdens, river beds, fluvial terraces, colluvium and pegmatites. Such a procedure was applied in order to determine the host rock of the chrysoberyl found in the Padre Paraíso - Americanas region, in the northeastern part of the Minas Gerais State. In order to define the relation between the deposits and the local basement rocks, a geological mapping of the area was also carried out. Studies on the morphological and climatic conditions associated with effect of recent cycles of erosion, as well as the main features of the detritic deposits allowed the reconstruction of the landscape and the depositional regimes, and the estimates of age of the

detritional deposits with the chrysoberyl-bearing bed gravel. All the types of mineral occurrences found in the area were also described. The results show that chrysoberyl is found in old alluvium deposits of pleistocenic and holocenec ages, whose host rocks are suggested to be simple non-zoned pegmatites, which intrude granitoids of granitic to granodioritic compositions and monzogranites, weathered by recent erosion cycles. The location of the studied samples and the distribution contours (in weight %) of their main mineralogies on the geological map, allow to depict the relations between the mineral occurrences and their probable source rocks. A geomorphological map is also presented, in which main features of surfaces of erosion present in the area are briefly discussed.

Vieira, A.C. 1992. Application of remote sensing and geoprocessing techniques in mineral exploration: A methodological approach to sulfur prospecting in Sergipe-Alagoas basin, Sergipe state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1156

1992

Date of presentation:

André Calixto Vieira

Advisor(s): Penha, H.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: SE

1/1,000,000 sheet:

SC24

Centroid of the area:

' -

'W

Abstract

Winter, W.R. 1992. High frequency sequences and anoxia in the late Albian of the Cherno field, Campos basin, Brazil. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 416

1992

Date of presentation:

Wilson Rubem Winter

Advisor(s): Medeiros, R.A.

Azambuja Filho, N.C.

Committee:

Subject of thesis: Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The Namorado Turbiditic Complex of the Cherno Field, Campos Basin, Brazil, was analyzed from the point of view of the sequence stratigraphy paradigm.

Were defined eleven sedimentary facies and their genetic association, as well as the geologic model for the turbiditic sandstones distribution. The resulting deposits were stacked up in a structural depression, formed in the Late-Albian. The medium thickness is about 130 meters, and was deposited in 0.46 M.y.

These facies were grouped in three distinct genetic units (depositional systems): the lower one, interpreted as a channel complex, is composed of coarse-grained sand deposits formed by traction/suspension processes. The intermediate one is composed of coarse/medium-grained sand deposits dominated by suspension processes, and interpreted as channelized lobes. The other one consists of carbonaceous-clay facies association interpreted as the result of hemi-pelagic sedimentation and last pulses of turbiditic flows deposition.

Sand facies represent the lowstand system tract which is the principal tract occurring in the high frequency depositional sequences (fourth-order, sensu Vail et al., 1990) mapped in the field area.

These fourth-order sequences were grouped as the lowstand system tract of a third-order sequence (composed sequence) whose deposition spans the Vraconian Stage (Late Albian).

The sedimentary succession analyzed represents a transgressive event that resulted from the interaction between the rate of accommodation development and sediment influx.

The Aptian-Albian anoxic event (OAE-1, Schlanger & Jenkyns, 1976) is represented by deterministic black shales, associated with the turbiditic deposits that form the radioactive Y marker.

Wolff, F. 1992. Petrographic characterization, lithochemochemistry, mineral chemistry and geothermometry of high grade metamorphic rocks of the Anápolis-Itaúçu complex, Goiás state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1000

1992

Date of presentation:

Flávio Wolff

Advisor(s): Valença, J.G.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The Anápolis-Itaúçu Complex, in Goiás State, Brazil, is part of the Alfenas granulitic belt. The complex is composed mainly of

rocks of the amphibolite/granulite facies, showing often, effects of the role played by very intense tectonic processes. This renders difficult the identification of the boundaries between these rocks in terms of their different origins. In this work besides rocks of a lower metamorphic grade, TH1 and TH2 types of ocean tholeiites and an igneous calc-alkaline sequence, both metamorphosed under granulite facies conditions, are also identified. Concerning the sedimentary-derived high-grade rocks, the overall data indicate the presence of granulitic rocks derived from original materials whose composition approximate those of the pelite-graywacke compositional range. In this context, a thought is advanced that among these granulitic rocks, some may also have originated by recrystallization of leucosomatic material derived by partial melting of these sedimentary components. Observed parageneses and other kinds of evidence suggest that the granulitic rocks formed under two different pressure regimes, of which an earlier low-pressure type was followed by a medium to high-pressure type. At present, the characteristic minerals assemblages assigned to the latter type are widely dominant in the studied rocks. The geothermometric results indicate that these high-grade mineral assemblages achieved an equilibrium temperature around 800°C (opx-cpx pair). The amphibolite facies rocks predominantly correspond to portions of a TTG terrain involved in the granulitic belt, remnants of overlying supracrustal rocks or to elongated portions of retrogressive granulitic rocks, these widely controlled by tectonic dynamics. The lithogeochemistry, attached to the lithological association found in this work points to the possibility that part of studied area corresponds to a granulitized plutonic segment of a root of greenstone belt. With regard to granulitized calc-alkaline sequence mentioned above, it may be interpreted as representing ancient magmatic arc rocks associated with a tectonic setting somewhat analogous to a modern orogenic continental margin.

Abram, M.B. 1993. The Fazenda Mirabela mafic-ultramafic body, Ipiaú (BA): Petrographic characterization, geochemistry, typology and metallogenetic implications. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 965 1993 Date of presentation: 23/8/1993

Maisa B. Abram Advisor(s): Silva, M.G.

Committee: José Haroldo da Silva Sá -
Moacyr Moura Marinho -

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

The Fazenda Mirabela body (CFM) is a mafic-ultramafic stratified intrusion that outcrops at about 9 km², occurring in the southern/southeastern portion of the State Bahia, close to the Ipiaú city. This body is embedded in the São Francisco craton basement, in archaean and proterozoic rocks related to the called Ipiaú and Jequié-Mutuípe domains, defined by Barbosa & Fontelles (1989) like supracrustals associations, represented by charnockitic gnaisses, quartz-feldspathic rocks intercalated with metabasic rocks and iron formations, well deformed, amphibolitic and granulitic facies metamorphosed. The Fazenda Mirabela body is weakly deformed, presents cryptic and rhythmic bandement and well preserved cumulate textures. Comprises 4 lithostratigraphic zones: (i) Lower Zone, consisting of olivine cumulates and olivine-orthopyroxene cumulates (serpentinites, dunites and peridotites); (ii) Intermediate Zone, composed by orthopyroxene cumulates (orthopyroxenites and clinopyroxene norites) and clinopyroxene-orthopyroxene cumulates (websterites and gabbronorites); (iii) Upper Zone, composed by gabbronorites with typical gabbroic textures; and (iv) Border Zone, without clear field relationships, represented by fine gabbronorites that seems, in some cases, a chilled margin. The mineral fractional order in the Mirabela body follows: olivine - (Cr spinel) - orthopyroxene - clinopyroxene - plagioclase - (magnetite/ilmenite). The bulk rock geochemistry reveals that in the basal portion the fractionation was controlled by olivine and in the upper stratigraphic levels by pyroxenes. The petrographic and mineral geochemistry aspects point out that the CFM had cooled slowly, leading to some subsolid re-equilibrations (adcumulate growth, clinopyroxene exsolution lamellae in orthopyroxene, intergrowths between clinopyroxenes, spinel exsolutions in orthopyroxene and plagioclase, reaction coronas between olivine and plagioclase). However, some of these re-equilibrations may represent a weak metamorphic event that hadn't modified the Mirabela textures and primary chemistry. Bulk rock geochemistry reflects the cumulative process and reveals decreasing MgO towards the mafic rocks, confirming the lithostratigraphy proposed. The persisting presence of orthopyroxene and its chemistry (decreasing MgO contents from the ultramafic to mafic rocks), the plots in AFM and Al-F-M indicates that the Fazenda Mirabela body was originally derived from a tholeiitic magma. The petrographic features, En contents of orthopyroxene, Fo contents of olivine, Al contents of clinopyroxene and spinel, REE distribution patterns, (La/Lu)_n ratios and others mineral and bulk rock geochemistry features observed in this body are similar to those described for intrusive stratified tholeiitic complexes of continental environments. The Fazenda Mirabela body comprises suitable characteristics for Ni, Cu and possibly PGE concentrations. Associated with the transition between the Lower and Intermediate Zones, the Fazenda Mirabela body (9CFM) is characterized by one sulphide rich level and PGE anomalies. This sulphide rich level seems to reflect a high fS₂ evolution moment. On the other hand, low fO₂ conditions seems to have inhibited the formation of chromite and other oxide (magnetite/ilmenite) deposits. This body seems to integrate a trend of mafic-ultramafic bodies in the southern portion of the Bahia State and opens new metallogenetic perspectives for this region, considering its typology and suitable features for Ni, Cu and possibly PGE mineralizations.

Accioly, A.C.A. 1993. Petrographic, Metamorphic and Lithogeochemical Characterization of the Metavolcanic and Metapelitic Rocks of Serra Talhada (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Metavolcanic rocks, Metapelites, Metamorphism, Lithogeochemistry, Serra Talhada sequence (PE).

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 534 1993 Date of presentation: 9/9/1993

Ana Cláudia de Aguiar Accioly Advisor(s): Lima, E.S.

Committee:

Subject of thesis: Mineralogy and Petrology

State: PE 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

SB24

The chief aim of the present study is a petrographic-metamorphic and geochemical characterization of metavolcanic and metapelitic rocks in the boundary region of the Cachoeirinha and Salgueiro Groups, Central Structural Domain, Serra Talhada-PE. These rocks occur in an irregular area limited by the coordinate 70°45' S, and 38°10' and 38°20' W. The metavolcanosedimentary sequence in this area consists mainly of mafic schistlike associated to phyllite and chlorite biotite schists, and fine grained feldspathic gnaisses related to muscovite-quartz-gnaisses metamorphosed under P/T conditions varying from green-schist to amphibolite facies conditions in almandine-garnet zone, with calculated temperatures around 550°C for main deformation/metamorphism (D₂/M₂). Microtectonic analyses indicate a ductile deformation after D₂, and field analyses also indicate a late brittle deformation. According to their chemical mineralogical composition and main deformation position, the metavolcanic rocks were divided into 4 groups: Group I comprises acid meta-volcanic rocks, pre-tectonic to the main deformation;

Group II includes acid subvolcanic rocks post-tectonic to the main deformation, but deformed by a late ruptile deformation; Group III is composed of pre-tectonic intermediary to basic metavolcanic rocks and Group IV represents metabasic rocks associated to the shear zones, related the 3rd deformation and affected by a hydrothermal event. The metapelites studied correspond to rocks of the Cachoeirinha Group and from the "Sequence" under discussion, with some of the latter related to Salgueiro Group. The geochemical data (major and trace elements) suggest that the protholith of the metavolcanic rocks in the studied area are basalts / andesitic basalts / andesites; and rhyodacite / rhyolites / alkali trachytes. The basic metavolcanic rocks show two geochemical trends: one alkaline and the other tholeiitic sub-alkaline with enrichment in K, Rb, Ba and LREE similar to that of recent continental tholeiite of intraplate environment, with REE pattern suggesting a crustal enrichment. The geochemical signature of the acid metavolcanic from Group I, and of the metapelites from the "Sequence" also suggest an intraplate environment for the formation of the basin. Based on the data collected, the following evolution for the volcanic-sedimentary "Sequence" in the Serra Talhada region is suggested: - deposition in a continental rift type environment, with probable formation of oceanic crust; - closed of the basin during the 2nd and 3rd compressional deformation events, with emplacement of the metabasic rocks of Group IV; transtensional event with emplacement of subvolcanic peralkaline rocks of Group II.

Ade, M.V.B. 1993. Characterization of the depositional systems and coal bearing beds of the "Grid IV" sedimentary sequence, Candiota coal field - RS. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 525

1993

Date of presentation:

Marcus Vinicius Berao Ade

Advisor(s): Corrêa da Silva, Z.C.

Committee:

Subject of thesis: Geochemistry

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

' -

'W

Abstract

This dissertation deals with the study of the sedimentary sequence of the Rio Bonito Formation (Lower Permian) at the Candiota Mine, Candiota, Rio Grande do Sul State.

Paleoenvironmental analyses of three lithologically distinct intervals were carried out from bottom to top, and considered as fluvial, swamp and barrier island deposits; petrographic analyses - microscopic chemical - of seven seams of the intermediary interval were also developed.

The bottom interval of the Rio Bonito Formation in the area is composed of coarse to conglomeratic sandstones, which were mainly deposited in a fluvial system. These deposits are overlain by pelitic coal-bearing strata with seven coal seams with interbedded mudstones and shales, which were deposited in swamps protected by a barrier island shoreline. These deposits underlie an interval composed of medium to fine-grained and subordinate coarse-grained quartzarenites, related to a probably transgressive barrier island.

The coal seams of the intermediary intervals are rather thin, less than 1.5m, except the Upper and Lower Candiota seams, with 2.5m each. These coals present high ash content (about 50%) and the microscopic analyses evidenced the predominance of the vitrinite group, except for the "Banco Louco" seam, where macerals of the inertinite group predominate. The Upper and Lower Candiota coal seams were classified as Sub-bituminous A coal or as "Glanz-Braunkohle", according to ASTM and DIN classifications, respectively.

Albertão, G.A. 1993. Interdisciplinary and epistemological approaching of the Cretaceous-Tertiary boundary evidences, based on reading the sedimentary record of the eastern marginal Brazilian basins. MSc Thesis; Department of Geology, University Federal of Ouro Preto, Minas Gerais, pp

Cretaceous-Tertiary (KT) Boundary, Eastern Marginal Brazilian Basins, Iridium Anomaly, Meteor Impact, Mass Extinction, Stratigraphy, Sedimentology, Geochemistry, Tsunami, Epistemology

Departamento de Geologia - Universidade Federal de Ouro Preto

Reference:

DataBase Ref.: 1862

1993

Date of presentation: 19/1/1993

Gilberto Athayde Albertão

Advisor(s): Martins Jr, P.P.

Della Favera, J.C.

Committee:

Jannes Markus Mabeosoone - DG/UFPE

Eduardo Apóstolos Machado - PETROBRÁS

Antonio Manuel Ferreira de - PETROBRÁS

Subject of thesis: Sedimentology/Sedimentary Petrology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The work by Alvarez et al. (1980), that rekindled the interest in the study of discontinuities of the geological and biological records of the planet Earth, claims that the biotic mass extinction taken place between the Cretaceous and Tertiary periods (K-T boundary) was triggered by the impact of an asteroid of great dimensions on the Earth. The evidences are anomalous enrichments of rare chemical elements (in particular iridium) which usually present very low concentrations in the Earth crust, right in the K-T boundary of sedimentary sequences in Italy, Denmark and New Zealand.

Recent researches have revealed new information in the study and characterization of the K-T boundary. They point to peculiarities present in the boundary layer of different places all through the globe, besides the anomalies of iridium: shocked quartz, microspherules, microtektites, soot and identification of tsunamiites and impact craters, both related to the K-T boundary.

have brought new life into the impact hypothesis.

Despite the non-existence of studies on details for an identification of a complete section with a K-T transition in the Brazilian sedimentary basins, some areas (outcrop data) and drilling wells (subsurface data) have been selected on a PETROBRÁS data basis. The drilling wells are RJ-1 and RJ-2 (Campos Basin), ES-1 and ES-2 (Espírito Santo Basin) and SE-1 (Sergipe/Alagoas Basin); some outcrops from the Pernambuco/Paraíba Basin (Olinda Sub-Basin) were also selected.

Besides the field descriptions, different samples were collected from drilling wells and outcrops, and analyzed through the following methods:

- (i) petrographic analysis (with magnifying glass, petrographic microscope and scanning electronic microscope - SEM);
- (ii) micropaleontological analysis: planktonic foraminifers and palynological elements (mainly pollens, spores, algae and dinoflagellates);
- (iii) diffractometric analysis (XRD) - bulk rocks and clay minerals;
- (iv) stable isotopes analysis (carbon and oxygen) and insoluble residue (IR) and total organic carbon (TOC) analyses;
- (v) special geochemical analysis ("microchemical" and through the solid-state energy dispersive X-ray analyser - EDS - attached to the SEM);
- (vi) instrumental neutronic activation analysis (INAA), which provided concentrations for 46 chemical elements, including iridium (it was performed by the Los Alamos National Laboratory team, USA).

Two different kinds of sampling (subsurface and outcrop data) called for two different treatments.

It is visible through petrographic analyses of the cutting samples (subsurface data) that lithologies in the drilling wells comprise mainly slope shales. Besides, the same data were submitted to mathematic treatment: simple statistical analyses (means, variances, T and F tests etc.), factor analysis and discriminant canonical analysis. The result of the factor analysis led to the definition of a group of chemical elements representative of various profiles to the selected drilling wells; it also attested to the predominance of specific behaviours with local tendencies and conspicuous cyclicities of inter-regional character; the discriminant analysis showed not only a very clear discontinuity of the chemical data but also of the mineralogical data between the Cretaceous and Tertiary periods.

Outcrops studied in the Pernambuco/Paraíba Basin (in special the ones in the Poty Quarry, near Recife, and Ponta do Funil area, near Goiana, both in the State of Pernambuco) led to a bigger detailing on a petrographic and paleoenvironmental basis; these outcrop samples were also submitted to greater number of analysis. The Gramame Formation (marly biomicrites of deep neritic-upper bathyal environments) is found underneath the Maria Farinha Formation (intercalations between limestones - biomicrites, biosparites and calcilutites - and shales deposited in middle-deep neritic environment) with an erosive lithologic contact. The sedimentary structures (hummocky cross stratification, fining upwards and wavy bedding) characterize a carbonate platform (ramp) controlled by storms in a process of progressive marine regression (interpretation buttressed up by the ichnofossil, geochemical, paleontological and mineralogical data). The base of the Maria Farinha Formation, particularly the layer D, is a sedimentary deposit formed through a process of higher energy than the other layers.

The K-T boundary is situated in a continuous layer of marlstones which is found only in the Poty Quarry (layer I); the boundary is defined through micropaleontological analysis where it occurs the major biotic extinctions. At this very same level, the geochemical analysis shows relevant iridium and TOC anomalies. Although carbon and oxygen isotopic data reveal some trends, they seem to be partially influenced by diagenesis.

The special characteristics of the layer D (grain-size, combination and fragmentation of fossils, abundant and coarse phosphatized fragments, and sedimentary structures) and the occurrence of geochemical anomalies, right above its top, on the same layer that sets the K-T boundary biostratigraphically (layer I), led to the carrying out of a test concerning the hypothesis of the active processes in this boundary, through a semi-quantitative modelling. The result obtained showed that it is likely that a tsunami process is responsible for the settling of the layer D.

We contend that the Poty Quarry outcrops represent, among other areas surveyed in this work, the most complete sedimentary sequence of the K-T boundary (sitting around 60cm above the base of the Maria Farinha Formation). There are evidences of a terminal Cretaceous event (probable meteoritic impact): anomalies of iridium detected for the first time in low latitudes of the Southern Hemisphere (in particular in South America) and of TOC, and a possible impact-generated tsunamiite which is represented by layer D.

Andrade, F.R.D. 1993. Granitoid complex of São Roque (SP): Petrography, litochemical and typological zircon. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 688 1993 Date of presentation: 17/8/1993

Fábio Ramos Dias de Andrade Advisor(s): Artur, A.C.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The São Roque Granitoid Complex is a composite pluton, situated in the region of São Roque - Mairinque - Araçariçuama cities, eastern São Paulo State, Brazil. The intrusion is 191 Km² in area, with a near triangular outline, defined by strike-slip shear zones.

The wall rocks are low-grade metamorphic lithologies of the São Roque Group along the northwestern, southwestern and eastern borders, and a association of medium to high grade metamorphic rocks and granitoids of the Embu Complex in the southeastern border. There is a body of metasedimentary rocks, measuring 9 Km along its main axis, located in the southwest portion of the complex, probably corresponding to a roof pendant.

The São Roque Granitoid Complex is made by a sequence of rocks ranging from dioritic, through granodioritic to monzogranitic in composition, comprising th petrographic facies, nine of them being mappable in a 1:50.000 scale. The petrographic

characteristics and field relationships allow a division in four major lithological sets: - the set I is made by diorites, which are the most mafic and deformed facies of the complex; - the set II comprises hornblende-biotite bearing porphyroid granodiorites and porphyroid monzogranites, the latter corresponding to the frame of the massif; - the set III is made by biotite monzogranites, divided in four facies according to color, texture and grain size criteria; - the set IV is made by two kinds of tourmaline leucogranites, one of them related to a dense net of aplitic-pegmatitic veins. There is a non-mappable quartz-monzodioritic facies, that occurs as sparse, dark gray, fine grained, decimetric to metric dykes, older than the aplites and pegmatites. The facies array is partly controlled by internal shear zones, related to the major strike-slip shear zones that define the borders of the complex. The lithochemical data indicate a potassic calc-alkaline composition, varying from metaluminous to peraluminous toward the later granites. The zircon typological data are consistent with the lithochemistry, displaying a calc-alkaline series, where prevails the medium temperature series, with subordinated facies plotting in the field of calc-alkaline low and high temperatures.

Azevedo, G.C. 1993. Geological, geochemical and geochronological characterization of the Dee Island and part of the Greenwich Island, South Shetland archipelago, Antarctic. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 524

1993

Date of presentation:

Giles Carriconde Azevedo

Advisor(s): Soliani Jr, E.

Committee:

Subject of thesis: Geochemistry

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The different areas studied in this dissertation consist of a volcano-sedimentary association represented by volcanoclastic rocks such as tuffs, lapilli tuffs, breccias and lapilli breccias, epiclastic sediments and intercalated flows which are associated with sub-volcanic rocks of small depth.

The geologic mapping, elaboration of profiles and rock analyses for major oxides, trace elements and REE, associated with 24 new K-Ar ages and initial ratio of Sr87/Sr86, obtained by this study, permitted the characterization of some lithostratigraphic units and their correlations to other areas of the South Shetland Islands. The K-Ar and Rb-Sr ages previously obtained for the region were also reviewed.

In N-NE Greenwich Island a volcano-sedimentary association was mapped, Upper Cretaceous in age and correlated to the Coppermine Formation, while in S-SW Middle Cretaceous rocks were interpreted as belonging to the Byers Formation. A Lower Tertiary age was attributed to a third volcanic unit, recognized as Fildes Formation. This lava, however, could represent a pre-Tertiary volcanic activity which was later resettled by intrusive events.

The plutonic activity was more intense at the Cretaceous-Tertiary passage and at the onset of the Eocene.

Taking lithogeochemistry into consideration, the different units do not present large compositional variations and consist of basalts, andesitic basalts and rare andesites.

The obtained data show that the rocks from this region of the South Shetland Islands have a tholeiitic character, whereas the younger rocks present a calc-alkaline tendency. It was also possible to notice that the Cretaceous rocks are associated with an arc-island setting or even formed too closely to a trench zone.

Barbieri, A.J. 1993. Secondary mineral deposits of the Santana, Pérola and Lage Branca caves, Iporanga municipality-São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1929

1993

Date of presentation: 26/11/1993

Alex José Barbieri

Advisor(s): Hypolito, R.

Committee:

Subject of thesis: Economic Geology

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

Barreto, A.M.F. 1993. Morphologic and sedimentologic study of northern portion of the fossil sand sea at the middle Rio São Francisco river, Bahia state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 98 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1237

1993

Date of presentation: 28/6/1993

Alcina Magnolia Franca Barreto

Advisor(s): Suguio, K.

Committee:

Subject of thesis: Sedimentary Geology

State: BA

1/1,000,000 sheet:

SC23

Centroid of the area:

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'W

Abstract

Bertoldo, A.L. 1993. Structural behaviour of São Francisco and Espinhaço super groups and the basement between the Serra do Espinhaço Setentrional range and the Monte Alto (BA) and Central (MG) ranges. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 973

1993

Date of presentation:

Arno Luís Bertoldo

Advisor(s): Trouw, R.A.J.

Alkmim, F.F.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The investigated area is located at the eastern border of the São Francisco Basin, at the boundary between Bahia and Minas Gerais States. It was principally studied through three E-W structural traverses. The region presents a compressive E-W deformation, verging to the W, with decreasing intensity from E to W. The metasediments of the Espinhaço Ridge, in the eastern part of the area, are folded and thrust by reverse faults over the western granitic gneisses that compose the basement. They exhibit two coaxial progressive phases of heterogeneous deformation, probably related to a single deformational event. The basement rocks participated, heterogeneously, in the deformation which is transmitted to the Central and Monte Alto Ridges. At the western border of these ridges, the diamictites and limestones of the São Francisco Supergroup also show the effects of this E-W deformation. The southern portion of the area, corresponding to the Southern Structural Domain, presents a more intense deformation with components of reverse and oblique dextral displacement, while the central-northern portion, at the Northern Structural Domain, shows less deformation and a reverse and frontal movement direction. The E-W deformation affecting the rocks of the São Francisco Supergroup suggests that this deformational event possesses an age related to the development of the thermo-tectonic events of the Brasiliano Cycle (750-450 Ma). The observed data are in disagreement with ideas proposed in the literature, concerning the limits of the São Francisco Craton in this region.

Bolzon, R.T. 1993. The mesozoic lignitaphoflora of Rio Grande do Sul (Brazil): Methods of study and considerations on taphonomy, palaeoecology and paleoclimatology. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 834

1993

Date of presentation:

Robson Tadeu Bolzon

Advisor(s): Guerra-Sommer, M.

Committee:

Subject of thesis: Palaeontology

State: RS

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The present dissertation deals with the study of a silicified wood Mesozoic assemblage from Rio Grande do Sul State, Brazil, taking into consideration its taphonomy, paleoecology and paleoclimatology; new methods of anatomical analysis, in face of peculiar conditions of preservation, are introduced. Silicified stumps are found in fluvial sandstones of uncertain age (Upper Triassic or Jurassic) or exposed by erosion and widely scattered over the studied area. Features created by taphonomic process are associated with the structure of the cells, so that the study by traditional methods results difficult. The fossil wood structure of a stump was analyzed by optic microscope and scanning electron microscope. The material microscopically analyzed includes: anatomical-sections, thin-sections, peels and some smaller fragments chemically attacked by fluoridric acid and the residues of acid attack. In order to determinate the presence of organic matter, one sample was submitted to infrared spectroscopy. The research revealed that the assemblage is composed of water-transported stumps and wood fragments, representing a globally distributed flora, grown in a warm climate with alternated wet and dry periods. The events of disarticulation, transport and deposition probably were rapid large-scaled episodes while the processes of silicification were slow.

Borghi, L. 1993. Characterization and faciologic analysis of the Furnas formation (Prídoli - lower Devonian) in outcrops of the eastern border of the Paraná sedimentary basin, Paraná state, Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1395

1993

Date of presentation:

Leonardo Fonseca Borghi de Almeida

Advisor(s): Rodrigues, M.A.C.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

' -

'W

Abstract

The Furnas Formation is a sandy unit with conglomerates occurring in its lower beds. It occupies a basal position of Paraná Basin, and its age is probably Pridoli?-Early Devonian. Nevertheless, many controversies arise about its depositional environments (fluvial versus marine), age (Silurian versus Devonian), and the nature of its lithostratigraphic boundaries (conformable versus unconformable) with the underlying lapó and Vila Maria formations (the lowermost in the basin), and with the overlying Ponta Grossa Formation. Only trace-fossils and plant fossil debris (studies of which are still in progress) are recorded in the Furnas Fm., the latter specially in shales interbedded with its upper sandstone beds. The aim of this dissertation is twofold and sedimentologically oriented to the facies analysis of the Furnas Fm. One of the objectives of this dissertation is to characterize an assemblage of facies that allows the description of the Furnas Fm., outcropping at the Eastern border of the Paraná Basin. Fourteen facies (11 lithofacies, 2 ichnofacies, and 1 biofacies) are described and interpreted in terms of sedimentologic and biologic processes. These facies are named: massive conglomerate (Cm), cross-stratified conglomerate (Cc), tabular-bedded conglomerate (Ct), winnowed pebble-lags (Cpv), disorganized sandstone (Ad), small-scale cross-laminated sandstone (Ac1), medium-scale or large-scale cross-stratified sandstone (Ac2), cross-bedded sandstone (Aac), wave cross-laminated sandstone (Ao), hummocky cross-bedded sandstone (Aot), white shale (Fb), Skolithos (SK), Cruziana (CR), and fossil flora (FLO). The sandstone facies are by far the most common throughout the Furnas Fm. The other objective of this dissertation is to characterize the depositional architecture of the Furnas Fm., as a way to synthesize the many facies associations and successions into facies models. Descriptions of sedimentographic sections (by use of photographic panel-overlay technique) and profiles are made, providing the data source of the facies analysis. Five architectural elements are conceptualized as those models and interpreted in terms of geomorphic and biologic processes; this permits the establishment of components of palaeogeographical scenarios (models). These architectural elements are named: channel (CAN), tabular vertical accretion rudistones (AVR), tabular vertical accretion sandstones (AVA), tabular vertical accretion lutites (AVL), and tabular frontal accretion (AFR). The AFR element is the most common, though the AVR element is typical of the lowermost part of the Furnas Fm. For the diagnosis of the above-mentioned architectural elements, a new three-order hierarchy of bedding surfaces is utilized. All the facies data were collected during field works, held at outcrops in the southern flank of the Ponta Grossa structural arch (PGSA). This specific area of research in the Eastern border of the basin was chosen due to the good exposures of the Furnas Fm., combined with the facilities of good roads and lodging. A similar study was made in the northern flank of PGSA, and was the subject of another dissertation of this Graduate Program. The overall purpose of the entire project was not only to practice a methodology of facies analysis based on field data, but also to produce information on facies, appropriate for future stratigraphic studies. The conclusions lead to the following hypothesis of paleogeographic scenarios for the Furnas Fm.: a wave and tide storm-dominated shallow sea (shoreface, AFR element) and a coast, which may be further characterized by a high-energy conglomeratic coastal plain or beach (AVR element), and a high-to-low-energy sandy coastal plain or beach (elements AFR, AVA, AVL and CAN). Some eustatic factors are discussed also, but no stratigraphic conclusions are attained at the present work. Among other results, some current concepts in Sedimentology and Stratigraphy are briefly discussed (e.g., depositional architecture). Of these, the J. Walther's Law of Succession of Facies is discussed in the light of the current practice of recognition of three-dimensional facies relationships, developed as new postulate of facies in this dissertation (here named "Postulate of Facies Relationships"). The intention is to define formally all the descriptive procedures for a sedimentary basin architecture at any scale (i.e., architectural elements, depositional systems, parasequences etc.).

Borin, S.R. 1993. Sand desertification spots evolution as a result of agricultural and animal soil utilization in the southwestern region of Rio Grande do Sul state during 1964-1986, using the geographycal information system "geo-inf+map" data. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 661 1993 Date of presentation: 12/2/1993

Salete Rejane Borin Advisor(s): Teixeira, A.L.A.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The present work had its main goal to show the evolution of the sand spots in the Southwestern region of the State of Rio Grande do Sul in the periods 1964 and 1986. The initial mark for this work was sixties because the process of intensification of land use through mechanization and without taking into account the soil fitness, started in that decade. Thus, there has been not only an increase of the already existing sand spots, but also, other spots have appeared in other areas of the region.

In chapter I a theoretical foundation was made about the Geographical Information System since it is the tool used for the elaboration of this work. The concern in this chapter is focused on presenting these systems in outline seeking to deepen the technical knowledge in the georefered studies.

Chapter II presents the material e methods used in the work giving emphasis to the use of GIS GEO-INF + MAP and, also to various statistical techniques with purpose of mapping this GIS offers.

Chapter III a characterization of the area of study through the presentation of its physical as well as social-economical aspects.

Chapter IV an analysis of the farming and cattle raising activities in the period 1960-1980. For such, socila-economical data were used wich permitted to verify the identification process of the land use in the Southwestern region of the State of Rio Grande do Sul.

Chapter V deals with the origin and analysis of the sand spot evolution brought about because of the intensification of the farming and cattle raising activities on the sandy soils of the region under study.

In the final considerations there can be found the results obtained through the data analysis and the utilization of the GIS GEO-INF + MAP, for the physical as well as social-economical data in the Southwestern region of State of Rio Grande do Sul.

Cabral, A.P. 1993. Extraction of bathymetry and substratum types in a sector of the Continental shelf of Rio Grande do Norte state using TM-LANDSAT images. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1338 1993 Date of presentation: 1/3/1993

Alexandre Pereira Cabral Advisor(s): Vianna, M.L.

Committee:

Subject of thesis: Remote Sensing

State: RN 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Celligoi, A. 1993. Underground hydric resources of the Serra Geral formation in Londrina-PR state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1999 1993 Date of presentation: 3/5/1993

André Celligoi Advisor(s): Duarte, U.

Committee:

Subject of thesis: Hydrogeology

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Citroni, S.B. 1993. Depositional environment and geotectonic meaning of the sedimentation of Itajai group - SC state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 145 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1238 1993 Date of presentation: 12/5/1993

Sérgio Brandolise Citroni Advisor(s): Basei, M.A.S.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Coelho, M.P. 1993. Silting up process analysis in the Americana reservoir lake, state of São Paulo. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 664 1993 Date of presentation: 27/8/1993

Marcelo Pitta Coelho Advisor(s): Campos, J.O.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The American Reservoir lies over paleozoic sediments of the Paulista Peripheral Depression. Its watershed covers a total area of 2724 km² and is constituted by Atibaia River and its tributaries.

The reservoir is 14 km long, with a surface area of 13 km², a total volume of 106.000.000 m³, and is in operation since 1950.

The reservoir sediment survey was made by direct sampling of the thickness of sediments deposited in its bottom surface, using a "Piston Core" sampler.

In 40 years of operation 9.397.000 m³ of sediments were deposited in the reservoir, representing 8,9% of its capacity.

The sediments are almost exclusively silts and clays, with sands restricted to river and brook mouths.

The distribution of sediments in the reservoir is dictated chiefly by the distance of sediment sources and the topography of the reservoir bottom surface.

Cruz, E.L.C.C. 1993. Geology and gold mineralization of the Almas-Dianópolis granite-greenstone terrain, Tocantins state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M090

DataBase Ref.: 150 1993 Date of presentation: 3/12/1993

Emílio Lenine Carvalho Catunda da Cruz Advisor(s): Kuyumjian, R.M.

Committee: Hardy Jost - IG/UnB
Maria da Glória da Silva - IG/UFBA

Subject of thesis: Prospection and Economic Geology

State: TO 1/1,000,000 sheet: SC23 Centroid of the area: ' - 'W

Abstract

The Almas-Dianópolis granitoid-greenstone terrane is located in the Goiás Massif, southeastern Tocantins State, central Brazil. The terrane consists of a volcano-sedimentary pile, intrusive granitoids (TTG association), and mafic to ultramafic intrusive rocks, partially covered by the Natividade (Middle Proterozoic) and Bambuí (Upper Proterozoic) groups.

The volcano-sedimentary sequence is divided into a basal Metavolcanic Unit, made up by high-Mg basalts showing chemical evidence of crustal, contamination and by high-Fe metabasalts, and a Metasedimentary Unit at the top, composed by sericitic phyllites with carbonaceous horizons as well as intercalations of banded iron formation, quartzite, metacherts and felsic volcanics. The TTG association granitoids (mostly tonalites, trondjemites and granodiorites) were generated in a magmatic arc environment by partial melting of both the mantle wedge above the subduction zone, and the oceanic plate basalts undergoing subduction. The magmatic evolution of the arc ended off with mafic and ultramafic intrusions showing calc-alkaline affiliation.

The afore-mentioned rock assemblage underwent a transcurrent tectonic event, with N-S direction (F1) and dextral movement, which resulted from SSW-NNE compression. Two metamorphic episodes took place associated with F1, an initial one - M1 - with high T/P ratio, temperatures between 576+46°C and 632+60°C (amphibolite) and pressures from 3,9+2 to 4,4+2,3Kbars, and a final one - M2 - with temperatures between 485+18 and 539+65°C (epidote-amphibolite facies) and pressures from 4+0,3 to 4,4+0,5Kbars. These episodes probably occurred prior to the deposition of the Natividade Group. An F2 phase, related to the Brasiliano Cycle, consists of a conjugated pair of subvertical shear zones, with SW (dextral) and NW (sinistral) directions, related to E-W compression.

Gold mineralizations in the region is probably controlled by N20-30°E and N0-10°E subvertical shear zones. The M2 high T/P metamorphic regime and the F1 sub-vertical shear zones place the Almas-Dianópolis region as favorable ground for gold deposits. In the local scale, gold deposition would have been controlled by the occurrence of iron-rich reactive rocks (high-Fe metabasalts) and dilation zones which accompany shear surfaces.

The agreement between the metamorphic-deformational evolution proposed for the worked area and that of the so-called gold-only provinces suggests that the metamorphic model is probably the most indicated to explain the origin of the gold mineralization of the region.

Davies, H.P.K. 1993. Petrogenesis and precambrian crustal evolution of Bateias region (1 : 25.000 sheet NE of the Catas Altas 1:50.000 topographic quadrangle) Quadrilátero Ferrífero - MG state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 265 pp 3maps.

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1646 1993 Date of presentation: 29/9/1993

Howard-Peter Kombrink Davies Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis:

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Del Lama, E.A. 1993. Petrology, lithochemistry, microstructure and thermobarometric studies of the Campos Gerais complex (Minas Gerais state). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 691 1993 Date of presentation: 27/10/1993

Eliane Aparecida Del Lama Advisor(s): Oliveira, M.A.F.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This paper presents petrologic, lithochemical, microstructural and thermobarometric of the lithological units in the region of Jacuí-Nova Resende.

The mineral parageneses and geothermobarometry show temperatures of 830-900°C at pressures of 12.5-15 Kb for the metamorphic peak of the southern portion of Campos Gerais Complex. However the usually observed conditions are 700-750°C at 11.8-12.1 Kb.

The Bom Jesus da Penha-Jacuí ultramafic belt registers temperatures of 700-760°C at pressures of at least of 9-11 Kb.

Locally, in the northern part of Varginha-Guaxupé Complex temperatures of 870-890°C at pressures of 11-12 Kb are obtained for

the metamorphic peak. These conditions are not preserved, and the more observed values are 740-770°C at 9-10 Kb. Geochemical data indicate calc-alkaline tendencies and syn-collision granites for the granitic gneiss units; and tholeiitic trends for basic rocks, not cogenetic and derived from the ocean floor basalts and island arc tholeiites. Quartz c-axis fabrics of quartzites and gneisses of the Campos Gerais Complex indicate deactivation of prism glide systems as temperature decreases.

Diniz Filho, J.B. 1993. Geostatistics of the Permeable Clastics Distribution in Alluvial Deposits of the State of Rio Grande do Norte. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Geostatistics, Hydrographical basins, Alluvial aquifers, Permeable clastics, Trend surfaces

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 535 1993 Date of presentation: 17/12/1993

João Braz Diniz Filho Advisor(s): Manoel Filho, J.

Committee:

Subject of thesis: Sedimentary Geology

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

The study area is situated in the southern part of Rio Grande do Norte State, occupying mainly its south-west (SW) and south-central portions. It comprises some small watersheds which are included in the two biggest drainage systems of the state, namely the Apodi-Mossoró watershed, and the Piranhas-Açu watershed. The small studied watershed surface areas vary normally up to 300,00 km², and present mean slopes from 1,00 to 30,00 m/km. A quantitative evaluation of the permeable alluvial clastics (sand) deposited in the rivers and their affluents has been carried out. One of the objectives in this research was to obtain parameters that could give some contribution to the groundwater reservoir resource evaluation problem. The studied process consisted mainly in the geostatistical analysis of thickness and percent rate of alluvial sands, besides the determination of its relationships with the regional watershed elements. The results showed total alluvial depths between 4,00 and 6,00 meters, and mean width about 300,00 meters. The mean sand thicknesses vary normally from 3,00 to 5,00 meters, representing 60 to 90% of the alluvial sands.

El Gadi, N.S.M. 1993. The Gramame Formation Carbonate Facies (Maastrichtian, Pernambuco-Paraíba Coastal Strip). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Gramame Formation, Pernambuco-Paraíba sedimentary basin, Limestones, Facies study, depositional environment

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 536 1993 Date of presentation: 30/9/1993

Nuftah Salemh Mahomed El Gadi Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: PE 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W
PB

Abstract

A petrographic study of microfacies of the Maastrichtian carbonate sequence of Pernambuco-Paraíba States, was carried out with the two-fold purpose: (1) to characterize an environmental model of carbonate deposition in the area, besides of paleofaunistic events and diagenetic processes; (2) to present a detailed characterization of the paleoplatform of the Pernambuco-Paraíba sedimentary basin. A total of 150 thin sections were studied, representing the carbonate sections of ten quarries and outcrop areas in the basin. The Maastrichtian sequence of the coastal zone corresponds to the Gramame Formation. It consists of up to 60 m (normally around 32 m) of carbonates. Macroscopically, these carbonates are calcilutites ("Gramame limestones"), and calcarenites-calclrudites (transitional sequence). The original colours of the Gramame limestones are grey but part of the outcrop rocks is weathered giving a cream colour. The Gramame carbonates have been divided into eleven detailed microfacies, grouped into six composite microfacies; these were combined into one distinct depositional model with influx of terrigenous matter, corresponding to an extensive open platform, with a difficult determinable platform margin where the organism of shallow water are mixed with the planktonic ones of deeper water. The integration between the chemical study and the X-ray diffraction was used for the determination of chemical-mineralogical behaviour of microfacies, such as: mudstones, represented by calcareous marl, marly limestones and locally pure limestones; wackestones, represented by marl-limestones and planktonic marl; packstones with moderate energy level, represented by marly limestones; packstones with high energy level represented by sandy limestones; and boundstones, represented by very sandy limestones. The petrographic study showed that the microfacies of shallow water, packstones and boundstones crop only out in the Alhandra and Conde areas, between the Goiana and Conde faults (known as the Conde-Garapu high). In the regional diagenetic interpretation, dolomitization is a process that occurs such as to obliterate the original texture of the rocks, beside a neomorphism of a micrite matrix into microsparite.

Elis, V.R. 1993. Geophysical approach to environmental analysis and its importance to geotechnical mapping. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 663

1993

Date of presentation: 23/6/1993

Vagner Roberto Elis

Advisor(s): Zuquette, L.V.

Committee:

Subject of thesis: Geosciences and Environment

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The work shows, at a first stage, an extensive bibliographical review of the potencial of geophysics application for the attainment of some information of interest to geotechny, hidrogeology and enviromental geology.

At a second stage, basic principles of refraction seismic, vertical electric sounding and electrical profiling technics and the possibility of their application in geotechnical mapping processes are considered, these technics being tested in areas of distinct geological-geotechnical features in order to evaluate its efficiency in the attainment of attributes of the physical environment. The interpretation of the refraction seismic assays is done by two different manners: by the "Ti" method, manually, and by the Generalized Reciprocal Method, automatically with the GREMIX computer program, of Interpex Limited. These results are compared and discussed.

From the assays results, maps and sections specifying the attributes water level, positioning of the bedrock and saprolite summit and features of the soil-rock transicion are constructed.

Ferreira Jr, L.G. 1993. Discrimination of hydrothermal alteration products through spectro-radiometric analysis and TM digital images : Case study of the guarinos greenstone belt. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M087

DataBase Ref.: 147

1993

Date of presentation: 9/8/1993

Laerte Guimarães Ferreira Junior

Advisor(s): Meneses, P.R.

Committee:

Augusto Cesar Bittencourt Pires - IG/UnB

Waldir Renato Paradella - INPE

Subject of thesis: Prospection and Economic Geology

State: GO

1/1,000,000 sheet:

SD22

Centroid of the area:

' -

'W

Abstract

Visible and near infrared spectra of metabasic and hydrothermally altered metabasic rocks and LANDSAT 5 Thematic Mapper (TM) data were analysed to discriminate in the images spectral features related to alteration zones.

The selected area for this study comprises the primary gold deposits, which occurs within a wide alteration halo, in the southern portion of the Guarinos Greenstone Belt. Gold mineralization, as well as the hydrothermally altered rocks were studied by Pulz (1990), who mapped and characterized an outer propilitic, an intermediate potassic and an inner sericitic alteration halo. The hydrothermal fluids that acted upon mylonites derived from metabasalts were concentrated in a transtension tail at the southern portion of a stretched trondhjemitic intrusion (Domo de Guarinos).

For the bidirectional reflectance analysis, from 350 nm to 2900 nm, - twenty two samples of metabasalts and hydrothermally altered metabasalts with different degree of weathering were chosen, in order to evaluate the masking effects of weathering upon the spectral behaviour of these rocks. Only the metabasalts and the potassic altered metabasalts showed diagnostic and distinct spectral signatures, even under weathering. In these spectra the main absorption features are due to the presence of Fe³⁺ ion (mainly in ferric oxide/hydroxide) and hydrated minerals. The amount of these mineral groups controls the intensity and exact position of each absorption feature.

Based on the spectroradiometric analysis it was selected a group of band ratios which were enhanced by principal components and IHS transformations. These techniques, applied upon images corrected for atmospheric scattering and vegetation effects, increased the spectral response of interesting targets. The RGB and IHS color composites made possible the discrimination of areas with a higher ferric oxide/hydroxide and clay minerals content, related to the hydrothermal alteration halos.

Ferreira, S.T. 1993. Ground water pollution susceptibility study in the Ribeirão Preto region, state of São Paulo. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 662

1993

Date of presentation: 23/3/1993

Saulo de Tarso Ferreira

Advisor(s): Sinelli, O.

Committee:

Subject of thesis: Geosciences and Environment

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

In accordance with the most recent legal diplomas which preconize the management of the water resources, based upon the principle of the hydrologic cycle unit, and trying to give subsidy to the Municipal Public Administration, evaluation has been made

of the vulnerability of the Serra Geral and Botucatu/Pirambóia Aquifers in Ribeirão Preto, State of São Paulo, Brazil. Based upon pre existing data, the methodology makes it possible the quick elaboration of the Vulnerability Chart at the recognition level, at a low cost, providing a relatively simple interpretation and a comprehensible, objective as well as convincing language for communication with the Municipal Public Administration. Special care is recommended as to the Dump (located near the road to the town of Serrana, State of São Paulo which, although closed down, is very important in the general context), as to the area comprehending the Companhia Cervejaria Antártica-Níger (Antártica-Níger Brewery Company), Amin Calil Square and Companhia Nacional de Estamparia (Printworks National Company), and also for the use of agricultural pesticides as well as for a future and probable storage of either radioactive or industrial toxic wastes. It is suggested that the work in larger area and at a larger scale must continue, always in sintonia with the environment legislation, which must provide for a solid basis and a wide perspective toward every movement to defend the environment and, as a consequence, life quality.

Fonseca, E. 1993. Riacho dos Machados auriferous deposit, State of Minas Gerais: Hydrothermalism, deformation and mineralization associated. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 178 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 05

DataBase Ref.: 2349 1993 Date of presentation: 22/4/1993

Elizabeth da Fonseca Advisor(s): Lobato, L.M.

Committee: Augusto Kishida - CVRD
Antônio Wilson Romano - IGC/UFMG

Subject of thesis: Geology and Mineral Resources

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Frasca, M.H.B.O. 1993. Petrography and geochemistry of precambrian carbonatic rocks in São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 168 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1080 1993 Date of presentation: 29/3/1993

Maria Heloisa Barros de Oliveira Frasca Advisor(s): Coutinho, J.M.V.

Committee:

Subject of thesis: Geochemistry and Petrology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Gimenez Filho, A. 1993. Evolution of Tres Córregos granitic complex, at northwestern of Apiaí - SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 118 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1081 1993 Date of presentation: 17/5/1993

Antonio Gimenez Filho Advisor(s): Teixeira, W.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Imbernon, R.A.L. 1993. Geochemical and mineralogical evolution of the weathering alteration products over the Catalão I alkaline-carbonatitic complex. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 132 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1079 1993 Date of presentation: 12/4/1993

Rosely Aparecida Liguori Imbernon Advisor(s): Oliveira, S.M.B.

Committee:

Subject of thesis: Geochemistry and Petrology

State: GO 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Iritani, M.A. 1993. Hydrogeologic potential of the University city of São Paulo. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2202 1993 Date of presentation: 13/5/1993

Advisor(s): Rebouças, A.C.

Committee:

Subject of thesis: Hydrogeology

State: PB 1/1,000,000 sheet: Centroid of the area: ' - 'W
SP

Abstract

Kischlat, E.E. 1993. Chelida (Chelonii, Ppleurodira) from Taubaté basin, Cenozoic of the São Paulo state, Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1453 1993 Date of presentation:

Edio-Ernst Kischlat Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Chelids from Tremembé Formation are described. According to its characters, the total amount of this material belongs to what is understood as Phrynops. Particularly it is classified in the subgenus Phrynops and in the superspecies Phrynops (Phrynops) (geoffroanus). The identification of this material as belonging to Phrynops (Phrynops) (geoffroanus) sensu Rhodin & Mittermeier (1983) was made by exclusion of Phrynops (Phrynops) rufipes. P. (P.) (geoffroanus) seems to be a paraphyletic or polyphyletic group of, at least, five recent species, including also a fossil form (Parahydaspis paranaensis). A revision must be attempted to this group, including at first the recent species and therefore the fossil material. An uninterrupted neural series comprising neural I to V, at least, with the morphology similar to that of Podocnemis and other pelomedusoids, shows that the presence of neurals in chelids is a plesiomorphic character (contra Gaffney, 1977). On the other hand, the other subgenera of Phrynops (Mesoclemmys and Batrachemys) shown in recent species different configuration (morphology, interruption or absence of the most cranial neurals) in this series. Chelids are characterized by the absence of mesoplastra (Gaffney, 1977). The name Cheloidea of Fröes (1957) is proposed to wide the sense of this group, comprising forms without mesoplastra (chelids sensu stricto) and the forms with mesoplastra described preliminarily by Fuente (1985) and Broin (1987), naming them informally by "parachelids". According to the fossil material of Hydromedusa from Eocene of Argentina and the phylogenetic hypothesis of Gaffney (1977), it can be concluded that the evolutionary history of chelids comprising the recent genera must have been completed at the Eocene. The Pritchard's (1984) critics against Gaffney's analysis are also discussed, showing that the sinapomorphies uniting Hydromedusa and Chelus and excluding Chelodina are in reality plesiomorphies or convergences. Finally a glossary of the anatomical terms used in the description of the chelonian is presented, based in pleurodire, specially chelids.

Lima, A.T.O. 1993. Application of Satellite Images in Geologic Mapping. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Satellite images, Automatic processing, Spectral reflectance, Facies, Geological mapping

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 537 1993 Date of presentation: 17/9/1993

Alexandre Tadeu de Oliveira Lima Advisor(s): Rolim, J.L. Seixas, J.J.

Committee:

Subject of thesis: Sedimentary Geology

State: PE 1/1,000,000 sheet: SB25 Centroid of the area: 07 50 's - 34 50 'W

Abstract

The reported studies are based on modern computation techniques, mainly on the digital processing of satellite images aiming at Preliminary Basic Geology Mapping. The area studied is the northern coast of Pernambuco, NE Brazil. It is located between 7046' 44" and 7052' 46" S and 34047' 25" and 34051' 31" W. These studies employ methodologies that converge a variety of geological information related to the marine and terrestrial environments. Thus, creating possibilities for reviewing the philosophy of gathering metric and semantic data when mapping the geology via the analysis of the objective parameters such as: costs, precision, timing and final product quality. The result obtained allowed interpretation, positioning and qualification of the geological aspects resulting in a Preliminary Basic Geological Map which was compared to others previously made. This comparison proved

the efficacy of the methodology here employed as well as its constraints intrinsic to the studied area

Maia, L.P. 1993. Tectonic Control and Geologic-Sedimentary Evolution of the Jaguaribe River Mouth Area (State of Ceará). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Tectonic-sedimentary evolution, Neotectonics, Jaguaribe river delta, Marine geology

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 538

1993

Date of presentation: 12/11/1993

Luiz Parente Maia

Advisor(s): Morais, J.O.

Committee:

Subject of thesis: Sedimentary Geology

State: CE

1/1,000,000 sheet:

SB24

Centroid of the area:

' -

'W

Abstract

The sedimentary processes and stratigraphic-structural characteristics of the lower Jaguaribe river valley, mouth and adjacent continental shelf, gave important clues leading to the interpretation of the geological evolution, and tectonic control of the fluvial regime in the region.

The studied area is a fundamental mark on the irrigation and water supply to the Fortaleza metropolitan area, using channels. This study concerns the MSc thesis report that encompassed present and past dynamic process and match the geological evolution of the lower Jaguaribe river valley connecting the land and marine shelf.

Remote sensing techniques have been used, comparing multitemporal images in order to understand the marine morphology and recent evolution. The sedimentology of coastal and marine deposits focused the faciological distribution, attitude and geometry, integrated to the subsurface information obtained through cores and geophysics techniques such as gravimetry, magnetometry, electroresistivity and seismology.

The low valley morphogenesis displays a trelice orientation at right angle inflections with the river main channel and its tributaries. This pattern derives from two distinct fault systems. A normal fault system is associated with the Potiguar Basin origin and a sheeting system associated with neotectonic events.

The swash bars at the mouth's entrance lead to the classification of wave dominated delta, defining sites of deposition and reworking material at the river outfront plume boundaries. The land derived sediments reach the 15 metre isobath, but the resuspended sediments are transported offshore by waves and tides. The tectonic-sedimentary evolution can be divided into two periods: one that started with the tectonic activities which originated the Potiguar basin, followed by the deposition of the Cretaceous layers, up to the Tertiary Barreiras Formation sedimentation; the other linked to the Quaternary coastal plain evolution, climate changes and sea level variation.

Martins, C.J.F.N. 1993. New methods for the interpretation of translational faults marked by a family of parallel planes. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1305

1993

Date of presentation: 16/4/1993

Cesar J. F. N. Martins

Advisor(s): Sabatê, P.

Committee:

Luciano Portugal Magnavita

-

Henrique Dayan

-

Subject of thesis: Petrology Applied to Mineral Research

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

There are common case faults which consists in finding a plane or several planes in parallel setting as markers. It is showed that the kinematic interpretation of these faults, made by all existing simplified methods, only casually will be correct. In the Redmond 1972's paper can be find exacts analytical and interpretative methods. However those methods carry same operational difficulties that conclude to restrict its practical use. This work proposes two new interpretation tools for those faults: a Fields Graphics and a Giratory Abacus. Both are based in a coordinate triplet ℓ , a and m . The first coordinate (ℓ) consists in the rake of net slip; the second (a) is the offset sense between the marker traces through fault as they are seen upon a standard horizontal plane; and the third (m) is the rake of the marker plane as observed on the fault plane. Further, are described new notation systems for translational faults. One extends the use of traditional symbols and the other is literal. These notations may add relevant information in maps and aids in analysis and interpretation work. An application example of the new tools is given.

Medeiros, S.R. 1993. Geology, petrology and geochemistry of the intrusive Complex of Várzea Alegre - ES. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1004

1993

Date of presentation:

Silvia Regina de Medeiros

Advisor(s): Wiedemann, C.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The intrusive complex of Várzea Alegre is located at the central-northern portion of Espírito Santo State. Based on geological mapping (1:50.000), two domains were recognized: an external domain of a wide ring of charnockitic rocks and an internal domain of contrasting magnetites. The contact between the two domains is clear, although sometimes gradual (lit-par-lit, amagmatic, or nebulitic). The intrusive body, studied in detail, could be subdivided into four sub-domains, consisting of the following lithotypes: gabronorite, quartz-diorite, quartz-monzodiorite and monzonite rocks and coarse megaporphyritic granite. A small stock of fine-grained quartz-syenite crops out, in the central portion of the massif. The different lithotypes of magmatites are disposed in a nearly circular structure, with a more basic core and more acidic to intermediate margins, typical for an inversely zoned diapiir. Planar flow structures tend to present almost subvertical dip angles, which are well observed next to the contact between the internal and external domains. Petrographic and geochemical studies suggest a mantle origin for the basic and intermediate rocks and the existence of two main magmatic processes of differentiation: fractional crystallization and commingling. Acid rocks seem to be related to crustal melting, induced by the rise of mantle material. Network structures, mantled porphyritic K-feldspars and embayed quartz surrounded by mafic minerals are evidence of mechanical mixing process of contrasting magmas. These features are commonly found in other plutons in the South of Espírito Santo, like Santa Angélica, Castelo and Venda Nova massifs.

Mello, F.M. 1993. Contribution to structural geology of Porongos unity in its type locality: Pinheiro Machado region, Rio Grande do Sul state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 122 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1213 1993 Date of presentation: 1/10/1993

Fernando Machado de Mello

Advisor(s): Machado, R.

Committee:

Subject of thesis: Tectonic and Structural Geology

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

Mello, S.L.M.; 1993. Geology and marine geophysics of mesoatlantic ridge between Ascensão and Santa Helena islands. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, 122 pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1154 1993 Date of presentation:

Sidney Luiz de Matos Mello

Advisor(s): Gorini, M.A.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Mendes, M. 1993. Taxonomy of the Blattoptera (insecta, blattopteroida) from Santana formation, lower Cretaceous of northeastern Brazil. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; 122 pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 836 1993 Date of presentation:

Márcio Mendes

Advisor(s): Pinto, I.D.

Committee:

Subject of thesis: Palaeontology

State: CE 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

The main object of this dissertation is the taxonomy of the order Blattoptera (Insecta-Blattopteroidea) from the Crato Member, Santana Formation (Lower Cretaceous), Araripe Basin, State of Ceará. The studied material came from Tatajuba Farm, Santana do Cariri District, corresponding to the upper part of the Crato Member, with laminated limestone. The analysis of this paleoentomofauna enable us to create three new genera with nine new species and made comparative and phylogenetic observations upon them possible.

Mendonça, A.F. 1993. Characterization of the underground erosion of the porous aquifers from Federal District-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M086

DataBase Ref.: 146 1993 Date of presentation: 23/4/1993

Augusto Ferreira Mendonça Advisor(s): Barros, J.G.C.

Committee: Augusto Cesar Bittencourt Pires - IG/UnB
John Denys Cadman - IG/UnB
Sérgio Koide - ENC/UnB

Subject of thesis: Prospection and Economic Geology

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The geological environment in the Federal District's area consists of low grade metamorphic rocks. Slates of varying colors, meta-siltstone and quartzite beds are present. Over the Precambrian rocks we observe a lateritic layer varying in thickness from centimeters up to 30 meters. Latosol dominates the existing plateaus while laterite crusts and immature soils are dominant in the transition zones between plateaus and river valleys.

Erosional problems related to the lateritic terrains are known prior to the settlement of the city in 1961. During 1986, erosion became a serious threat when several pseudo-sinkholes occurred in the urban area. Occurrence of underground erosion condemned an area of 300.000 m².

Preliminary studies indicated, at the time, that the process were generated by shortening of percolation path of ground-water due to the progress, toward the residential area, of large gullies. This produced an increase in the hydraulic gradient resulting in the removal of latosol particles.

Studies have been conducted looking for correlation between pseudo-sinkhole occurrence and geologic, geomorphic, geotechnical and urban development features. Recent results show a much more complex process than previously thought. Field data suggests that termites activity, besides the recharge of the water table by inadequate disposal of residential sewer system, are directly related to the problem.

There is a real necessity to develop particular methods to identify risk areas. One of these methods can be the Vertical Gravity Gradient presented at this research.

Minello, L.F. 1993. Petrified forests of the São Pedro do Sul and Mata regions, RS: An introduction to the study of the fossilization processes and morphological analysis; pertinent legislation and analysis of the development of a conscience towards preservation. MSc Thesis, Institute of Earth Sciences, University of Rio Grande do Sul; pp

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 835 1993 Date of presentation:

Luiz Fernando Minello Advisor(s): Guerra-Sommer, M.

Committee:

Subject of thesis: Palaeontology

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

The fossil wood occurrences (Petrified Forests) in the Santa Maria region (cities of Santa Maria, São Pedro do Sul and Mata, RS) represent the largest outcrops of "petrified wood" in Rio Grande do Sul State and, probably, in Brazil.

In this dissertation are discussed the fossilization processes, the development of a preservative conscience among the communities around the occurrences and the legislation regarding this matter. It is presented a tentative of reconstruction of the environmental generator of the paleophytes, based on the characterization of two distinctive paleofloristic assemblages - Xiniquá and Ermida outcrops (São Pedro do Sul, RS).

The petrographic process of lamination of the fossils and their analysis under optical and scanning electron microscopy, among other tests, such as X-ray diffractometry, were performed.

Silica, in distinctive diagenetic phases, associated with impurities like iron oxides, was the predominant mineral in the fossilization process, defined as permineralization.

Gymnospermae fragments could not be classified by means of anatomical studies, owing to their poor preservation. However, affinities to Coniferophyta (sensu Boureau & Nerguerier, 1985) were established, particularly in reference to Araucarioxylon Kraus (1864), if only the characteristics of the secondary xylem are considered. Statistical studies on the external morphology of the fossils from Xiniquá outcrops (São Pedro do Sul, RS) enabled us to artificially establish affinities with Baieroxylon cicatricum Lele Prasad (1984).

The high level of a conscience of preservation among local communities was revealed by the historical investigations. Proposals and proceedings are presented by this study, in order to solve the problems created by the depredatory activities (illegal), which destroy the occurrences.

Moro, R.P.X. 1993. The ordovician basin of the Castro group - state of Paraná. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 692

1993

Date of presentation: 18/11/1993

Renata de Paula Xavier Moro

Advisor(s): Soares, P.C.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The Castro Group in Paraná, Brazil, is a molassic sequence which comprises an upper sedimentary association with continental conglomerates and an acid volcanic association with rhyolites, quartz latites, ignimbrites, tuffs and pyroclastic breccias, both overlying a lower sedimentary association with continental arkosic sandstones, siltstones and mudstones, and an intermediate-acid volcanic association with andesites, rhyolites, ignimbrites, tuffs and conglomerates. All these associations were deformed by faulting and block tilting, in a post-orogenic transtensional regime that was responsible for the basin formation and deformation during the Ordovician period.

Motidome, M.J. 1993. Geology of the Embu complex in the Santa Isabel and Biritiba-Mirim region, SP state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 172 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1691

1993

Date of presentation: 5/3/1993

Mario Juiti Motidome

Advisor(s): Sadowski, G.R.

Committee:

Subject of thesis: Geosciences

State: SP 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Moura, M.A. 1993. The main greisen of the Mangabeira tin-bearing massif, Goiás state-Brazil: Geology, petrology and indium (In) occurrence. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M083

DataBase Ref.: 143

1993

Date of presentation: 26/2/1993

Márcia Abrahão Moura

Advisor(s): Botelho, N.F.

Committee:

Raul Minas Kuyumjian - IG/UnB

Lauro Valentim Stoll Nardi - IG/UFRGS

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet:

SD23

Centroid of the area: ' - 'W

Abstract

The Mangabeira Massif is located at the Paranã Subprovince, which belongs to the Goiás Tin Province. It is constituted of an A-type mid-Proterozoic biotite granite, evolved granites and greisens.

The Main Greisenized Zone (ZGP) is composed of different granite facies (a purple granite, g2d; albite and topaz granite; and leucogranite), greisens and of a quartz-topaz rock, with anomalous indium contents. The country rocks are granites and ultramylonites of granitic composition, probably of Archean/low-Proterozoic age. Micas are important in the characterization of each facies and comprise three groups: A) zinnwaldite, B) aluminous phengite, and C) lithium phengite. These groups define a phengite-zinnwaldite series, so far only described in the Paranã Subprovince rocks.

The g2d granite contains aluminous phengite and represents the less evolved granitic facies of the g2 family. It has low F, Li, FeO, A'203, Rb, Zn and Sn and high Ba and Sr contents, when compared to the other-ZGP rocks. It has a flat REE pattern with strong negative Eu anomaly.

The albite and topaz granite (GAT) is similar to topaz - Limica granites known elsewhere, contains lithium phengite or zinnwaldite in its modal composition. It is rich in topaz, which can occur either as large grains or as small euhedral inclusions in albite crystals. The GAT has derived from the g2d granite by magmatic differentiation and is richer in F, Li, FeO, A'203, Rb, Zn, Sn and Ta than g2d. It also has lower Ba and Sr contents and a REE pattern showing depletion in heavy rare earth elements. Both g2d and GAT underwent a strong infiltration metassomatism, which transformed them in albitized and greisenized granites and greisens. Later on, during the Brasiliano cycle, the ZGP rocks were affected by shearing.

The g2d greisen has aluminous phengite, while that formed by the GAT transformation contains zinnwaldite.

The leucogranite (LGR), gray, medium to gross grained, contains aluminous phengite. This granite cannot be classified neither as taking part of the g2 family nor of g1, and is yet poor known.

The quartz-topaz rocks occur together with the GAT and look like topazites. The rocks are mainly composed of quartz, topaz (as large grains or as small inclusions in quartz and topaz), zinnwaldite, arsenopyrite and cassiterite, but can also contain scorodite, sphalerite, wolframite, loellingite, chalcopyrite, bismutinite, galena, stannite, tennantite and hydrated arsenates: Sn, U, Ba, K, Pb and Bi arsenates. Geochemically, the RQT is characterized by having low Na₂O, K₂O, Rb, Ba, Sr and Li, and high SiO₂, Al₂O₃, and Cu. Its REE pattern is similar to those obtained for the g2d granite.

The late/post-magmatic processes that affected the ZGP rocks caused the mobility of many elements. FeO, MnO, F, Zn, Li, Rb-,

Be, Sn, W, SiO₂, Al₂O₃, Fe₂O₃, P₂O₅, CaO, Y and Zr were gained during the transformations, while Ta and Th behaved as less mobile elements. Other elements were sometimes gained and sometimes lost during the processes. Analysed REE had different degrees of mobility. The LREE, Yb and Lu were much mobile and Gd, Dy, Ho and Er had low mobility, being Gd the less mobile REE.

Anomalous In contents were found in the RQT (up to 0.4%), which are the highest indium contents in rock ever described. The main In carrier is scorodite, averaging 2-6In and being widespread in RQT. Other important In carriers are cassiterite, sphalerite and stannite. Two In minerals were identified during the present study: yanomamite, an hydrated arsenate of In (InAsO₄·2H₂O) and roquesite, an indium-copper sulfide (CuInS₂). The first one is always related to scorodite (FeAsO₄·2H₂O), suggesting a solid-solution between them. Roquesite is intergrown with sphalerite, possibly forming a solid-solution with it.

Nalini Jr, H.A. 1993. Structural, descriptive and kinematic analysis of the southern flank and periclinal termination of the Mariana anticlinal and adjacences, southeastern region of the Quadrilátero Ferrífero, State of Minas Gerais - Brazil.. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 132 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 06

DataBase Ref.: 2350 1993 Date of presentation: 3/9/1993

Hermínio Arias Nalini Júnior Advisor(s): Rosière, C.A.

Committee: Claudinei Gouveia de Oliveira - DEGEO/UFOP
Maurício Antônio Carneiro - DEGEO/UFOP

Subject of thesis: Geology and Mineral Resources

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Neumann, R. 1993. Contribution to the petrology of the charnockitic rocks of Ubatuba, eastern of the São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2212 1993 Date of presentation:

Reiner Neumann Advisor(s): Valarelli, J.V.

Committee:

Subject of thesis: Petrology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Nogueira, G.M.S. 1993. Litho-stratigraphy, sedimentology and geochemical evolution of the Lagamar phosphatic deposit- Vazante Formation - Minas Gerais state, Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M089

DataBase Ref.: 149 1993 Date of presentation: 29/11/1993

Gislene Maria dos Santos Nogueira Advisor(s): Dardenne, M.A.

Committee: Jose Carlos Gaspar - IG/UnB
Newton Souza Gomes - DEGEO/UFOP

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

The Lagamar phosphorite ore, Minas Gerais, occurs within the Mid Proterozoic metasedimentary Vazante Formation of the Brazilian Fold Belt. The Vazante Formation in the study area consists of four members. The lower Rocinha Member, a sequence of rhythmically layered slates, metassiltites and quartzites, giving place to slates towards the top. Phosphatic rocks occur within this stratigraphic level. The Arrepido Member (Dardenne et al., 1989), is made up of interlayered polymict conglomerates, quartzites and metassiltites, with carbonate shales and carbonate lenses in its upper part. The upper Lagamar Member (Dardenne, 1978) is characterized by dolomitic bioherms with Baicalia, Conophyton and Jacutophyton stromatolites. The Serra do Garrote Member slates (Dardenne & Campos Neto, 1976; Dardenne 1976) covers all the former members, and turns upward on a layered slate sequence of great thickness. The Vazante Formation in the southern portions of the area is tectonically overlapped by the Canastra Group, and it overlaps a turbiditic sequence doubtfully correlated to rocks of the Bambuí Group with eastern vergence. In the "Lagamar deposit", the phosphatic ore consists of phospharenites and phospholutites, which in turn are interlayered with black and calcitic shales, quartzites and metassiltites, in the rhythmic facies of Rocinha Member. The phosphatic ore also contains thin interlayers of marble with phosphatic shale (calcitic phosphorites). The phosphatic sedimentation took place during a Mid Proterozoic phosphogenetic worldwide episode (Cook & McElhinny, 1979). Sedimentary and structural features of

the Vazante Formation indicate that phosphate have deposited on the edge of a continental margin, in palaeolatitudes related to occurrence of the Lagamar Member bioherms. The marine phosphatic precipitation was perhaps mostly controlled by cyanobacteria, as also commonly observed in younger phosphorites, within a passive continental margin tectonic setting. Indeed, cyanobacteria was the life for excellence in Middle Proterozoic, when Vazante Formation formed (1350-950 Ma, apud Dardenne, 1981). The ore consists of cryptocrystalline carbonate-fluorapatite. Under weak weathering, the carbonate-fluorapatite has turned on fluorapatite. Later and more extreme weathering has formed secondary apatite or, by complete leaching of carbonate ion, aluminous phosphates (wavellite and others) were formed. Mineral chemistry data on apatite show that a portion of elements normally occurring in the mineral as it precipitates from sea water, such as Ca^{2+} and P^{5+} , has been replaced by Na^{+} (replaces Ca^{2+}) and Si^{5+} (replaces P^{5+}), accompanying a great replacement of F^{-} by CO_3^{2-} , forming carbonate-fluorapatite. A variation in the REE, trace element and CO_3^{2-} contents as well as a decrease in the $\text{CaO/P}_2\text{O}_5$ and $\text{F/P}_2\text{O}_5$ ratios occurs between fresh and weathered ore samples. Aluminous phosphates are restricted to the deposit exposed parts and to veins, and formed by precipitation from meteoric waters in open channels, such as faults and fractures.

Patchineelam, S.M. 1993. Spatial distribution of clay minerals in the Amazonian and continental shelf. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1396

1993

Date of presentation:

Soraya Maia Patchineelam

Advisor(s): Antunes, F.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

The study of clay minerals in modern marine depositional environments, such as estuaries and deltas, can provide important informations to determine processes that control their distribution, when they are transferred from river to marine environment. X-ray diffraction analyses was used in this research, in order to identify and quantify the relative percentages of clay minerals (grain-size < 2 mm) carried by Amazon River and deposited in the adjacent continental shelf. For their identifications, sediment samples were treated in 3 steps: (1) dispersion of minerals in ultrasonic bath, (2) separation and concentration of clay fraction (smaller than 2 mm) and (3) preparation of oriented clay minerals on glass slide. Mixed-layers illite-smectite, kaolinites, illites and chlorites were identified after the treatments with ethylene glycol, heating at 490°C and saturation with Mg^{+2} ions. For better individualization of the superimposed peaks, diffractograms of glycolates samples were manually deconvoluted and afterwards the relative percentages of each groups of clay minerals were quantified. With scanning electronic microscope, it has been observed that the clay minerals identified have detrital characteristics. A close relationship was observed between the granulometric sorting and the deposition of mixed-layers illite-smectite where the minor contents of mixed-layers illite-smectite ($< 30\%$) occurs in the proximal part of the system (coarser sediments) and the high contents ($> 40\%$) occurs in the distal part of the system (finer sediments). The other clay minerals did not show any zonation in their surface distribution. Due to the high accumulation rate in the area (2-10 cm/year), short length of cores (max. 8 m) and large sampling interval (50-100 cm) the clay mineral variation could not be correlated to Amazon river seasonality.

Ribas, S.M. 1993. The Tijucas do Sul mafic-ultramafic complex, correlation to the Pien Complex, PR state and metallogenic considerations. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1779

1993

Date of presentation: 7/7/1993

Sérgio Maurus Ribas

Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

' - 'W

Abstract

The study aimed primarily to assess the auriferous deposits potential of gneissic terrains of medium to high metamorphic grade, with lenticular mafic-ultramafic bodies, which outline the suture zone between the Ribeira Belt and the Luis Alves Craton, at the southern border between Paraná and Santa Catarina. Geological mapping at 1:25.000 scale has been carried out over 90 km², in Vossoroca region, and reconnaissance at 1:60.000 scale over 1.000 km², extending to Tijucas do Sul and Pien, for correlation of the mapped lithological units. The evolution of geological knowledge is typically slow, with intermittent data gathering, by which the target area is put at present into the domain of biotite-amphibole gneisses and deformed granitoids of Rio Iguaçu nappe, in contact by means of a thrust zone with the granulitic terrains of Luis Alves craton. The thrust belt is outlined by meta-peridotite, meta-pyroxenite, serpentinite, talc-schist, hornblende meta-gabbro, amphibolite and amphibolitic gneiss bodies, extending from Pien to Tijucas do Sul-Vossoroca. These bodies are interpreted as obducted Brazilian ophiolitic slices. In the geological context of the studied area, there are the Agudos and Morro Redondo intrusive granites, as well as the Guaratubinha and Campo Alegre eopaleozoic volcano-sedimentary sequences. The mapped lithological units have been separated into mafic-ultramafic and granodioritic-tonalitic sequences. The ultramafic lenses are made up of serpentinized meta-peridotites, meta-pyroxenites and talc-schists, with MgO content between 21,1% and 30,6%. The mafic rocks range in composition from hornblende meta-gabbro, hornblende gneiss, hornblende and amphibolite, which assemble with the gneissic rocks of the granodioritic-tonalitic sequence to make up a suite characterized by MgO content up to 12,4%. The Pien complex rocks have been separated into three suites,

staked out by MgO content between 33,0% and 40,0% in meta-peridotite and serpentinite; MgO content between 16,5% and 28,0% in meta-pyroxenite, meta-norite and talc-schist; and MgO content up to 11,3% in amphibolite, hornblende meta-gabbro and granulite. The described suites at Tijucas do Sul-Vossoroca are respectively correlated to the last two Pien suites. Every studied rocks display evidence of a high grade metamorphic event, in the upper amphibolite to granulite facies, with a later retrometamorphic event overprinted by pyroxene uralitization, transformation of amphibole into fibrous varieties, and formation of epidote, biotite, chlorite, sericite, talc and serpentine. The retrometamorphic events are commonly related to fluid percolation in shear zones with mylonitic rocks, putting them into the greenschist zone of chlorite-sericite boundary. The described endogenetic processes and the supergenetic alteration promote mineralogical and chemical changes in rocks, all stressed by rare-earth geochemical patterns, which make it difficult to unravel the area geologic story. In provisional metallogenetic terms, the Luis Alves cratonic granulitic domain displays a good potential, although unknown far because of the absence of prospecting and research program. A few deposits of iron formation and pegmatitic bodies are reported. The Pien-Tijucas do Sul-Vossoroca suture zone displays a good potential for Ni-Cu, Cu-Zn and platinoid sulphidic deposits, in mafic-ultramafic assemblages, as well as Ag-Pb-Zn in aluminous gneisses and mafic granulite. Along with the Iguape nappe terrains, the suture zone displays high potential for gold deposits in quartz-sulphide veins within shear zone that cross mafic-ultramafic sequences, as illustrated by the closed mines at Ferraria, Roça Velha and Morro da Esperança, west to Curitiba, and the shows at Vossoroca, Serra da Prata, Morrete and Antonina.

Ribeiro, R.A. 1993. Contribution to the study of fluorides in the underground waters of the middle Tietê basin (Piracicaba region) - Characterization and proposed methodologies for their extraction. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2209 1993 Date of presentation:

Regina Aparecida Ribeiro Advisor(s):

Committee:

Subject of thesis: Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Rocha, J.C.S. 1993. Geological-geotechnical characterization of the materials involved in the mass motion in 1988 February, in the Vista Chinesa - Rio de Janeiro/RJ. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1596 1993 Date of presentation:

João Carlos Santos da Rocha Advisor(s): Antunes, F.S.

Committee:

Subject of thesis: Geotechnical Mapping

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

This work presents a geological-geotechnical featuring of the colluviums, the residual soils and the rocks involved in two big mass movements occurred in February 1988, in a sequence of pre-cambrian gneissic rocks, principally biotite-gneisses, at sea hogback of the Tijuca massif, close to Vista Chinesa turren in the city of Rio de Janeiro - RJ. At the beginning, the area studied is placed within its regional context, wherein we relate to the historical facts of its urban occupation, climate, vegetation, geomorphology, pedology and geology. In the following, the methodology is shown stressing the significance of a detailed field study through a geological-geotechnical charting for a correct individualization of the existing units and so for optimizing the accomplishment of the laboratory trials. Concluding, the results obtained are presented and analyzed, wherein the various materials, comprised in geological-geotechnical units, had their properties quantified by several physical (complete featuring, direct shearing, and permeability "in situ"), chemical (sorted complex and exchangeable cations) and mineralogical tests (analysis under binocular lens and X-ray diffractometry).

Rodriguez, S.K. 1993. Neotectonics and quaternary sedimentation of the Volta Grande do rio Xingu region, Altamira, PA state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2213 1993 Date of presentation:

Sergio Kleinfelder Rodriguez Advisor(s): Suguio, K.

Committee:

Subject of thesis: Sedimentology/Sedimentary Petrology

State: PA 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Roig, H.L. 1993. Characterization of the Jacuí-Conceição da Aparecida "Suture Zone", MG state, northern border of the Alto Rio Grande belt: Geotectonic and metallogenetic implications. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1745 1993 Date of presentation: 18/2/1993

Henrique Llacer Roig Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

An area in the Southwest of Minas Gerais, including the town of Petunia, was divided into two distinct terrains, namely, Campos Gerais Belt and Petunia Complex, both collectively called Campos Gerais Complex in earlier works. The former, and older, is an autochthonous terrain regarded as the basement to the latter. It is located in the northern part of the area and consists of migmatitic orthogneisses containing greenstone belt sequences. Structural and metamorphic data show that this basement underwent amphibolite facies metamorphism was affected by transcurrent ductile shear zones, all with a general west-northwest strike, that underwent retrograde metamorphism to greenschist facies grade. The Petunia Complex, considered allochthonous, is mostly made up of gneisses, with minor intercalations of psammitic and pelitic schists, possibly of supracrustal origin. Between the cities of Jacuí and Conceição da Aparecida, the Petunia Complex includes a discontinuous belt of metagabbros and metaultramafic rocks. These rocks are mostly foliated and may contain Os-Ir-Ru alloys and sulphides-bearing podiform chromitites, hosted by metadunitic bodies, locally differentiated. All these features suggest that the mafic and ultramafic rocks may be the obducted slabs of an ophiolite sequence. The structural and metamorphic data indicate also that the Petunia Complex underwent two tectonic events. The first is characterized by a tangential tectonics that produced ductile deformation, shear zones, regional foliation and mineral lineation, and metamorphic conditions of amphibolite facies grade. Their kinematic indicators show a mass transport towards east-southeast. The second tectonic event, on the other hand, is characterized by brittle transcurrent faults, with sinistral sense, and metamorphic conditions between greenschist- and prehnite-pumpellyite facies grade. On the basis of lithologic, metamorphic and structural data the following hypothesis is put forward for the geologic evolution: (i) The Campos Gerais belt is the southern extension of the São Francisco Craton, whereas the Petunia Complex is correlated with the base of the Andrélandia Group; (ii) secondly, there might have been an oblique collision between two tectonic blocks during the Brasiliano event, with mass transport from N-NW to E-SE, obduction of an ophiolitic sequence, and mixing of lithologies from both terrains. The two last features characterize the "suture zone" between a cratonic block (São Francisco Craton) and a mobile belt (Alto Rio Grande mobile belt). This suggests that the boundary of the Alto Rio Grande mobile belt should actually be located further north. The proposed division can also explain the regional distribution of mineral deposits, with massive sulphide deposits concentrated in the greenstone belt sequence of the Campos Gerais belt, and gold and chromium in ophiolitic rocks of the Petunia Complex.

Sachs, L.L.B. 1993. The magmatism associated to the Igarapé Bahia cupro-auriferous mineral deposit, Carajás, PA state, Brazil. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1751 1993 Date of presentation: 17/12/1993

Liliane Lavoura Bueno Sachs Advisor(s): Batista, J.J.

Committee:

Subject of thesis: Metallogenesis

State: PA 1/1,000,000 sheet: SB22 Centroid of the area: ' - 'W

Abstract

The polymetallic Igarapé Bahia mineral deposit (Cu-Au-Ag-Mo) is hosted by the low-grade metavolcanic and metasedimentary rocks of the Igarapé Bahia Group in the Carajás Mineral Province, northern Brazil. The Igarapé Bahia Group consists mainly of basic volcanic and pyroclastic rocks, psamo-pelitic sedimentary rocks and iron formation, which follow a general NNW strike with a dip of 70° ENE. These rocks are overlain by a lateritic sequence which hosts the largest gold deposit in the area. The present study reports a petrographic and lithogeochemical investigation on the basic volcanic rocks of the Igarapé Bahia deposit, as well as petrographic results on the primary sulfide mineralization associated with these rocks. A total of 23 rock samples were analyzed for both major and trace elements by XRF, ASS and other analytical methods available at UNICAMP and UNESP. REE contents were determined on 8 selected rock samples by ICP method at GEOSOL. These rocks were also studied by conventional optical microscopy and the ore paragenesis were recognized in a total of 25 polished-thin section. Lithological types are: metabasalts, metabasalts with granophyric intergrowths, meta-andesites to metadacites, country rocks with interlayerings of magnetitiferous rocks, which host massive sulfide lenses, and intrusive basic rocks crosscutting the volcanic-sedimentary sequence. In general, the Igarapé Bahia volcanic rocks have been hydrothermally altered at greenschist facies conditions. All types, except the subvolcanic basic rocks contain variable amounts of chlorite, carbonate, quartz and epidote. The incompatible element and REE patterns obtained for these rocks resemble those of Continental Tholeiites probably, with relative enrichment for Rb, Ba, K, La and Ce. These enrichment may be due to the hydrothermal alteration or crustal contamination. The primary sulfide mineralization of the Igarapé Bahia deposit underwent local remobilization during hydrothermal alteration events at greenschist facies and was also affected by shearing within a more brittle regime.

Santos Neto, E.V. 1993. Geochemical characterization and depositional palaeoenvironment of the carbonato-pelitic sequence of the Assistência member, Irati formation in the São Paulo state, Paraná basin. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1397

1993

Date of presentation:

Eugenio Vaz dos Santos Neto

Advisor(s): Rodrigues, M.A.C.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: SP

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

In this study the carbonatic-pelitic rocks of Assistência Member, Irati Formation, occurring in the state of São Paulo, Bacia do Paraná, Brazil, were characterized under organic geochemical and mineralogic parameters. In addition, the results of this study were integrated to paleontologic informations published in the literature. The studied sequence presents the highest organic content and hydrocarbon potential yield amongst the whole sedimentary rocks from Paraná Basin. Despite its depth, the maturation level is relatively low. Only in the intervals affected by igneous intrusions, the thermal organic evolution has increased. However, relatively thin source rock beds coupled with not effective thermal maturation process (heat from the igneous intrusions) seems to be restrictive factors to the generation of large volumes of petroleum. Physico-chemical variations that occurred in the depositional paleoenvironment are reflected in the biological markers concentrations, carbon isotopic signatures of organic extracts and carbonatic fraction, and in the petrographic and sedimentological characteristics of the sequence. Variations among relative proportions of bulk biomarkers e.g. terpanes, steranes, n-alkanes, and specific compounds of these groups strongly suggest a saline to hypersaline paleoenvironmental conditions. Biomarkers and clay minerals composition also point to a increase of pH and decrease of Eh of bottom waters of such environment. The decrease of salinity and variations of the anoxic conditions with time, and the related changes in the biomass are also important features. Preservation of organic matter in the middle part of the studied section is due to more anoxic conditions, in addition to the increase of organic productivity. Such phenomenon was detected in the carbon and oxygen isotopic ratios from organic extracts and carbonatic fraction of the rocks. There is a direct relationship between the organic and clay contents in the rocks, up to the lower third of the lithofacies LE, where the dilution of organic matter is conspicuous. Probably such relationship reflects the increase of sedimentation rates. The carbon (^{13}C) and oxygen (^{18}O) isotopic ratios of the carbonatic fraction, and carbon (^{13}C) of the organic extract, the organic carbon content, the insoluble residue suggest that the stratification in the water column, promoting the anoxic layer, was directly associated with the terrigenous input, and consequently to the wet and dry climatic cycles. Integration of the data suggests that the sedimentation of basal carbonatic rocks took place in a shallow platform, under a hot and dry climate where storm induced high energy events dominated. Toward the top, rhythmic bedding, shales and carbonatic rocks, were deposited in deeper parts of a shelf below wave base, under anoxic conditions. Climate, at this time, was still warm with unequal cyclic alternations of dry and wet periods, allowing the deposition of carbonate (drier climate) and shales. Fossil biota represented by low diversity foraminiferal assemblages composed of agglutinated (*Ammodiscus* sp.) and calcareous species (*Fusulinina* sp.), sponge spicules, brachiopods (*Lingula* sp.), crinoids and ostracodes (*Bairdia* sp.) although in small number of specimens are considered to be diagnostic of semi-restricted shallow marine environment. The lower abundance of the C30 steranes (24-n-propylcholestanes), ascribed to be derived from Chrysophyta marine algae, corroborates the interpretation of a restricted marine environment.

Santos, T.J.S. 1993. Geological aspects of an area located at the southwestern of Granja, northeastern portion of Ceará state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 689

1993

Date of presentation: 30/9/1993

Ticiano José Saraiva dos Santos

Advisor(s): Hackspacker, P.C.

Committee:

Subject of thesis: Regional Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The basement of the Borborema Province of Northwestern Ceará is comprised of granulites, metasediments and a TTG suite, of archean age (3.2 G.a.), migmatized during the Transamazonian event. The exclusive phases Dn-2/Dn-1, contributed to the deformation, with metamorphism associated with the amphibolite/granulite facies.

The supracrustal sequence is composed of high grade metasediments of the Martinópolis Group. This was sub-divided into four units from bottom to top, corresponding to:

- Unit I, schists muscovite quartz with staurolite, kyanite schists and quartz-feldspathic gneisses;
- Unit II, diverse quartzites, calcisilicatic rocks, iron formation and quartz schists;
- Unit III, schists quartz muscovite and quartz-sericite-muscovite schists; and
- Unit IV, phillites.

Rocks of this Group were subjected to an upper amphibolite facies metamorphism of the Barrovian type, which in some reached anatexis in Unit I.

In the supracrustal rocks, the progressive coaxial phase begins with Dn, the largest penetration in the area, forming large transcurrents in the NE-SW direction, associated with subhorizontal stretching lineation. These transcurrents evolve to a transpressive structure, thrusting Dn+1 in the NW-SE direction. Dn occurs in amphibolitic facies, where the quartz shows a

prismatic <a> and <c> slip, the staurolite has its c-axis strongly parallelized to Lx, while in Dn+1, there is a gradual movement toward a basal <a> slip in the quartz. Data of magnetic susceptibility also show this evolution.

Above the Martinópolis Group occur metasediments of a low grade of metamorphisms of the São José Group (meta-argillites and meta-arenites) and the Metasediments of Casinha (ardósias diamictíticas). These were affected by the Dn+2 event during the Brazilian.

The units present in the western portion of Africa show a high lithographic, structural and metamorphic similarity with the northwestern region of Ceará.

Sayeg, H.S. 1993. Brazilian geological evolution of the Arroio Boici region, RS state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 91 p

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1643 1993 Date of presentation: 23/4/1993

Heitor Siqueira Sayeg Advisor(s): Machado, R.

Committee:

Subject of thesis: Brazilian Geology

State: RS 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Seixas, S.R.M. 1993. Photogeologic, petrographic and petrochemical study of granulitic rocks of the Almadina area, in the state of Bahia. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1306 1993 Date of presentation: 28/12/1993

Sylvio Raimundo Mendonça Seixas Advisor(s): Barbosa, J.S.F.

Committee: Herbert Conceição -
Moacyr Moura Marinho -

Subject of thesis: Petrology Applied to Mineral Research

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

The area surveyed, situated in the southern coastal part of the State of Bahia, is constituted by basic, intermediate and acid granulitic rocks, generally of calc-alkaline nature, of volcanic and/or plutonic affiliation, and of Archaean to Paleoproterozoic age. Subordinately, is integrated by granulitized supracrustal rocks, represented by aluminous-magnesian rocks (interaction of metapelites and mafic rocks), with partial fusion (presence of anatectic mobilizates); by quartzites and calc-silicate rocks and also, occasionally, by aluminous and carbonatic ones. Mangeritic and hypersthene-syenitic rocks, derived from late monzonitic and syenitic intrusions of Paleoproterozoic age, and of almost shoshonitic nature also occur in this area. A single mafic dyke, of gabbroic composition, and of Neoproterozoic age complete the lithological spectrum of the area.

These rocks compose a set formed by imbricate wedge-like blocks, structured from a subduction episode of Archaean/Paleoproterozoic age, that involved rocks generated in the accretion prism, in the magmatic arc and in the trans-arc basin. In this episode, when occurred deformations and metamorphism, those rocks had their primary structures and their mutual stratigraphic relations completely erased.

In this set, were individualized, by photointerpretation, four wedge-like blocks, each one with its own superficial morphologic characteristics, that correspond to four thrust slices or scales, produced by tangential tectonics, directed from SE to NW, consequence of lithospheric plate collision. From east to west, the rocks that compose these blocks were named Granulitized Rocks of Coaraci, Granulitized Rocks of Almadina, Granulitized Rocks of the Rio do Ouro and Granulitized Rocks of the Ribeirão Garapa.

As these blocks had been studied each one revealed to have petrographic and petrochemical peculiarities. The Block of Coaraci is constituted by acid granulitic rocks (charnockites and mangerites) of plutonic affiliation and alkaline-calcic to calc-alkaline nature; the Almadina one showed to be formed, dominantly, by intermediate (hypersthene diorites) and acid granulitic rocks (enderbites and charnockites) of volcanic and/or plutonic affiliation (andesites and/or diorites, dacites and/or tonalites and rhyolites and/or granites), and calc-alkaline nature; the one of the Rio do Ouro, in a great extent, is constituted by aluminomagnesian granulitic rocks, that exhibit, sometimes, uncommon parageneses; the block of the Ribeirão Garapa, predominantly, is formed by intermediate granulitic rocks (hypersthene diorites) of volcanic and/or plutonic affiliation (andesites and/or diorites) and calc-alkaline nature. Narrow bands of basic granulitic rocks (hypersthene granulites) of volcanic and/or plutonic derivation (basalts and/or gabbroic rocks) of predominantly calc-alkaline parentage and oceanic (oceanic floor) and non-oceanic geotectonic environments (island arcs) are common in the Almadina, Rio do Ouro and Ribeirão Garapa Blocks, being the last one more frequent in the two former blocks. Levels of supracrustal sedimentary rocks, like quartzites and calc-silicate rocks often occur in the Almadina and Rio do Ouro Blocks and, in a lesser extent, in the Ribeirão do Garapa one. Also narrow manganese levels, possibly derived from rhodochrositic seams affected by intensive chemical weathering are found in the Almadina Block, where they give rise to sometimes economic supergenic concentrations. The rocks that compose these four blocks are emplaced in an intricate way, as a result of a compressive tectonics related to an episode of crustal shortening.

(lithospheric plate collision).

The evolutive model idealized to the area is based on the geotectonic view of Barbosa (1990) to the coastal granulitic belt of Bahia or, in other words, is based on a model of lithospheric plate collision of Archaen/Paleoproterozoic age.

Silva, V.G. 1993. The 'Cope collection' in the Museu Nacional (National Museum)/UFRJ: Fossil Vertebrata from the Bahia, Sergipe and Pernambuco states (Brazil), and their stratigraphic correlation. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1454

1993

Date of presentation:

Valéria Gallo da Silva

Advisor(s): Azevedo, S.A.K.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

This Master Thesis brings back to Brazilian paleontological scenario a vertebrate fossils group collected in the end of last century on Bahia, Sergipe and Pernambuco State, Brazilian northeast. The fossils, first studied by Edward Drinker Cope, had here a new taxonomical analysis based on modern technical tools and recent publications. A lithostratigraphical correlation is still presented. Paleontological and paleoenvironmental studies were developed on basis on fossils, stratigraphy and the sedimentary basins related. Thus, with this dissertation, a very important paleontological bulk was integrated to the Paleovertebrate Collection of Museu Nacional/UFRJ and is now disponible to new researches.

Simões, S.J.C. 1993. Analysis of regional and mineral deformation of the Pedra Branca Complex (CE state) and its chromitiferous deposits. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1780

1993

Date of presentation: 19/2/1993

Silvio Jorge Coelho Simões

Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State: CE

1/1,000,000 sheet:

SB24

Centroid of the area:

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'W

Abstract

Souza, M.T.A.S. 1993. Lithostratigraphy, structures and metamorphism of the Precambrian between Itaperuna and Italva (RJ state). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1155

1993

Date of presentation:

Miguel Antonio Tupinambá Araújo Souza

Advisor(s): Trouw, R.A.J.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: RJ

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

Spoladore, A. 1993. Characterization of the deformation of the Bromado region proterozoic rocks (Paraná state). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pp.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 690

1993

Date of presentation: 22/10/1993

Angelo Spoladore

Advisor(s): Hackspacker, P.C.

Committee:

Subject of thesis: Regional Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

This paper describes the results of studies involving proterozoic rocks (Fm. Água Clara - Complexo Setuva; Fm. Votuverava, Fm. Antinha - Gr. Açungui) in Bromado area, Paraná State.

Was made a geological mapping, kinematic and strain analysis and acknowledgment of the microstructures trying to characterize the temperature and pressure of the system during the deformations.

In the area of Bromado two deformation system, that occur progressively, was identify. The first and most important, is relate with thrust faults that caused mylonitic foliation and metamorphism in medium (Fm. Água Clara) and low (Fm. Votuverava and Antinha) grade. After that, occur a generalized folding.

The last deformation event is related with transcurrent that reorganized the pre-existing structures. Related with the transcurrent, occur the emplacement of the Granito Piedade that caused a thermal metamorphism in same rocks of the Fm. Votuverava.

The kinematics analysis show that the sense of the thrust is from NW to SE and the transcurrent is dextral.

The strain is heterogeneous and in some places, practically, don't exist.

Tagliari, C.V. 1993. Evolution of the mixed sequences (siliciclastic and carbonatic) under the influence of halokinesis during the Albian-Aptian of the Regencia platform, Espírito Santo basin. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, Brazil, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 418

1993

Date of presentation:

Cláudio Vinicius Tagliari

Advisor(s): Della Favera, J.C.

Committee:

Subject of thesis: Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The studied area is located within the center-eastern of the Regencia Platform and the nearshore zone.

The sedimentary rocks studied comprise an Albian-Aptian interval. This section was divided into three depositional sequences in terms of the modern concepts of Sequence Stratigraphy Paradigm. These Sequences were informally labeled, from the oldest to the youngest one, as Sequences "A", "B" and "C".

The Lowstand Systems Tract and the Transgressive Systems Tract of Sequence "A" were deposited under conditions of an epicontinental sea that provided the sedimentation of evaporites and carbonates in restricted environmental conditions. In this setting, the beds tend to be correlated laterally over long distances.

Between the phase that characterized Sequence "A" Highstand Systems Tract deposition and Sequence "B" lower part, the area corresponding to Regencia Platform, once an epicontinental platform, evolved to a ramp platform. Sequences "B" and "C" are composed of alternated cycles composed of siliciclastics and carbonates. Eustatic changes, orbitally induced (excentricity and precession) in the scale of the Milankovitch Cycles (4th and 5th orders), are probably the main stratigraphic control of these alternations.

In Sequences "B" and "C", carbonates and siliciclastics occur simultaneously but with a tendency to mutual exclusion.

Siliciclastics occupy nearshore zones, while carbonates tend to be displayed in more distal positions, existing an area of transition between both members.

Carbonate development is associated with the space available caused by the backstepping deposition of siliciclastics towards the source area, as a function of the eustatic rising. During sea level falling, or during the stillstand, or even during a slow rising when the sedimentary supply is sufficiently high to fill the accommodation space, siliciclastics prograde over the carbonate previously deposited. The dip of the detachment surface (evaporitic section) of the listric faults has changed (in the middle of Regencia Platform) during the Sequence "A" deposition. The tectonism responsible for this changing caused the movement of a great amount of halite to the lower declivity zone. The remobilization of this salt layer greatly affected the sedimentation during the upper part of Sequence "A" and throughout all over Sequence "B" and "C" sedimentation.

Salt sliding, perhaps associated with its dissolution, was the main factor of accommodation space generation in Regencia Platform, considering a third order scale.

Tallarico, F.H.B. 1993. Petrology of the Mata do Lenço, Córrego do Couro and Morro Alto intrusions - Alto Paranaíba Magmatic Province - Abadia dos Dourados region, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M088

DataBase Ref.: 148

1993

Date of presentation: 18/11/1993

Fernando Henrique Bucco Tallarico

Advisor(s): Leonardos, O.H.

Committee:

José Caruso Moresco Danni - IG/UnB

Jose Carlos Gaspar - IG/UnB

Joel Gomes Valença - DG/UFRJ

Subject of thesis: Prospection and Economic Geology

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

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Abstract

The present work is dedicated to the crystal chemistry and geochemistry of the Mata do Lenço, Córrego do Couro and Morro Alto Igneous Intrusions, located near the cities of Abadia dos Dourados and Coromandel, in the state of Minas Gerais - Brazil. These

intrusions consist of Cretaceous alkaline potassium-rich igneous occurrences, part of the Alto Paranaíba Igneous Province. Petrography and mineral chemistry of these intrusions suggest that they represent consanguineous magmas. This concept can probably be extended to the whole province.

Rare earth and highly incompatible elements' geochemistry, as well as Sm and Nd isotopic systematics, point to a metassomatized mantle source. The petrography and mineral chemistry of mantle xenoliths hosted in the Mata do Lenço Intrusion, show typical textures of modal or patent metassomatism, and suggest a complex (probably polyphasic) history of incompatible element enrichment in the local lithosphere.

Glimerite xenolith present in the Mata do Lenço Intrusion, are here interpreted as metassomatic. Their mineral chemistry suggest a consequent style of metassomatism in the local mantle sources.

The peridotitic xenolith of the Mata do Lenço Intrusion exhibit a metassomatic paragenesis that is mineralogical and chemically distinct from the glimeritic paragenesis. In the peridotitic xenolith it was recognized that the infiltration of hydrated metassomatic paragenesis in anhydrous peridotitic xenolith is still unknown, however association with ascending asthenospheric fluids or silicate melts is possible.

Temóteo, J.P.S. 1993. Geological-geotechnical constraints in the stability of slopes (Tijuca massif), Rio de Janeiro - RJ. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1597

1993

Date of presentation:

Jaci Pereira da Silva Temóteo

Advisor(s): Barroso, J.A.

Committee:

Subject of thesis: Geotechnical Mapping

State: RJ

1/1,000,000 sheet:

SF23

Centroid of the area:

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Abstract

This work is a general approach of the phenomenological knowledge involved in the slope stability of the studied area, part of the phisioographical dominion known as "Maciço da Tijuca". Initially, are introduced the problem, the local physical characterization and the methodology used in the work. Emphasis is given to the general observation of the environment during the stages of field work, resulting in a geotechnical map, which is basis for the analysis made. The analysis, made on a qualitative way, describes the main conditional factors with emphasis on the aspects of the area, as a result of its influence, allowing the association of mass movements with the several physical Conditions of the environment that results from structural conditions

Vieira, I.S. 1993. Structural geology of São Paulo plateau. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 974

1993

Date of presentation:

Inês Santos Vieira

Advisor(s): Fernandes, C.E.M.

Zalan, P.V.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

As the widest and most impressive tectonic feature established in the southeastern coast of Brazil, at least since the Aptian, the São Paulo Plateau, has been the subject of intensive studies during these years. However, due to the relatively shallow depths reached by the indirect surveying methods used to acquire data, many relevant questions have remained unsolved. The data presented in this study suggest that the São Paulo Plateau, as a structural unit, is located on continental crust, heavily intruded by volcanic rocks, preceding of at the same age of the rifting. These volcanic rocks produce high intensity magnetic anomalies. The presence of volcanic sedimentary sequences in the southwestern part of the plateau, displaying alternating seaward and landward dips indicate that these sequences cannot be considered as Seaward Dipping Reflectors Sequences (SDRs), and that these dipping sequences are due to volcanic extrusions so conspicuous in the surrounding area. These sequences do not mark structural limits in the studied area. The Florianópolis High, which constitutes the southern limit of the evaporites in the South Atlantic, has been shown to be the extension in the seaward direction of well known NW/SE-trending structural features present in the Paraná Basin; thus, it cannot be considered as the extension of the São Paulo Ridge. A model of evolution based on the concept of asymmetric extension and separation of continents, involving subhorizontal detachment zones, wide lower plates and narrow upper plates, has been tentatively developed to explain the present day features of the São Paulo Plateau.

Vilela, C.G. 1993. Systematics and ecology of benthic foraminifera of the Quaternary of the Rio Amazonas river Delta, Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1446

1993

Date of presentation:

Claudia Gutterres Vilela

Advisor(s): Koutsoukos, E.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: PA 1/1,000,000 sheet: SA22 Centroid of the area: ' - 'W

Abstract

The distribution of the benthonic foraminiferal microfauna on the north Brazilian continental shelf has been studied. Eight box-core samples were collected in two shore perpendicular transects on the shelf. About 190 species has been classified, described and photographed. These transects cross the inner and middle shelves, reaching the Amazon delta topset, foreset and bottomset sequences. Each sample was divided in ten subsamples to differentiate epifaunal and infaunal foraminiferal assemblages, and the species microhabitat preferences were determined. This work tried to show the microfauna versus changing habitat patterns in the study area and their applicability in paleoecological interpretation. The variations of salinity, nutrients, lithology and sedimentation rates were considered in microfaunal interpretations. General analysis of the foraminifera associated microfauna and flora contributed to the knowledge of the benthonic foraminiferal interrelations in the biocenosis. On the middle shelf, four benthonic foraminiferal assemblages were identified and showed recent marine conditions as well as early Holocene changes. The *Quinqueloculina bicostata* Assemblage was found in relict sands, on the deep middle shelf northwest of the river mouth, and suggests a normal salinity and shallower shelf environment. These sediments would have been deposited when the marine conditions were ideal to that kind of assemblage. The *Stetsonia minuta* Assemblage has numerous very small specimens that must belong to opportunistic species, adapted to unstable conditions in the region. Two distinctive assemblages and a microhabitat stratification were identified: *Ammonia beccarii*, which has epifaunal individuals, and *Brizalina semicarinata*, which has infaunal ones. Oxygen depleted muddy sediments has been recognized by the assemblage studies. The presence of broken and regenerated or abnormal large specimens in front of the river mouth, belonging to *Steigerina? bubnamensis* and *Miliolinella subrotunda*, is probably related to hydrodynamic processes in shelf waters of this area. The Rose Bengal stain in foraminiferal tests were evaluated and discussed, because only a few tests were stained.

Volkmer, S. 1993. Mineralogical characterization of the weathered soil cover in the São Carlos sheet (ASC), state of São Paulo - 1:100,000 scale. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 665 1993 Date of presentation: 16/11/1993

Susana Volkmer

Advisor(s): Rueda, J.R.J.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This work was made in the region of São Carlos city, central-western part of São Paulo State. Its development required a pedogeological mapping in a regional scale, 1:100,000, in which was identified six lithostratigraphic units. Remote sensing data provided the basis for morphostructural and weathering cover mapping. The weathering cover was analysed under microscopic for the sand fraction and under X-ray diffractometry for the clay minerals fraction. The resulting data have been used to establish the evolution of both soil profile and mineralogy of the textural fractions.

von Huelsen, M.G. 1993. Focal mechanism in the João Câmara region. MSc Thesis; Institute of Astronomy, Geophysics and Atmospheric Sciences, University of São Paulo, São Paulo, 122 pp

Instituto Astronômico e Geofísico- Universidade de São Paulo

Reference:

DataBase Ref.: 1515 1993 Date of presentation: 7/10/1993

Monica Giannoccaro Von Huelsen

Advisor(s): Assumpção, M.S.

Committee:

Subject of thesis: Geophysics

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Andrade, A.C.S. 1994. Geology of the Caravelas coastal region - BA state: Contribution to the environmental planning. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1308 1994 Date of presentation: 12/8/1994

Ana C. da S. Andrade Advisor(s): Dominguez, J.M.L.

Committee: Silvio C.B. Melo e Silva -
Zelinda Margarida de Andrade - IG/UFBA

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SE24 Centroid of the area: ' - 'W

Abstract

The coastal zone of Caravelas, located in southeastern State of Bahia, contains diverse and productive ecological systems, including the Abrolhos coral reefs, considered the most important coral reefs of the South Atlantic ocean. For these reasons this region presents a great potential for tourism and recreation. This activity competes with industrial projects (paper mills), forestry and fossil fuel exploration. In order to contribute to the regional planning of the region, an environmental geology map was prepared in which the following units were identified: Table Lands, Inner Sandy Terraces, Outer Sandy Terraces, Muddy Terraces, Mangrove/Tidal Flat, Freshwater Marsh and Beaches. Using the physical characteristics of the substrate and the active geological processes as a starting point, three broad classes of land use were proposed: 1 - Preservation: these are ecologically important areas that should be protected in their natural state and where no activity should be allowed, 2 - Conservation: areas where only those human activities that do not interfere with the natural ecological systems are allowed and 3 - Controlled Use - areas where occupation requires only normal environmental control measures. Besides these three classes a fourth class is proposed encompassing all set-backs. These set-backs are also areas of preservation or conservation that should be created in order to protect the aquatic resources and the preservation units from the deleterious consequences of human activities. Thus, the following recommendations of land use, most of them backed by legislation currently in use, are proposed for the environmental geologic units identified:

Table Lands: controlled use in the interfluvies, preservation use in headwaters and valley walls, and set-backs around: (i) superficial aquatic resources, (ii) active sea-cliffs and (iii) preservation units;

Inner Sandy Terraces: conservation use, with set-backs around: (i) superficial aquatic resources and (ii) preservation units;

Outer Sandy Terraces: conservation use, with set-backs around: (i) superficial aquatic resources, (ii) preservation units and (iii) at the shoreline to protect properties from erosion;

Muddy Terraces: conservation use;

Mangrove/Tidal Flats: preservation;

Freshwater Marsh: preservation use;

Beaches: conservation use.

Anelli, L.E. 1994. Pelecipodes of the Piauí formation (medium Pensilvanian), Parnaíba basin, Brazil. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1911 1994 Date of presentation: 5/5/1994

Luiz Eduardo Anelli Advisor(s): Rocha-Campos, A.C.

Committee:

Subject of thesis: Sedimentology/Sedimentary Petrology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Azevedo, R.L.M. 1994. Oxygen and carbon isotopes in detailed stratigraphic studies in Campos basin: Applications in the Quaternary and Oligocene. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1394 1994 Date of presentation:

Ricardo Latgé Milward de Azevedo Advisor(s): Rodrigues, M.A.C.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Bertolino, L.C. 1994. Palaeoenvironmental study of Minas supergroup carbonatic rocks, southwestern of Quadrilátero Ferrífero, Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1152

1994

Date of presentation:

Luiz Carlos Bertolino

Advisor(s): Pires, F.R.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

Bicho, C.P. 1994. Digital processing of aerogeophysical, Landsat/TM and Radar images in the Presidente Médici Sheet / RO state with emphasis in the metallogenetic characterization of the Rio Pardo granitic suite. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1728

1994

Date of presentation: 25/2/1994

Cristina Prando Bicho

Advisor(s): Crósta, A.P.

Committee:

Subject of thesis: Metallogenesis

State: RO

1/1,000,000 sheet:

SC20

Centroid of the area:

' -

'W

Abstract

Processamento Digital de Imagens Aerogeofísicas, Landsat/TM e Radar na Folha Presidente Médici/RO com Ênfase na Caracterização Metalogenética da Suíte Granítica Rio Pardo This work was carried out on the Presidente Médici quadrangle (SC.20-Z-C) at an 1:250.000 scale, at 1 southeastern portion of Rondonia State, Brazil. It's main objective was to test digital imaging processing (DI) techniques on remote sensing and geophysical data, for geological mapping and metallogenetic analysis on a heavily forested basement area of the Amazon region. DPI was applied on Landsat/TM, SLAB and aerogeophysical data. The best results were obtained aeromagnetic and aerogammaspectrometric data, with showed good correlation, respectively, with structural and lithological field data. Large variations in the K, U e Th content of granitic facies are clearly discernible aerogammaspectrometry. In the case of Rio Pardo Granitic Suite, where the facies shows a small variations of these elements, the increase on the radiation's level was explained by less dense vegetation cover and thinner soils. The images of Landsat/TM didn't present good results because of the interference of the human occupation pattern, with a parallel roads spaced 4Km on the whole area. The same happens with the radar image because of the high level of noise presented by the photographic image. In addition, gravimetric and geochemical data were used for testing preliminary models. Magnetic and gravimetric data are indicative of a large E-W trending suture associated with collision processes at southern part of the region. High Ba, Sr, Ca, Mg and magnetite content, high deformation processes and absence of metasomatic process are suggestive of a lower metallogenetic potential for the Rio Pardo Suite.

Bignelli, P.A. 1994. Evaluation of radar (SAR) of SAREX'92 project and ERS-1 data in geological mapping in Salobo region, Carajás mineral province. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1335

1994

Date of presentation: 4/11/1994

Pedro Alberto Bignelli

Advisor(s): Paradella, W.R.

Committee:

Subject of thesis: Remote Sensing

State: PA

1/1,000,000 sheet:

SE22

Centroid of the area:

' -

'W

Abstract

Briguetti, J.M.P. 1994. Sedimentary facies of the Pirambóia formation in the Rio Claro region, state of São Paulo. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 694

1994

Date of presentation: 16/8/1994

Joseli Maria Piranha Briguetti

Advisor(s): Chang, M.R.C.

Committee:

Subject of thesis: Regional Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The present study has been focused on the facies analysis of the Pirambóia Formation, nearby Rio Claro (State of São Paulo). It was based mainly on sedimentary structures, as well on textures and petrographic characteristics of the sedimentary succession. Pirambóia Formation is primarily composed of aeolian sediments and secondly by fluvial/aeolian sediments deposited in a desert environment. The basal portion of the succession is composed of dune, interdune and wide sand sheet deposits. This succession is followed by a typical erg sedimentation, with dune deposits and a large number of interdunes associated with a fluvial system. Toward the top of the unit the interdune deposits are rare and the sedimentation occurs in a field of large dunes.

Carmelo, A.C. 1994. Integration of TM/Landsat-5 and gama-spectrometric images in the geological study of the Caiamar complex, Crixas region, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pp.

Instituto de Geociências - Universidade de Brasília

Reference: M094

DataBase Ref.: 153 1994 Date of presentation: 22/7/1994

Adriana Chatack Carmelo Advisor(s): Meneses, P.R.

Committee: Hardy Jost - IG/UnB
Augusto Cesar Bittencourt Pires - IG/UnB
Fernando Pellon de Miranda - CENPES/Petro

Subject of thesis: Regional Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

In the last years advances in digital data integration have been performed. This dissertation presents the study of an integration methodology of LANDSAT/TM multispectral images and gammaspectrometric images obtained from original geophysical data. This methodology was tested in one area of basement terranes, named Caiamar Complex, located in Goiás State, Brazil, represented by gnaissic and granitic rocks.

The proposed integration process involves merging of enhanced and registered TM images (2, 4 and 5 bands) with original aerogeophysical data (regular grid) that have been established in raster format. Both of them were resampled for some spatial resolution of 90m x 90m.

Datasets were combined using IHS transforms, in a manner which maintained the identity of each dataset. The resulting merged image shows that the spatial and spectral features of the studied area allowed an accurate lithological and structural discriminations, such as lineaments and circular patterns of the Caiamar Complex.

The adequate integrated use of enhanced LANDSAT/TM images and gammaspectrometric images clearly discriminates areas of different geological features. The results of this study show that remotely sensing techniques may be an efficient tool for preparing geological maps on previously unrecognized terranes.

Carvalho, A.M. 1994. Geologic Mapping, Evolution History and Environmental Appraisal of the Aquiraz Region (State of Ceará). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Coastal environmental evolution, Quaternary, Sandy deposits, Geomorphology, Coastal dynamics

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 601 1994 Date of presentation: 13/12/1994

Alexandre Medeiros de Carvalho Advisor(s): Coutinho, P.N.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The studied area plays a significant role in the touristic activitic of Ceará State. Besides the historic, social and cultural aspect due to the fact that it once has been the first nucleus of colonization and first capital of the state, it is an excellent resort area. The geomorphologic and geologic characteristics together with the intensive coastal dynamics and its low carrying capacity are almost prohibitive to face the present development as this is being put into effect.

Taking into account this context, the geomorphologic evolution has been searched after, including the main coastal dynamic agent and their deposits in association with the environmental patterns. In order to achieve the objective of this work the remote sensing aerial photogrammetry studies, detailed field work, paleoclimatic and eolian processes have been considered. The sedimentation pattern either eolian or hydrodynamic have also been worked out. The stratigraphic and geologic framework is represented by the Precambrian quartzite rock basement, covered by the Tertiary Barreiras Formation sediments. Littoral plain composed of Quaternary sandy sediments is covering a great part of this units.

The environmental units have been delineated and studied under the environmental point of view as the exploitation of diatomite versus social and cultural behaviour and the point of view of the eolian activity. The pollution content in the surface and subsurface water was an important clue that lead to a definition of a set of rules of mitigation. The population settlements were related to the geologic feature and brought about by an effective effort.

Castro, V.L.L. 1994. Pollution Origin and Mechanism of Groundwater in the Cidade Nova Area, Natal State

of Rio Grande do Norte). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Aquifer, Aeration zone, Pollution, Natal

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 555 1994 Date of presentation: 9/6/1994

Vera Lúcia Lopes de Castro

Advisor(s): Manoel Filho, J.

Committee:

Subject of thesis: Hydrogeology

State: RN 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

Abstract

The studied area is situated in SW of Natal city and is geologically formed by eolian sands (dunes and Potengi Formation), covering the Barreiras Group (Guararapes Formation). The selected area is about 32 km² and comprises the districts of Cidade Nova and Felipe Camarão. Great part of the solid waste of the city is thrown in this area. These districts are totally supplied by ground water, which is exploited through deep wells by the "Companhia de Águas e Esgotos do Rio Grande do Norte (CAERN)". It is also exploited in a disordered way by part of the population through dugged wells. The annual average rainfall is about 1.500 mm over the sandy cover of eolian origin and guarantees the natural recharge of the aquifer system. The water quality of this system in the past, has been of excellent quality to human use, with total solid content lower than 500 mg/l.

However the researches made since 1980 have shown some isolated focuses of pollution and an increasing of contaminated dugged well with nitrates. In order to contribute to a solution for this problem, the aim of this work is investigating the origin and the mechanism of transportation of the nitrate ions through the unsaturated zone from the surface downward to the aquifer system.

Thirteen tubular wells and 22 dug wells were recorded in the concerned area. The water levels were monitored for a period of 9 months (from August 93 to April 94) and 32 physical-chemical analyses were made. Tests for total and effective porosity were made in laboratory. The results of the analyses are condensed in maps of piezometry, electric conductivity and concentration of nitrate and chloride contents.

According to the interpretation of the well logs the aquifer system Dunas/Barreiras is semi-confined.

The ground water quality in the studied area is sodium-chloride with nitrate contents above 45 mg/l in the NE part of the area. In this part, one finds the oldest waterholes of the district, as well as sewage effluents in the open air. The sources of groundwater contaminations in this area are assumed to be punctual and caused by infiltration in the immediate vicinity of the water wells presenting no effective sanitary protection.

Conceição, R.V. 1994. Petrology of the Santanópolis massif potassic syenites and some aspects of its granulitic basement. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1310 1994 Date of presentation: 17/11/1994

Rommulo V. Conceição

Advisor(s): Conceição, H.

Committee: Jôhildo Salomão Figueiredo - IG/UFBA
 Pierre Sabaté -
 Lauro Valentim Stoll Nardi - IG/UFRGS

Subject of thesis: Petrology Applied to Mineral Research

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The studied region is located between Feira de Santana and Lamarão and is geologically situated in the São Francisco Craton, more specifically in the Salvador-Curaçá mobile belt. The archean basement, in this area, is composed of: a) rocks of metamorphic high degree (Granulitic Complex) and b) Migmatitic Matamorfical Complex, with the best representation is in the east and northwest of the studied section. Besides them, a mafic dykes swarm granulitized of toleitical affinity cut mainly the granulites terrains. Petrographic and geochemical data permit individualize the Granulitic Complex in two domains: the "uppercrust" from gneiss rocks origin, and the "undercrust" from calc-alkalines igneous rocks. Between the migmatitic and granulitic terrains, outcrops the syenitic massif of Santanópolis that is elongated by NS trend, with a extension about 38 Km and covering an area of 180 km². This pluton is constituted by two principal petrographic facies: a) faneritic syenite, in the north, which contacts are controlled by NS faults and b) porphyritic syenites, in the south. The isotopic data from these rocks indicate an age of the pluton intrusion in $2,084 \pm 138$ Ma and an initial isotopic ration (Sri) about 0,70385. Associated to these facies, can be observed ritimitic (or not) cumulational structure, besides filons and mafic enclaves. Petrographic data show a magmatic cristallization for faneritic and porphyritic facies, which evolution varies from transolvus to hipersolvus system. The cristallization of this pluton can be divided in two stages: a) magmatic stage controlled by apatite, ilmenite and diopside and b) latemagmatic, controlled by amphibole. The high values of alkaline, Ba, Sr, K and LREE characterized the syenite as metaluminous with shoshonitic to ultrapotassic

affinites. Chemic and structural data support a post colisional environment and a transcurrent tectonic relation. In the other hand, the high values of Cr and Ni, to this kind of rocks, and the low values of Sri indicate that these rocks are related to magmas originated from enrichment mantles in incompatible elements.

Conde,R.P. 1994. Evaluation of Pb-Zn-Ag ore reserves of the Canoas deposit, Adrianópolis municipality, PR state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2218

1994

Date of presentation:

Rita Parisi Conde

Advisor(s): Yamamoto,J.K.

Committee:

Subject of thesis: Economic Geology

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

' -

'W

Abstract

Cunha,M.A.L. 1994. Petrology, Geochemistry and Depth Emplacement the Boa Ventura, Conceição and Pedra Branca Granodioritic-Tonalitic Stocks (State of Paraíba). MSc Thesis, Departament of Geology, University Federal of Pernambuco, pp.

Magmatic epidote; Metaluminous; Restite; Type-I granite; Amphibolite; Emplacement depth

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 629

1994

Date of presentation: 29/3/1994

Márcio de Abreu e Lima da Cunha

Advisor(s): Sial,A.N.

Committee:

Subject of thesis: Mineralogy and Petrology

State: PB

1/1,000,000 sheet:

SB24

Centroid of the area:

' -

'W

Abstract

In the central region of Paraíba State next to the town of Conceição, Brasiliano (=Pan-African) age granodioritic and tonalitic rocks with magmatic epidote were identified. These granitoids are represented by the rounded and elongated Boa Ventura, Conceição and Pedra Branca stocks, which intruded metasediments of the Cachoeirinha Group. The Boa Ventura and Conceição stocks are composed of hornblende biotite granodiorites to tonalites, with amphibolitic inclusions, quartz diorite enclaves and xenoliths randomly distributed. The Pedra Branca stock is composed of homogeneous clinopyroxene granodiorites to tonalites.

In all stocks, magmatic epidote is observed showing distinct textural relationships: a) included in biotite, b) dissociated of biotite or without allanite core, and c) as a result of the reaction of hornblende with the residual liquid. The constant presence of hydrated minerals (hornblende + biotite > 20%) and feldspar which predominant structure is intermediate microcline to low albite, characterize magmas saturated in water. The studied stocks area calc-alkaline, meta to peraluminous, showing very fractionated REE patterns, enriched in the LREE in relation to the HREE, with small negative Eu anomaly. The d 18O values and the initial 87Sr/86Sr ratios are in the field of the S type granites as defined by O'Neil et al (1979), but their mineralogy strongly suggests an igneous source for these rocks. Rb-Sr age dating suggest that the Pedra Branca stock is the oldest among the studied plutons. The chemistry of the amphibolitic enclaves shows trends clearly distinct from those observed for the host granitoids, suggesting that they are not cogenetic. The occurrence of magmatic epidote suggests 6 kbar as the minimum pressure of crystallization for these granodioritic/tonalitic plutons. The geobarometer based on the Al content of hornblende, yields pressures in the Pedra Branca pluton of 4.8 to 6.6 for the stocks of Boa Ventura and Conceição. The estimated temperature of crystallization varies from 692 to 774oC. The Pedra Branca pluton does not have genetic links with the other stocks here studied. Its chemical and mineralogical homogeneity suggests generation by eutectic fusion. The Boa Ventura and Conceição plutons were probably generated through fusion followed by fractional crystallization of basic magmas.

Dias,R.R. 1994. Evaluation of aerogamaspectrometric data and their integration with TM-Landsat digital images, in the geological mapping of Serra dos Carajás range, (PA state). MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1336

1994

Date of presentation: 18/11/1994

Ricardo Ribeiro Dias

Advisor(s): Paradella,W.R.

Committee:

Subject of thesis: Remote Sensing

State: PA

1/1,000,000 sheet:

SE22

Centroid of the area:

' -

'W

Abstract

Eugênio, W.S. 1994. Paleontological aspects of the Baía de São Marcos bay Cretace, Maranhão state, Brazil. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1455 1994 Date of presentation:

Wilma dos Santos Eugênio

Advisor(s): Azevedo, S.A.K.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Ferrari, V.C. 1994. Mineralogical and geochemical study of phosphatic ores of Irecê- BA state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 70pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1651 1994 Date of presentation: 6/9/1994

Viviane Carillo Ferrari

Advisor(s): Melfi, A.J.

Committee:

Subject of thesis: Brazilian Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Ferreira, D.F. 1994. Comparative study of the post-palaeozoic volcanism in the Potiguar basin and adjacent regions. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1307 1994 Date of presentation: 28/2/1994

Doneivan F. Ferreira

Advisor(s): Fujimori, S.

Committee:

Herbet Conceição -
Moacyr Moura Marinho -

Subject of thesis: Petrology Applied to Mineral Research

State: RN 1/1,000,000 sheet: SB24

Centroid of the area: ' - 'W

PB

Abstract

Results from field and laboratory studies of the basaltic rocks of the Rio Grande do Norte and Paraíba States in Northeast Brazil have established a definite chemical and geochronological relationship. The Tertiary basaltic rocks comprise a dominant suite of alkaline olivine-basalts and basanites, and lesser volumes of toleitic basalts. This series of events occur within a 120 km wide belt in and approximate N-S trend that goes from the Northeastern Brazilian Platform to Central Paraíba State (approx. 250 km). The alkaline members of this suite occur in the form of plugs, necks, small dikes, and few small flows. The toleitic members occur in the form of small flows and dikes which usually show alteration. There are evidences for multiple events in many of the occurrences. This series of Tertiary events was denominated Tertiary Alkaline Basalt Suite of Northeast Brazil, and is considered to be an autonomous magmatism which took place in a continental type of tectonic environment. Most of the intrusive and extrusive events can be related to the period between 12,4 and 44,6 Ma. This magmatism intruded the crystalline rocks of the Precambrian basement and the Cretaceous sediments of the Potiguar Basin, showing very little differentiation. The mineralogy of these rocks consists basically of olivine, clinopyroxene, plagioclase, nepheline and Fe-oxide minerals. It is possible to find included in these rocks a peridotitic xenolithic suite. Most of the xenoliths are of Iherzolitic composition. This alien material can mask the bulk composition of the main Tertiary suite since this material is also present as small xenocrysts that cannot be separated before chemical analysis. The geographical distribution of the Tertiary episodic igneous activity indicates that the magma source is apparently fixed to the moving South American plate rather than fixed in the mantle discarding a hot spot situation. The origin of the primary liquid could have been traced to a huge single magma chamber or, more likely, to different smaller sources at approximately the same depth.

Ferreira, N.L.S. 1994. Aspects of environmental geochemistry of the Mina da Rocha mine - PR state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 94 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1083 1994 Date of presentation: 3/6/1994

Nelson Luiz Schleder Ferreira

Advisor(s): Levi, F.

Committee:

Subject of thesis: Geochemistry

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Freitas, M.E. 1994. Hydrothermalism in the Vianópolis region, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M092

DataBase Ref.: 152 1994 Date of presentation: 15/6/1994

Monica Elizetti de Freitas Advisor(s): Kuyumjian, R.M.

Committee: Nilson Francisquini Botelho - IG/UnB
Antônio Wilson Romano - IGC/UFMG

Subject of thesis: Regional Geology

State: GO 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

The area of study is situated in the southeastern part of the state of Goiás, consisting predominantly of granite-gneisses and the Silvânia Volcano-Sedimentary Sequence. The Silvânia Sequence consists mainly of amphibolites (Metabasic Unit) and schists and quartzites with interbedded amphibolites (Metasedimentary Unit). Intrusive bodies of granites, granodiorites and trochilomites occur with the sequence.

The Silvânia amphibolites consist predominantly of metabasalts geochemically similar to the low-K tholeiites from island arc. Rocks with abundant aluminum silicate minerals (kyanite, pyrophyllite, diaspore and muscovite) occur with the Silvânia Sequence. The interpretation is that these rocks are metasediments, amphibolites and intrusive granites altered through the ascent and deposition of hydrothermal fluids in shear zone.

The diagnostic hydrothermal minerals can be related to stages of alteration: initial stage (higher temperatures) and advanced stage.

Variations of mineral compositions and associations is interpreted as the result of variations of metamorphic conditions and also of the fluid composition due to interaction with rocks.

Gandini, A.L. 1994. Mineralogy, fluid inclusions and genetic aspects of the imperial topaz from the Ouro Preto region, Minas Gerais state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2222 1994 Date of presentation:

Antonio Luciano Gandini Advisor(s): Svisero, D.P.

Committee:

Subject of thesis: Mineralogy and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Gomes, D.C. 1994. Pollution of Arembépe-BA coastal aquifer by sulphuric acid and inorganic compounds derived from the titanium dioxide production. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2217 1994 Date of presentation:

Daniel Caminero Gomes Advisor(s):

Committee:

Subject of thesis: Hydrogeology

State: BA 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Gonçalves, J.M.M. 1994. Weathered zones characterization and its applications in the region limited by the of Analândia, Itirapina and São Carlos counties, state of São Paulo. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 666 1994 Date of presentation: 11/3/1994

Joceli Maria Mantelatto Gonçalves Advisor(s): Rueda, J.R.J.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

In order to subsidize future planning in the region of Analândia, Itirapina and São Carlos cities, in São Paulo state, was doing a semidetalled weathering material survey.

The studied area cover 950 km² in the center east of the São Paulo state. According to the Koppen system, the climate is mesothermic with dry winter in the most of the area. The parent material results from the weathering of sandstones, basalts and diabases. They frequently occurs as a reworked material giving thicks neocenozoics deposits. The relief is mostly gentle rolling in almost all the area and flat in the alluvial areas, but it have too some steep. Semideciduous tropical forest, "cerradão" and also hygrophile vegetation in the flooded plains were the original vegetation. The forest wich was widespread in the area is now rare given place mainly for craps like sugar cane, citrus and coffe. Twelve maping units distributed by four mean weathering material units were find: latossolic, podzolic, poor evolution material and hidromorphic. Morphological, physical, chemical characteristics are discussed for each of the weathering material unit indentified and were tried to define the agriculture and civil engennering possible use.

Hernandes, G.L.S. 1994. Digital processing of LANDSAT/TM and GEOSCAN/AMSS images for the litho-structural characterization and delimitation of hydrothermal alteration in the Riacho dos Machados auriferous deposit area (MG state). MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1742 1994 Date of presentation: 28/12/1994

Gilberto Luis Sanches Hernandez

Advisor(s): Crósta, A.P.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SD23

Centroid of the area: ' - 'W

Abstract

This work presents the results of digital image processing techniques applied to LANDSAT/TM and GEOSCAN/AMSS in the region of the Riacho dos Machados Gold Deposit, in the northwest of Minas Gerais State. The main objective was to evaluate the performance of these techniques for characterizing lithologic and structural controls and hydrothermal alteration zones associated with gold mineralization. The application of selected techniques to LANDSAT/TM allowed discrimination of the main lithologic unities, as defined by ECOGEO (1991), and also the main superficial occurrences of minerals related to hydrothermal alteration. Enhancement of structural information, however, did not add new information to the existing geologic map. Spectrometry and X-ray diffraction studies in samples collected in the study area allowed the characterization of different patterns for the mineralized and host rocks, with goethite/sericite/muscovite being associated with the mineralized zone and hematite/kaolinite associated with host rocks. Processed GEOSCAN/AMSS images allowed the identification of hydrothermal alteration minerals at the surface, showing that remote sensing imagery with greater spatial and spectral resolutions may be useful for identifying areas with greater potential for more detailed exploration activities

Iannuzzi, R. 1994. Reevaluation of the carboniferous flora of Poti formation, Parnaíba basin. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 233pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1652 1994 Date of presentation: 25/8/1994

Roberto Iannuzzi

Advisor(s): Rösler, O.

Committee:

Subject of thesis: Brazilian Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Kikuchi, R.K.P. 1994. Geomorphology, stratigraphy and sedimentology of the Atol das Rocas atoll (Rebio/Ibama/RN), occidental south equatorial Atlantic. MSc Thesis, Institute of Geosciences, University of Bahia, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 277 1994 Date of presentation: 2/12/1994

Ruy Kenji Papa de Kikuchi

Advisor(s): Leão, Z.M.A.N.

Committee:

José Maria Landim Dominguez - IG/UFBA

Subject of thesis: Coastal and Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Atol das Rocas is the unique atoll in the Southwestern Atlantic. It is located 144 nautical miles from the city of Natal, NE Brazil. This Biological Reserve comprises the reef and the surface of the top of the seamount where it rises from, to depths of 1000 m and it was the first Brazilian marine protected area.

The results were obtained through mapping of the reef using Landsat/TM images, seismic refraction surveys, a shallow drilling core of the Holocene reef sequence, radiocarbon dating of coral skeletons, and grain size and constituent particle composition analysis. This allowed the description of morphological, structural and sedimentological characteristics of the atoll, as well as to propose a schematic model for its geological evolution.

The exposed reef is elliptic, with an internal area of approximately 5.5 km². Its E-W axis is approximately 3.7 km long, and the N-S axis is 2.5 km long. Despite its minute size and the absence of a deep lagoon, the Atol das Rocas is a true atoll. Besides its form it presents the following similarities with the Indo-Pacific and the Caribbean atolls: (i) an extremely shallow lagoon and sand cays located on the leeward of the reef (Caribbean atolls); (ii) an algal ridge (Indo-Pacific reefs), and (iii) the reef proper wider on its windward side.

The Holocene reef sequence is 12m deep and began to grow between 6.5 and 5.5 ka BP with an average accretion rate of 2.3 mm/y. It is composed mainly of coralline algae, like all other reefs in Brazil. The encrusting foraminifer *Homotrema rubrum* and vermetid gastropods are also important frame builders and the coral species *Siderastrea stellata*, *Favia gravida* and *Montastrea cavernosa* occur rarely. The rock sequence that underlies the Holocene section is characterized by seismic velocities of 2.46 m x ms⁻¹, similar to those observed in cemented reef carbonates of Pleistocene age. It is 25 to 35m thick and occur over a third rock stratum, possibly of Tertiary age, that has seismic velocities similar to velocities observed in basalt, greater than 4.5 m x ms⁻¹.

There are two distinct sedimentary facies: (i) an outer reef facies, which is a moderately well selected coarse to medium sand and (ii) an inner reef facies characterized by poorly selected coarse to very coarse sand. The variations in the sediment constituent particle composition do not reflect the same distribution, though. It is composed primarily of coralline algae fragments, foraminifera tests and mollusk debris (up 97% of the particles), and reflects mainly the proximity to the sediment source. Thus, the coralline algae fragments are more frequent in the vicinity of the reef structure while the foraminifera tests are commoner in the constantly submerged zones. Both textural and compositional parameters show some seasonal variations between, and they seem to be related to variations in the energy of waves, as well as to the biology of the reef organisms, particularly the reproductive cycle of the benthic foraminifera.

Kops, P.T. 1994. Geology of the Água Clara, Votuverava and Antinha formations southeastern of the Três Corregos granitic complex (PR). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 693 1994 Date of presentation: 26/7/1994

Paulo de Tarso Kops Advisor(s): Ebert, H.D.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The present geological investigation was conducted in the area south-east of the Três Corregos Granitic Complex, and intends to provide an important contribution to the knowledge of Pre-cambrian geology of Paraná State, SE Brazil. Three metamorphic sequences (Água Clara, Votuverava and Antinha formations) and one sedimentary formation (Eralzinho) were studied. Emphasis was placed to the Antinha Formation, which has been considered to be younger than the Água Clara and Votuverava formations.

The Água Clara Formation has been divided into two informal sequences: Serrinha, composed by marbles, calc-schists, schists and quartzites, and São Silvestre, composed by schists, metargillites, quartzites, banded iron formation and metamafic rocks.

The Serrinha Sequence was probably deposited in shallow water, as indicated by the presence of stromatolites and intraformational breccias. The São Silvestre Sequence was deposited in deep water, as indicated by the lithologic association of metacherts, banded iron formations and metamafic rocks.

The Votuverava Formation has been divided into two informal sequences: Bromado (metaconglomerates, metasandstones and metargillites) and Coloninha (metasiltstones and metasandstones). Both sequences show a turbiditic depositional process, indicating deposition in relatively deep water.

The Antinha Formation has been divided into three sequences: Tacaniça (metasiltstones, metargillites and metasandstones), Capivara (metalmestones) and Vuturuva (metaconglomerates and metasandstones). The first and third sequences represent a deposition in deep water (like a "clastic platform"), with turbidites and possibly cohesive debris flows. The Capivara Sequence has been interpreted as a proximal carbonate ramp.

The Eralzinho Formation is composed by siltites, sandstones and conglomerates. These rocks have textural and granulometric immaturity, suggesting fast deposition after a short transport.

The Três Corregos Granitic Complex show three facies in the studied area:

- a) a porphyritic facies, with granitic to granodioritic composition and megacrystals of potassic feldspar;
- b) a microporphyritic facies, with the same composition of the porphyritic facies, but without megacrystals, and
- c) a melanocratic facies, without megacrystals.

One regional metamorphic event (M1) has been identified in all metamorphic units, that shows a garnet-zone low-grade in the Água Clara Formation and a chlorite-zone low-grade in Votuverava and Antinha formations. The Água Clara Formation show evidences of the retrometamorphic process. Two other styles of low-grade metamorphism (M2 and M3) have been also observed. The Água Clara Formation was affected by contact metamorphism with the intrusion of the Três Córregos Granitic Complex. All metamorphic units were affected by three episodes of deformation. Deformation D1 produced thrusts, intrafolial folds, S1 foliation (parallel to sub-parallel to sedimentary layer) and stretching lineations (L1). D1 is interpreted as the product of compressional tectonics, with predominant non-coaxial deformation. The kinematic indicators (S-C foliations, asymmetric pressure shadows and porphyroclastic rotation) show mass transport from NW to SE. Deformation D2 is characterized by buckling folds, with subhorizontal axis displaying NE-SW direction and axial plane S2 foliation. This deformation is interpreted as continuity of D1, in coaxial regime. Deformation D3 produced transcurrent NE-SW high angle shear zones (including the Morro Agudo shear zone), folds by buckling and flow disturbance, S3 foliation and L3 stretching lineations. D3 is interpreted as the product of oblique tectonics, with E-W direction of maximum stress. The kinematic indicators show a dextral sense of mass transport. Strain analyses were performed in many samples from the low angle (D1 deformation) and from the high angle domains (D3 deformation). The obtained strain ratios on XZ planes show that the deformation in the Água Clara Formation was more intense than in the Antinha and Votuverava formations. Almost all samples show an oblate shape of the finite strain ellipsoid. This shape indicate stretching along the Y axis or a volume loss, as indicated by FLINN-RAMSAY diagram. Under constant volume, the HOSSACK diagram show stretching along the X axis between 45% and 75% (70% on the average); a shortening along the Z axis between 45% and 65% (55% on the average) and stretching along the Y axis between 2% and 50% (35% on the average). The samples of strike-slip domains (D3) are typical of a transpressive regime. In terms of regional geological evolution, the general interpretation is that the original basin filled by the Antinha, Votuverava and Água Clara formations, underwent a strong inversion under contractional tectonics due to continental collision, resulting in regional metamorphism and deformation. This event was followed by a regional dextral transcurrent to transpressive regime, under lower metamorphic conditions, due to E-W convergence of continental masses.

Küller, M.L. 1994. Lithostructural characterization and environmental aspects in the region of the Rio Segredo electrical power plant (Iguaçu river), Paraná state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 670

1994

Date of presentation: 15/12/1994

Maria de Lourdes Küller

Advisor(s): Mattos, J.T.

Committee:

Subject of thesis: Geosciences and Environment

State:

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

The studies developed in this work in order to characterize lithostructural and environmental aspects in the Segredo Hydropower Plant influence area (Iguaçu river - Paraná State), have enabled the identification of several rock types concerned to Serra Geral Formation. These rocks resulted from lava flows occurred in the Paraná Basin during Mesozoic period and they correspond to three different basic flows, three acid flow types and a little flow with intermediary composition. The geological structures are related to the structural lineaments with high density superficial tracing mainly in two directions: N45-60W mostly in the recovery area of basic rocks and N15-30E in the acid rocks. As far as environmental degradation process susceptibility related to volcanic rocks are concerned, it is to be noted the contact level between two flows specially between acid and basic rocks, where a large thickness of highly altered vesicular/amygdaloidal basalt enable the arising of erosions and instabilizations on natural hillside. In addition, among the environmental aspects characterized in reservoir area it is to point out the occurrence of sulphureous mineral water and the presence of Cenozoic sedimentary deposit with mammals pleistocenics fossils rest as well as the presence of "Caverna da Divisa", located in a contact zone of basic flows on highly fractured rocks.

Lacerda, M.P.C. 1994. O complexo granito-gnáissico Moeda (Quadrilátero Ferrífero, Minas Gerais): Petrologia de granitóides precambrianos da região de Moeda e Belo Vale. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 169 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 08

DataBase Ref.: 2352

1994

Date of presentation: 22/3/1994

Márcia Pinto Coelho Lacerda

Advisor(s): Neves, J.M.C.

Committee:

Eduardo Antonio Ladeira

- IGC/UFMG

Kazuo Fuzikawa

- CNEN

Subject of thesis: Geology and Mineral Resources

State:

MG

1/1,000,000 sheet:

SF23

Centroid of the area:

' - 'W

Abstract

Lima, J.L.N. 1994. Methodological improvement for the Rn-222 determination and its application in the water radioactivity study in Águas de Prata, state of São Paulo. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 667

1994

Date of presentation: 29/3/1994

Jorge Luís Nepomuceno de Lima

Advisor(s): Bonotto, D.M.

Committee:

Subject of thesis: Geosciences and Environment

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

This work describes the analytical procedures developed in Setor de Isótopos Instáveis of the Laboratório de Geoquímica of the Departamento de Petrologia e Metalogenia of the UNESP for the installation of a system for the measurement of Radon-222 in waters. The methodology settled was used for the evaluation of Rn-222 content in groundwaters from Paiol, Platina, Prata-Radioativa and Villela springs located at Águas da Prata, an important spa in São Paulo State, Brazil. The obtained values are between 688.5 and 21,192.2 pCi/l which in general are compatible with the previous data obtained by other researchers, showing the suitability of the methodology settled.

Experiments also were performed for the evaluation of the Rn-222 transferred to the waters due to its generations by the Ra-226 in typical rocks from Poços de Caldas Plateau; some important parameters related to the control of the presence of this gas in waters were considered, for example, mass of rock in contact with water, surface area of the rock in contact with water and Ra-226 content in rocks. The obtained results show that there is no significative correlation between these parameters and Rn-222 activity in waters.

Lopes, E.S.S. 1994. TM-Landsat images and geoprocessing as an aid in gold prospection at Espinhaço Setentrional range, MG state. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1334

1994

Date of presentation: 29/6/1994

Eymar Silva Sampaio Lopes

Advisor(s): Mattos, J.T.

Committee:

Subject of thesis: Remote Sensing

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

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'W

Abstract

Machado, G.A.A. 1994. Geology of the region and genetic aspects of the esmerald deposits of Capoeirana and Belmont, Nova Era-Itabira, MG state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 134 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1655

1994

Date of presentation: 12/8/1994

Geysa Angelis Abreu Machado

Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis: Brazilian Geology

State: MG

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

Martins, M.R. 1994. Surficial mass water studies in the Antonina and Paranaguá bays, PR, using remote sensing and geoprocessing. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 671

1994

Date of presentation: 16/12/1994

Mauro Ribeiro Martins

Advisor(s): Mattos, J.T.

Committee:

Subject of thesis: Geosciences and Environment

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

The main purpose of this study is to develop a research by the application of integrated techniques identified as remote sensing, geoprocessing and research field data collection as a support of monitoring suspended sediments as well as some hidrographics parameters of surface water from coastal environments. Digital processing and thematic classification of images were the chosen stages to obtain data by following sense remote technique. Geoprocessing techniques included data analysis and the production of graphs. In addition, research field techniques undertook the collection and processing of samples obtained

from surface waters. The study was developed in coastal environments which are known as Paranaguá Bay and Antonina Bay located in The State of Paraná in Brazil. Along the first semester of 1991, there were held eight field researches aiming to analyse sixty three Georeferential Stations which had been measured based on physical, chemical and biological parameters. The selected parameters included suspended sediments and the analysis of their nature, granulometry, chlorophylla. A concentration, Secchi depth and salinity. The satellite simultaneous images were analysed according to digital processing by specific algorithms. The data obtained from these parameters and field data collection had been stored based on a Geographic Information System (GIS) in order to allow correlation analysis and comparisons. The data obtained from different sources were statistically correlated taking into account a posterior analysis of regressions to pursue a estimated model of water quality via orbital products. Thematic maps and graphs following a tendential design were generated as an aid to final interpretation. The results obtained from the research field revealed not only the strong influence of pluviometric precipitation but also the influence of tideways in the pattern of quality of the analysed water. The global area of study could be divided into three specific sections: Canal da Galheta and Surroundings close to sea water; a central area that corresponds to the central region of Paranaguá Bay and a continental area related to Antonina Bay. The results of comparisons between research field data and remote sensing showed that suspended solids presented a better correlation in their thinnest sediments (clay), transparency (Secchi depth) and salinity. The application of these integrated techniques suggests the suitability of developing a similar study in others coastal environments what probably will allow an improvement of the underlined subject of study.

Medeiros, R.M. 1994. Litho-structural study of the auriferous mineralizations at the São Gonçalo do Sapucaí - Campanha neighbourhood, Minas Gerais state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1772 1994 Date of presentation: 1/8/1994

Renata Machado Medeiros Advisor(s): Chouduri, A.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

A detailed geological study around São Gonçalo do Sapucaí, Campanha and Monsenhor Paulo in southern Minas Gerais, has shown the area to be underlain by two distinct lithological units; one belonging to the Amparo Group - or basement gneisses; and the other to the supracrustals of the Andrelândia Group. The basement gneisses comprise hornblende tonalite gneisses and granitic augen gneisses whereas the supracrustals are paragneisses (biotite gneisses, garnet-biotite gneisses and muscovite-biotite gneisses) with intercalations of quartzites and subordinated amphibolites, hornblende-biotite gneisses, chlorite-actinolite schists and hornblende schists. Structurally, two main tectonic events have been recognized in the area, each with separated metamorphic and kinematics imprints: 1) the older Dn event was responsible for low angle ductile shear in the amphibolite facies, thus giving rise to the regional Sn foliation; 2) the younger Dn+1 event caused transcurrent tectonics at a slightly lower metamorphic grade and was accompanied by a greater fluid flow. The effects of these fluids were more intense along the Ties Corações Shear Zone. Disseminated primary gold mineralization occurs at the prospects Andaime, Xicão, Irmão and Barro Alto, and is hosted by finely banded biotite gneisses and muscovite-biotite gneisses of the supracrustals. The mineralized zones are narrow, discontinuous and contain disseminated pyrite along the Sn foliation. Although it was not possible to determine where the gold occurs, due to its fine grain size, it is very likely that it is associated with pyrite either disseminated or in its crystal structure or dispersed in the matrix. Petrofabric analysis of the host rocks indicate that the mineralized zones are related to the Dn event during which the rocks underwent amphibolite facies metamorphism and local partial fusion. Selected chemical analysis of rocks from mineralized and barren zones at the prospects reveal that chemical elements remained immobile during the process leading to gold concentration. Considering the tectonic and metamorphic effects of the Dn event, it can not be ruled out that partial fusion and accompanying high grade hydrothermal fluids were responsible for gold mineralization. This process was augmented by ductile shear deformation and lack of brittle shear regimes, thus enabling the mineralizing fluids to be located within planar and linear discontinuities with rheological contrasts, such as specific foliation planes or even fold hinges related to the ductile shear.

Migliorini, R.B. 1994. Cemeteries as pollution source in aquifers: Case study of the Vila Formosa cemetery in the São Paulo sedimentary basin. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2214 1994 Date of presentation:

Renato Blat Migliorini Advisor(s):

Committee:

Subject of thesis: Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Mincato, R.L. 1994. Evaluation of the potential of the Paraná Continental Igneous Province for Ni-Cu-EGP mineralizations, based on Noril STC and Insigna models. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1778

1994

Date of presentation: 5/4/1994

Ronaldo Luiz Mincato

Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

This dissertation presents a literature review of the potential for Ni-Cu-PGE mineralisations in the Paraná igneous province of Southeastern South America. The work was based on the presence of mineralised bodies at Noril'sk-Talnakh (Russia) and Insizwa-Waterfall Gorge (Transkei-Republic of South Africa) respectively in the Siberian and Karoo CFB provinces. The geologic settings of mineralisation at Noril'sk-Talnakh and Insizwa-Waterfall Gorge are very similar and may be grouped in regional and local metalotects. On a regional scale, it is suggested that the mineralisations are associated (1) with the initial magmatism of any particular CFB province; (2) with the early development of continental rifting structures; (3) with old reactivated basement faults; (4) with regions of mantle anomalously hot (mantle plumes or hot-spot), hence resulting in a diversity of rock types. The local metalotects indicate that mineralisation is found (5) associated with low-titanium tholeiitic magmatism; (6) in magmas depleted in chalcophile elements (Ni, Cu, PGE); (7) at the basal zone of differentiated layered bodies; and (8) associated with sulphide segregation processes such as crustal contamination and multiple injections. Because of their generic nature, the local and regional metallogenic constraints may be applicable to any CFB province worldwide. In South America the regional metalotects indicate that the eastern boundary of the Paraná igneous province is the most favourable region for the occurrence of Ni-Cu-PGE mineralisation due to its close evolution with the South Atlantic rifting. The local criteria show that the metallogenic potential of the eastern boundary of the Paraná igneous province decreases from south to north, and that the Lomba Grande Basic Complex, located in the Gravataí municipality (Rio Grande do Sul State) within the southern low-titanium domain of the province, stands as an area which deserves further studies.

Montanheiro, T.J. 1994. Comparative study of sampling in wells and galleries for the cassiterite prospection in the Xupe pegmatite- Monte Alegre de Goiás (GO state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2215

1994

Date of presentation:

Tarcisio José Montanheiro

Advisor(s): Yamamoto, J.K.

Committee:

Subject of thesis: Economic Geology

State: GO

1/1,000,000 sheet:

SD23

Centroid of the area:

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Abstract

Nogueira, J.R. 1994. Tectono-structural and metamorphic relationships between metasediments and orthogneisses of granulite facies on southwestern of Juiz de Fora, Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 975

1994

Date of presentation:

José Renato Nogueira

Advisor(s): Trouw, R.A.J.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

Esta tese enfoca as relações tectono-estruturais e metamórficas entre os metassedimentos pertencentes ao Grupo Andreilândia e o seu embasamento, constituído de ortogneisses e granulitos classificados na região como Grupo Mantiqueira e Complexo Juiz de Fora. A área de trabalho situa-se na região a sudoeste de Juiz de Fora e é composta por rochas predominantemente gnáissicas metamorfasadas na fácies anfibolito alto até a fácies granulito. A deformação imposta foi muito intensa, predominantemente de caráter dúctil e de evolução não-coaxial, gerando foliações, lineações, dobras e zonas miloníticas durante três fases de deformação. Constatou-se a presença de empurrões que puseram em contato rochas de diferentes níveis crustais, causando um empilhamento tectônico e colocando lascas tectônicas de embasamento entre os metassedimentos. Concomitantemente a estes eventos deformacionais, ocorreu extensa migmatização por anatexia nos metassedimentos, o que levou à formação de pequenos corpos de composição granítica a granodiorítica, preferencialmente junto aos empurrões, bem como facilitando o aporte de tais lascas tectônicas. O estudo das inclusões fluidas em granulitos do embasamento e em granulitos similares encaixados nos metassedimentos evidenciou semelhanças entre a história retrometamórfica destas rochas, detectando-se a presença de inclusões de alta densidade, ricas em CO₂. As isócronas correspondentes indicam um caminho retrógrado P-T de resfriamento isobárico ("isobaric cooling" - IBC), com pico metamórfico granulítico de temperaturas em torno de 800°C e pressões entre 5 e 6 Kb. Algumas texturas visíveis em lâmina delgada, somadas à presença de retrometamorfismo

de fácies anfibolito e à ocorrência de deformação dúctil extensional gerando milonitos tardios, reforçam a concepção de um caminho P-T do tipo IBC para estas rochas. A evolução geológica proposta envolve nos estágios iniciais, tectônica distensiva e afinamento crustal associado a "underplating" magmático e granulitização na base da crosta. Estes eventos permitiram a formação de bacia intracratônica, onde foi depositado o Grupo ou Ciclo Depositional Andrelândia. Posteriormente, durante o Ciclo Brasileiro, regime tectônico colisional causou espessamento da crosta, e os sedimentos foram intensamente deformados e metamorfoseados, atingindo a fácies granulito em condições de temperaturas em torno de 800°C e pressões estimadas entre 6 e 8 Kb. Nos estágios finais deste ciclo, se iniciou uma nova reversão tectônica, gerando milonitos tardios, pegmatitos e leucogranodioritos associados à tectônica extensional.

Payolla, B.L. 1994. The granitic and syenitic rocks of the Teotônio and Santo Antônio falls, Madeira river, Porto Velho, Rondônia state-Brazil: Geology, petrography and geochemistry. MSc Thesis, Institute of Geosciences, University of Brasília, pp.

Instituto de Geociências - Universidade de Brasília

Reference: M095

DataBase Ref.: 154 1994 Date of presentation: 23/9/1994

Bruno Leonelo Payolla Advisor(s): Fuck, R.A.

Committee: Nilson Francisquini Botelho - IG/UnB
Roberto Dall'Agnol - CG/UFGA

Subject of thesis: Regional Geology

State: RO 1/1,000,000 sheet: SC20 Centroid of the area: ' - 'W

Abstract

Geology, petrography and geochemistry of granitoid and syenitoid rocks from the Teotônio and Santo Antônio rapids, Madeira river, Porto Velho, Rondônia have been studied. These rocks are representative of two important stratigraphic units that occur in the Porto Velho-Jaciparaná region: the Santo Antônio-type granites, here represented by the Santo Antônio massif and the Teotônio Intrusive Suite, here restricted to its eastern portion.

Eight granitoids facies have been recognized in the Santo Antônio massif, grouped in four mapable facies associations, with the following emplacement sequence: coarse-grained granitoids fine-grained granitoids medium-grained granitoids hybrid rocks. The hybrid rocks, as well as synplutonic diabase dykes, provide evidence that magmatism was bimodal.

The granitoids are subalkaline and marginally metaluminous to peraluminous monzogranite rocks of subsolvus type, with biotite as the major mafic phase. The coarse-grained facies show anti-rapakivi and rapakivi textures. The geochemical features, specially the high Fe/Mg, K, F, Rb, Ga, Nb, Zr and REE, are consistent with those of the within-plate and A-type (A2 group) granites.

The hybrid rocks occur as dykes cutting the granitoids and are characterized by petrographic and geochemical features consistent with an origin by mixing (hybridization) of silicic and basic magmas with compositions similar to the medium and coarse-grained granitoids and diabase, respectively.

The main points related to the origin and geologic evolution of this magmatism, with preliminary U-Pb age of 1432 ± 63 Ma, are: anorogenic and extensional environment, anatectic origin of the felsic magma and causal relationship, but not comagmatic, with mantled-derived basic magmas, which heated the base of the crust and triggered the melting process.

Eleven syenitoid and granitoid facies have been recognized in the eastern portion of the Teotônio Intrusive Suite, grouped in three mapable facies associations: massive coarse-grained, banded medium-grained and pink coarse-grained. Many facies occur as parallel tabular bodies with an intrusive relationship and widths smaller than 2 meters that define a large scale banding in the outcrops of the Teotônio rapids. The suite is composed predominantly of hypersolvus syenites and granites with anhydrous and high temperature minerals, submitted to post-magmatic transformations that resulted in the partial destruction of the original alkali feldspar, olivine and clinopyroxene and the development of secondary plagioclase (albite) and amphiboles. These transformations are more intense in the pink syenites and granites, intermediate rocks (diorites, monzodiorites and monzonites) and fine-grained granites of subsolvus type occur as minor dykes cutting the others rocks.

The suite is characterized by alkaline silica-oversaturated affinity and high Fe. The granites and syenites have metaluminous and high potassic character and geochemical features consistent with intra-plate and A-type (A, group) granites.

Intermediate rocks (diorites, monzodiorites and monzonites) occur as synplutonic dikes. Dark fine-grained enclaves (monzodiorites) are observed in the fine-grained pink syenites. Possible xenocrysts of "calcic" plagioclase are observed in the pink syenites and granites and intermediate rocks. These features, as well as the linear compositional variations defined for these rocks, suggest bimodal character for the magmatism and the involvement of magma mixing process in their evolution.

The hypersolvus nature of the rocks, the plot of almost all analyzed syenites and granites in the A, group field of the A-type granites and the bimodality of magmatism suggest that the genesis of the suite, with preliminary U-Pb age of 1380 ± 30 Ma, is related to differentiation of mantled-derived basic magmas.

The direct relationship between the Santo Antônio massif and the Teotônio Intrusive Suite have not been observed in the field. The preliminary U-Pb ages indicate that the two rock groups are contemporaneous.

Penha, A.E.P.P. 1994. The caatinga limestone of Ourorândia, Bahia state: Diagnostic features, genesis and evolution of a calcic profile. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1312 1994 Date of presentation: 9/12/1994

Ana E. P. P. Penha Advisor(s): Leão, Z.M.A.N.

Committee: Shiguemi Fujimori - IG/UFBA

Subject of thesis: Coastal and Sedimentary Geology

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The Caatinga limestone is widespread in the northwest part of the State of Bahia, along the vale of the Verde, Jacaré and Salitre rivers. Although its large commercial use, until recently not much was known about its origin and sedimentary characteristics. The present work studied several vertical sections from a deposit located in the southernmost part of the Salitre river, in the vicinity of the Ourorândia city. It is a well developed carbonate sequence, 20 to 30m thick, showing several calcrete diagnostic features. These include a micritic matrix that can be found partially recrystallized, dolomitized or silicified, carbonate nodules, coated grains (calcrete pisoids, pseudo-oids, aggregates), rizoliths (root moulds, root casts, root tubules, rizocretions), clay cutans, circungular cracks, siliceous floating grains, a laminar fabrica, an alveolar texture and the platy, the conglomeratic and the pseudo-brecciated structures.

Those features are related to the various stages seen in the development of the calcrete profile, which are recognized as the calcrete horizons: (i) the hardpan horizon, an indurated carbonate rock, (ii) the laminar (platy) horizon, formed by indurated sheets of carbonate, (iii) the nodular horizon, composed of soft to very hard concretions of carbonate cemented and/or replaced soils, (iv) the nodular-chalky horizon, a nodule-rich friable carbonate soil, and (v) the chalky horizon, an usually powdery carbonate layer. This calcrete profile developed from a subaerially exposed carbonate rock of an older age (probable the carbonate rocks of the Una Group, Upper Proterozoic). It initiated after the mechanical physico-chemical and biological weathering causing disintegration of the host carbonate rock and generating a regolith, or weathered detritus with a rate of accumulation higher than the rate of removal. During the next stages, the action of organisms and the movement of water through the sediment (the meteoric water at the surface, and the groundwater in the lower parts of the deposit) caused the solution/precipitation of the calcium carbonate, and the differentiation of the calcrete horizons. Diagenetic processes lead to the lithification of the profile. The new rock - the calcrete, was formed. Reworking, brecciation and weathering altered the new formed profile, and cause the formation of a reworked, recemented, breccia-conglomeratic calcrete showing, thus a mature, composed and fossilized profile. Petrographic and isotopic data suggest two main genetic phases for the formation of the profile: a pedogenic induced carbonate precipitation at the higher parts of the profile, and a ground-water calcrete formed through diagenetic processes in the lower parts of the deposits.

Picanco, J.L. 1994. Application of the Sm/Nd e Rb/Sr systematics in the Tatins massif (SP state). MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 76pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1650 1994 Date of presentation: 1/9/1994

Jefferson de Lima Picanco

Advisor(s): Tassinari, C.C.G.

Committee:

Subject of thesis: Brazilian Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Pinto, A.L. 1994. Potencial, empounding, treatment, supply and potability studies of the Ribeirão Claro creek water, São Paulo state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 668 1994 Date of presentation: 4/5/1994

André Luiz Pinto

Advisor(s): Mauro, C.A.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This research was conducted due to the preoccupation with the growing degradation of the Ribeirão Claro hydrological basin; with the passivity of the official organs, and with, the lack of information about the environmental quality of the water from this hydrological basin. However, due to the necessity of characterizing the health structure in general, in the surge of checking the several influent factors in the quality of the water, through official data, an analysis was done on the situation of the public system of captation and provision of water, disposition of drainage and other human excrements, solid residues, indicators of health and conditions of public health. Moreover, the execution of an statistical survey was planned, technically proper, of the conditions of drinkability of the water which was being used, through the system of sampling proposed by COCHRAN (1965), CETESB (1977) and EPA (1957).

The realization of the water encaminations, happened through the methods of analyses based in the editions of the "Standard Methods for the examination of Water and Wastwater"- publications APHA, ANWA and WPCF, followed by CETESB and executed by the DAAE of Rio Claro and by the Instituto Adolf Lutz.

Plá Cid, J. 1994. Campo Alegre de Lourdes alkaline granitogenesis (northern of Bahia state): Petrography, mineralochemistry and geochemistry. MSc Thesis; Institute of Earth Sciences, University Federal of

Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1309 1994 Date of presentation: 16/11/1994

Jorge Plá Cid Advisor(s): Conceição, H.Committee:
Carlson de Matos Maia Leite -
Pierre Sabaté -
-

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA 1/1,000,000 sheet: SC23 Centroid of the area: ' - 'W

Abstract

The Alkaline Province of Campo Alegre de Lourdes (PACAL), is located on the northern most part of Bahia, close to the boundary with the state of Piauí. In this section, there is a lineament of alkaline granitic plutons, that extends along the NE-SW directions nearly 42 km and comprehends an area of some 391 km².

The granites of PACAL are texturally gnaisses, locally mylonites, and are included in the Riacho do Pontal Folded Belt. It can be noticed two distinct kinds of intrusions: (i) the metaluminous plutons on NE and (ii) the peralkalines/metaluminous plutons in the central and SW portions. The main observed structures in the field are mega and mini ramps of sub horizontal thrust. This put in evidence a tectonics that affect Pre-Brazilian age granites, supported by Rb-Sr isochrons with ages between 470 and 800 Ma such ages have been interpreted as a result of opening the isotopic system during the Brazilian cycle.

The early crystallization is controlled by quartz-orthoclase paragenesis, and sometimes with magnetite, in hypersolvus conditions. In solidus, the alkaline mafics mineral (riebeckites, aegyrine-augites, aegyrine and aenigmatite) crystallize and are associated with the biotite and magnetite in subsolvus conditions. The stabilized temperatures of this mineral association indicate conditions of emplacement around 8 km.

The chemical composition rocks of PACAL is typical of the A-type granites, with high values of SiO₂ (>70%), FeOt, (Na₂O + K₂O > 9%), Zr, Nb, Ga, Y and REE (except Eu), and low concentrations of CaO, MgO, TiO₂, Ba and Sr. Among this characteristics, the geochemistry of the major elements display anomalous enrichments in Fe₂O₃, possibly produced by fluid migration with acid pH during the Brazilian tectogenesis. The presence of this fluids, in some cases, is responsible by enrichments in the LREE, probably complexed by volatiles phases with CO₂. Independently of the fluid percolation, the contents of the minors and traces elements, indicates conditions tectonic compatible with a continental within-plate environment, during an anorogenic phase that would succeeded the transamazonian orogeny.

The absence of alkaline affinity mafic and intermediate terms in the field, permitted to rule out the possibility of an mantelic source origin. In the other hand, the similarity between the REE patterns of the granitoid massives in the PACAL and the granulitic acids, according to the melting partial model about 40%, suggests one possible crustal origin for the alkaline granites this province.

Porto Júnior, R. 1994. Petrology of the granitic rocks of Pedra Branca and Misericórdia ranges, Rio de Janeiro municipality, RJ state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1153 1994 Date of presentation:

Rubem Porto Júnior Advisor(s):

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Queiroz, O.T.M.M. 1994. Investigation and reflectron concerning water supply and sewerage system in Rio Claro town, São Paulo state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 669 1994 Date of presentation: 11/7/1994

Odaléia Telles Marcondes Machado Queiroz Advisor(s): Pontes, B.M.S.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This work main purpose is to investigate and reflect about the method of water supply and sewerage system in Rio Claro city, São

Paulo state. The investigation is followed by an analyses of the transformations suffered by the urban space in question within a historical context.

Chapter 1 shows a referece historical guide aiming the soil use and water resources appropriations in Rio Claro.

Chapter 2 there is a reflection about springs and natural aspects of Corumbataí water basins and sub basins.

Chapter 3 bring the Geography role dealing with water resources.

Resende, M.G. 1994. Geochemistry and petrology of the Aimbe formation, Guarinos group, Goiás state- Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M091

DataBase Ref.: 151 1994 Date of presentation: 25/3/1994

Marcelo Goncalves Resende Advisor(s): Jost, H.

Committee: Raul Minas Kuyumjian - IG/UnB
 Milton Luiz Laquintinie Formoso - IG/UFRGS

Subject of thesis: Regional Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The Aimbé Formation is a unit of the Archean Guarinos Group which consists of a greenstone belt rock assemblage of Central Goiás, Brazil. The formation is made up mostly of discharge centers, metamorphosed under greenschist facies. Iron formations (exhalites) are the diagnostic facies of the Aimbé Formation and occurs as a continuous layer with two sub-facies. The basal sub-facies consists mostly of magnetite while the upper is made up of hematite, both being massive, laminated or banded. Lamination and banding are due to the alternation of oxides and muscovite, in the absence of quartz. Detrital metasediments comprise metaconglomerates and muscovite schist, the former generally occurring at the base of the formation. Exhalative centers occur as lenses containing hydrothermal discharge vents surrounded by concentric hydrothermal alteration halos. Alteration haloes may be subdivided into five zones, whose protolites are represented by quartz, tourmaline, chloritoid, chlorite and muscovite zones. Major, minor, trace and REE element geochemistry show that the hydrothermal discharge centers and iron formations are chemically different, although a chemical correlation between hydrothermal rocks and proximal exhalites have been detected. Mineral chemistry data also detect the differing nature of the two facies. The evolution of the Aimbé Formation is probably related to a tectonic pulse restricted to the Guarinos Group depositional basin and is related to uplifting of faulted blocks, followed by rapid and short erosion and detrital deposition, and activation of a regional convective hydrothermal system. The better genetic model applied to the Aimbé Formation exhalites involves both the contribution of hydrothermal iron exhalations with simultaneous deposition of clay minerals of several provenances to explain the iron oxide-muscovite association.

Ribeiro, E.S.C. 1994. Images variographic analyses and digital processing applied to the Itu intrusive suite area (SP state). MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1734 1994 Date of presentation: 4/2/1994

Edson dos Santos Correa Ribeiro Advisor(s): Remacre, A.Z.

Committee:

Subject of thesis: Metallogenesis

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

In this paper a new algorithm of textural characterisation of images by variograms is presented which allies progress achieved by previous methods with innumerable operational facilities, such as the selection of the type of variogram to be calculated, the immediate relationship between the structure observed in the variogram and the dimension of the windows utilised in the classification process and the possibility of utilisation of different algorithms of supervised classification, thanks to the generation of textural bandas which may be processed in any available digital system. The Granitic Suite of Itu was used as a study area, its geological characteristics being integrated by a Geographical Information System for the selection of areas of greater mineral potential. Provisional diagrams based on geochemical and geophysical data permitted the reduction of the area to be prospected by 16 % of the total exposure of the Suite, with a margin of success of 70 % on all known occurrences in the area (5/7). The digital processing of the Landsat TM images did not produce good results, mainly due to the intensive human occupation, the vegetation cover, the reduced dimensions of mineral occurrences with no regions with expressive hydrothermal alteration, and the heterogeneities marked by the images.

The inclusion of textural bands in the algorithm of classification increases the rigour of class selection, increasing the number of non-classified pixels and reducing the number of the badly classified pixels. For a classification supervised with the maxver on the original bandas and the textural bandas generated from the TM 7 band, the ratio of erroneously classified pixels was reduced from 22.1 to 8.5 % . However, no distinctive radiometric/textural characteristics of the granitic facies were identified. Identical results were observed for the areas of greater prospective potential as well as for the known mineral occurrences.

Ribeiro, F.M. 1994. Contribution to the tectono-structural knowledge of Caldas Nova region (Goiás state) through remote sensing techniques: An approach to the structural control of the thermal occurrences. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1337

1994

Date of presentation: 13/12/1994

Frederico de Melo Ribeiro

Advisor(s): Anjos, C.E.

Committee:

Subject of thesis: Remote Sensing

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

Ribeiro, M.B. 1994. Paleovegetation and paleoclimate of the late Quaternary - Águas Emendadas creek. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M093

DataBase Ref.: 155

1994

Date of presentation: 19/7/1994

Maira Barberi Ribeiro

Advisor(s): Salgado-Labouriau, M.L.

Committee:

Paulo Roberto Meneses

- IG/UnB

Kenitiro Suguio

- IGc/USP

Subject of thesis: Regional Geology

State: DF

1/1,000,000 sheet:

SD23

Centroid of the area:

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Abstract

Palyological analysis of a core taken in a peat deposit located in Vereda de Águas Emendadas-DF, in central Brazil, shows marked variations in its plant composition during the last 26,000 years BP. These variations indicate climatic changes which allow the subdivision of four phases in the stratigraphic sequence.

Phase I between 25,790±70 BP and 23,380 BP (interpolated age) represents the beginning of a marsh formation comprising a regional herbaceous vegetation, developed under cold and humid climatic conditions. Phase H between 23,380 BP (interpolated age) and 21,450±100 BP presents evidence of a climate in which prevails conditions colder and more humid than that of phase I, with its maximum around 22,230 BP (interpolated age), providing the development of a type of vegetation regionally represented by gallery forest and an arboreal savanna.

Extreme dry conditions resulted in a desertification period from 21,450±100 BP to 7720±50 BP where a detrital sedimentation characterises the phase III. At 7,220±50 BP higher humidity and temperature conditions indicate the beginning of phase IV when the "vereda" is established. An increase in humidity is recorded around 2,540 BP (extrapolated age). By that period of time, burning of the vegetation often occurs which could be assigned to natural processes as well as anthropic activities.

Data risen from this work and its conclusions, agree with a achieved by other researchers, in other areas of savanna in central Brazil, and are coeval to the last Würm/Wisconsin glacial period climatic changes found in the Tropical Andes.

The changes observed here are related to a geomorphological compartmentation, inside the studied area, which is characterized as a drainage disperser resulting in the stratigraphic sequence of Vereda de Águas Emendadas that should reflect regional characteristic changes without influence of local microclimas.

Roque, A. 1994. Vertical distribution of uranium, thorium and potassium distribution and of the heat rate production in the sediments of the São Francisco basin. MSc Thesis; Instituto Astronômico e Geofísico, University of São Paulo, pp

Instituto Astronômico e Geofísico- Universidade de São Paulo

Reference:

DataBase Ref.: 1888

1994

Date of presentation: 15/7/1994

Arnaldo Roque

Advisor(s): Brenha Ribeiro, F.

Committee:

Subject of thesis: Geophysics

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Rosa, M.L.S. 1994. Shoshonitic and ultrapotassic magmatism at south of the Salvador-Curaçá mobile belt, São Félix massif: Geology, mineralogy and geochemistry. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1311

1994

Date of presentation: 19/11/1994

Maria de Lourdes S. Rosa

Advisor(s): Conceição, H.

Committee:

Johildo Salomão Figueiredo

- IG/UFBA

Pierre Sabaté

- IG/UFBA

Alcides Nóbrega Sial

- DG/UFPE

Subject of thesis: Petrology Applied to Mineral Research

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The São Félix syenite massif is located in the central-eastern part of the Bahia State. It is an elongate N-S trending pluton, which extends for about 16 km covering an area of only 32 km². The massif intruded the granulitic terrains of the Salvador-Curaçá mobile belt, inside a regional sinistral shear with lithospheric dimensions.

This pluton is composed of leucocratic rocks, fine to medium-grained, sometimes porphyritic, presenting a gneissic/mylonitic texture. Three petrographic facies are identified in the massif: (i) gneissic syenite (85% of the outcropping rocks); (ii) porphyritic syenite (9%); and (iii) mafic syenite (6%). The minerals are divided into three crystallization stage: magmatic (zircon, apatite, opaque minerals, diopside, plagioclase and alkali-feldspar); late-magmatic (perthitic feldspar, hornblende, quartz and sphene); and post-magmatic (epidote, sericite and clay minerals).

Mineral chemistry data show a common and monotonous mineralogy for all lithotypes. Clinopyroxene is mainly diopside with subordinate augite. Amphibole composition ranges from edenite-hornblende to actinolite. Micas are phlogopite and biotite. Feldspar composition ranges close to the albite/orthoclase side.

Chemically, the rocks are classified as alkalines and metaluminous. They show high Ba, Sr, Rb and K values and are Nb, Ti and P depleted. They are enriched in LREE ($32.72 < \text{CeN/YbN} < 48.77$). Chemical data support a post-colisional environment related to a previous subduction zone, through typical shoshonitic and ultrapotassic affinities.

Salvador, E.D. 1994. Neotectonic analysis of the Rio Paraíba do Sul valley region between Cruzeiro (SP state) and Itatiaia (RJ state). MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 129 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1654 1994 Date of presentation: 11/10/1994

Elizete Domingues Salvador Advisor(s): Riccomini, C.

Committee:

Subject of thesis: Brazilian Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Sant'Anna, L.G. 1994. Clay mineralogy and geologic evolution of Fonseca basin, Minas Gerais. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 151 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1653 1994 Date of presentation: 20/5/1994

Lucy Gomes Sant'Anna Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis: Brazilian Geology

State: MG 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Simonetti, C. 1994. Paleobiology of the meso to neoproterozoic sediments of the meridional portion of the São Francisco Craton. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2219 1994 Date of presentation:

Cristina Simonetti Advisor(s): Fairchild, T.R.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Tandel, R.Y. 1994. Characterization of Pirambóia sandstone, Fazenda São João Farm at Analândia, SP state, and its industrial use. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 75 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 203

1994

Date of presentation: 9/2/1994

Roque Yuri Tandel

Advisor(s): Ribeiro Filho,E.

Committee:

Subject of thesis:

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

Abreu, G.C. 1995. Geology and metallogenesis of the Mina do Pari gold mine, northeastern of Quadrilátero Ferrífero-MG state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 162 p

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1626

1995

Date of presentation: 14/12/1995

Gustavo Correa de Abreu

Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis: Metallogenesis

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract**Addad, J.E. 1995. Erosion in the Alcobaça beaches, southern of the State of Bahia. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 138 pp**

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 10

DataBase Ref.: 2354

1995

Date of presentation: 16/8/1995

João Eduardo Addad

Advisor(s): DuPont, H.S.

Committee:

Dieter Muehe

- DG/UFRJ

Sérgio Rebello Dillenburg

- IG/UFRGS

Subject of thesis: Geology and Mineral Resources

State: BA

1/1,000,000 sheet:

SE24

Centroid of the area:

' -

'W

Abstract**Aguiar, C.J.B. 1995. Application of Geophysical Method of Electrical Resistivity in Hydrogeology of Sedimentary Basins: Example of the Potiguar Basin, State of Rio Grande do Norte. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.***Resistivity, Transverse resistance, Longitudinal conductance, Electric logs, Isopach map, Isobath map*

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 556

1995

Date of presentation: 12/5/1995

Carlos José Bezerra de Aguiar

Advisor(s): Feitosa, E.C.

Committee:

Subject of thesis: Hydrogeology

State: RN

1/1,000,000 sheet:

SB24

Centroid of the area:

' -

'W

Abstract

SB25

No período compreendido entre novembro/65 e setembro/74 foram obtidas 204 sondagens elétricas verticais (SEVs) na Bacia Potiguar, no âmbito de três diferentes projetos: SUDENE-Bacia Escola de Hidrogeologia (131 SEVs); SUDENE/CPRM/CAERN - abastecimento d'água de Macaú e Pendência (21 SEVs); SUDENE/UFPE - Projeto Apodi (52 SEVs). Foi utilizado inicialmente um registrador potenciométrico CAGNIARO e, posteriormente um registrador potenciométrico TEXAS INSTRUMENTS/PERGEO, nas SEVs de maiores linhas. Foi adotado em todos os casos o quadripolo linear simétrico de Schlumberger, com a linha AB máxima de emissão de corrente variando entre 1.000 e 14.000 metros. A interpretação elétrica das SEVs, na época, utilizou essencialmente o método dos pontos auxiliares. Com a disponibilidade, dos recursos computacionais atuais e de modelos analíticos para o cálculo de curvas de sondagens elétricas, foi possível refinar a interpretação das SEVs existentes, obtendo cortes geoeletrônicos mais realistas e mais precisos que os obtidos anteriormente. Esses cortes geoeletrônicos permitiram uma avaliação confiável dos parâmetros de Dar-Zarrouk Condutância longitudinal e Resistência Transversal, o que conduziu à elaboração dos seguintes mapas na escala 1/500.000: Mapa de Condutância Longitudinal do conjunto Açú/Pendência; Mapa de Resistência Transversal da sequência carbonatada superior; Mapa da Razão Condutância Longitudinal/Resistência transversal; e um Mapa de Resistividade Aparente, para uma linha AB igual a 20.000m. A análise comparativa desses diferentes documentos fornece um modelo geoeletrico espacial, cuja tradução geológica constitui uma visualização qualitativa da geometria do conjunto Açú/Pendência e da sequência carbonatada superior, bem como da compartimentação estrutural da bacia, tornando possível a eleição das áreas prioritárias para a captação de águas subterrâneas. O confronto de 17 perfis litológicos de poços com 17 perfis geoeletricos de SEVs, permitiu a realização de análise de gressão, correlacionando parâmetros elétricos e parâmetros geológicos, culminando com a definição de leis que permitem quantificar as espessuras das formações envolvidas no estudo, a partir dos parâmetros de Dar-Zarrouk obtidos nas SEVs. Os resultados obtidos com a reinterpretação das medições elétricas existentes, em face dos estudos mais detalhados já realizados pela Petrobrás, não contribuem significativamente ao conhecimento geológico da bacia. Os procedimentos de interpretação aqui adotados, entretanto, permanecem válidos para eventuais trabalhos de semi-detalhamento na própria Bacia Potiguar e servem de modelo para estudos regionais e de semi-detalhamento em outras bacias sedimentares. Cabe enfatizar a metodologia de interpretação quantitativa adotada, fortemente amparada na realidade e, por isso, bastante confiável.

Almeida, C.N. 1995. Metamafic Rocks of Itatuba (State of Paraíba) and Associated Fe-Ti Occurrence. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Metamorphic rocks, Metamorphic conditions, Petrography, Geochemistry

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 630 1995 Date of presentation: 15/3/1995

Cícera Neysi de Almeida

Advisor(s): Beurlen, H.

Committee:

Subject of thesis: Mineralogy and Petrology

State: PB 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Petrological investigations on metamorphic rocks and three associated Ti-Fe occurrences from the Itatuba region in Paraíba State are reported. The studied rocks form part of a Proterozoic gnaissic-migmatitic complex including some marble intercalations. Microtextural relations support a complex metamorphic evolution with three stages, supported by the microtextural relations. A first stage at eclogitic conditions is indicated by the lack of primary plagioclase in relics of garnet pyroxenites with symplectitic intergrowths of pyroxenes and/or amphibole and plagioclase replacing garnets and primary pyroxene, supposedly omphacite. A second event under granulitic conditions is represented by the paragenesis of garnet-clinopyroxene-plagioclase, while the equilibrium textures between hornblende-plagioclase are typical for the third stage under amphibolite-facies conditions. Mineral chemistry of the clinopyroxene-garnet pair suggests equilibrium conditions in the range of 7260 a 11850 and 4.8 a 8.2 kb established during the granulitic and amphibolitic stages of the metamorphic evolution. The chemical compositions of the metamafic rocks reveal a global basaltic composition of tholeiitic nature. Discriminant diagrams and spiderdiagrams based on rare earth and trace elements (K, Rb, Ba, Sr, Ti, Zr, Th, Ta, V, Co e Ni) suggest an island arc tholeiitic character. The differentiation and fractionation of this tholeiitic magma originated the mafic protholiths culminating with the formation of the Fe-Ti ore. This magma was supposedly generated from a mantle below a subduction zone. The Fe-Ti ore occurs as massive or banded lenses with partially martitized titanomagnetite as main ore mineral followed by up to 20% ilmenite. Magnetometric and gravimetric surveys indicated reserves of 15,000t, 893,000t and 318,000t, respectively for the occurrences of Salgadinho, Paulino and Olho D'Água.

Almodovar, M.L.N. 1995. Study of chrome anomalies in the underground waters of the northeastern of São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1897 1995 Date of presentation: 26/10/1995

Marta Lúcia Nunes Almodovar

Advisor(s): Pacheco, A.

Committee:

Subject of thesis: Hydrogeology

State: SP 1/1,000,000 sheet:

SF23 Centroid of the area: ' - 'W

Abstract

Alves, J.V. 1995. Study of fluid inclusions in quartz veins of the São Bento gold mine, Santa Bárbara, State of MG. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 99 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 09

DataBase Ref.: 2353 1995 Date of presentation: 6/6/1995

James Vieira Alves

Advisor(s): Lobato, L.M.

Committee: Eduardo Antonio Ladeira - IGC/UFMG
Roberto Perez Xavier - IG/UNICAMP

Subject of thesis: Geology and Mineral Resources

State: MG 1/1,000,000 sheet:

SF23 Centroid of the area: ' - 'W

Abstract

Azevedo Sobrinho, J.M. 1995. Petrology of the charnockites of the Itariri region (SP state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1925 1995 Date of presentation: 29/9/1995

José Maria Azevedo Sobrinho

Advisor(s): Girardi, V.A.V.

Committee:

Subject of thesis: Petrology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Bacci, D.C. 1995. Sand mining in the Corumbataí river basin, state of São Paulo. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 672 1995 Date of presentation: 22/2/1995

Denise de La Corte Bacci

Advisor(s): Fúlvaro, V.J.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This dissertation examines sand mining in the Corumbataí river, identifies the different types of sands that have been exploited, their sources, and explores the environmental impact mining. The source of all these sands, based on the bedrock geology of the watershed and some evidence from size analysis, is de Pirmaboia Formation which outcrops in the northern, northeastern and northwestern parts of the watershed. Its average grain size appears to be close to that of the sands in the river itself, about 0,3 mm. Sand mining, which was formerly more active than today, removes about 30,000 m³/y from bedload estimated to be 50,000 m³/y. The main environmental impacts caused by sand mining in the Corumbataí river is the change in its channel that had narrowed and deepened its course with a present appearance quite different from its premining geometry.

Barros, A.J.P. 1995. Contribution to the geology and auriferous mineralization control of the Peixoto de Azevedo region-MT state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 144pp 1 map

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1660 1995 Date of presentation: 15/3/1995

Antonio João Paes de Barros

Advisor(s): Ribeiro Filho, E.

Committee:

Subject of thesis: Brazilian Geology

State: MT 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Blum, M.L.B. 1995. Curie Surface of the central Goiás state region and relationships with geology, geotectonics and mineral resources. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M096

DataBase Ref.: 156 1995 Date of presentation: 3/2/1995

Marcelo de Lawrence Bassay Blum

Advisor(s): Pires, A.C.B.

Committee: Reinhardt Adolfo Fuck - IG/UnB
Marta Silvia Maria Mantovani - IAG/USP

Subject of thesis: Regional Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: 15 00 's - 49 30 'W

Abstract

The study area is located in the State of Goiás central region, between 14 and 16 South parallels and 48 and 51 West meridians. The region is placed in the Tocantins Structural Province showing complex geology. Mafic-ultramafic complexes (Niquelândia and Barro Alto), greenstone belts (Goiás City, Crixás, Guarinos and Pilar de Goiás), granulitic belt (Anápolis-Itaçu), granite-gneiss terranes, Meso- and Neoproterozoic volcano-sedimentary sequences, schists (Araxá and Serra da Mesa groups) and metasedimentary rocks (Paranoá and Araí groups) are embedded. Structural elements are represented by the Transbrasiliano Lineament, Pirineus Megainflexion, Niquelândia Inflexion, and thrust faults with vergence to São Francisco Craton. Several geophysical surveys were performed in the region starting in the 70's. Brazil-Canada Geophysical Project (PGBC) with important aeromagnetic survey, gravity survey, geothermal data and seismological studies are included among them. Using the PGBC's aeromagnetic data as digital image it was possible to find four types of magnetic anomalies: lineaments, quiet zones, disturbed areas and very disturbed areas. Magnetic interpretation of prismatic models allows the evaluation of depths where rocks lose their magnetization: Curie depth. With a group of depths we can have a Curie surface. In this study, computer programs were used to construct the Curie surface. The programs, originally developed for use in big computers, were modified and adapted for personal computers. The algorithm reads a regular grid data, calculates radial spectrum, and returns the value of Curie depth. Before this, it is necessary to define a window size and the appropriated pattern of spectrum. The window size found in this study is 26 km and the spectrum segment is 0.0 - 0.00007 rad/m. Depths were evaluated for 13984 locations. Comparing Curie depths estimated by magnetic data (30,8 km) with Curie depths estimated by heat flow, we concluded the method is effective. The Curie

surface indicated "hot" and shallow areas with characteristic linear pattern referred as 'Curie crests', and "cold" and deep regions called 'Curie basins'. The Curie basins represent deep crustal levels (30-37 km), and possibly the inferior and medium crust interface. The Curie surface was compared with geological map, interpreted magnetic map, Bouguer map, seismicity, and the distribution of mineral resources in the study area. Curie crests are associated with recent and unstable areas. Many of these areas coincide with ancient structural elements containing hidrothermal mineralizations. Pirineus Megainflexion and Niquelândia Inflexion are remarkable features. Parallelism and coincidence with greenstone belts, volcano-sedimentary sequences and granitoids are clear. The last ones are probably late or post-orogenic features. The relation with gravity indicates an ancient suture. Three episodes are suggested to explain the origin of Curie structures: 1) Collisional episode: responsible for the geosuture formation; 2) Late orogenic extensional episode: responsible for the granitoid and shear zone mineralizations; and 3) Recent episode: related to E-W regional stresses as the result of South-American plate tectonic. The episodes were responsible for the Curie crests configuration by reactivating old structural features. Apparent subordination of mineralizations with Curie crests can suggest a good guide for prospecting in the region.

Boian, C. 1995. Geophysical application to environmental studies of the Bauru group sediments: Sanitary filling of São José do Rio Preto county, state of São Paulo. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 675 1995 Date of presentation: 26/7/1995

Cláudia Boian Advisor(s): José, C.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

With the purpose to evaluate the contamination level of a hidrogeological environment in Grupo Bauru's sediments, due to surface deposition of urban rejects, it was selected an area comprised by the landfill of the São José do Rio Preto (SP) municipality. This area is located at lithological domains of the Formação Adamantina of these sediments. This municipality has nowadays about 400.000 inhabitants that, in terms of average reject production, corresponds to about 300 ton./day. For such a reject quantities it becomes essential to take measures accordingly for its treatment and final destination, in order to minimize the hidrogeological environment impact. Nevertheless, during a period of twelve years, the urban rejects generated by the municipality was thrown down at terrain surface, without any criteria of reject differentiation from several sources. Therefore, aiming to estimate the landfill influence in the local groundwater quality, there were correlated direct and indirect searching methods data. The indirect data were obtained using the geophysical methodology of electromagnetic induction of currents in the overburden, and the direct data were obtained by physicochemical analysis from local groundwater integrated samples; bulk leachate and treated leachate by stabilization lagoons system. Moreover, were also realized BOS, QOD, toxicity, and microbiological counting tests.

Botelho Neto, J. 1995. Northern portion of the Regência platform, Espírito Santo basin: Palinostratigraphic and paleoenvironmental evolution characterization. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference: 016930/96-47

DataBase Ref.: 1594 1995 Date of presentation: 23/5/1995

José Botelho Neto Advisor(s): Brito, I.A.M.

Committee: Luiz Padilha de Quadros -
Norma Maria da Costa Cruz - CPRM
Marília da Silva Pares Regali -

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Calle, C.H.T. 1995. Integrated geophysical and geochemical data processing from Santa Terezinha de Goiás region. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M103

DataBase Ref.: 163 1995 Date of presentation: 4/8/1995

Carlos Humberto Tapia Calle Advisor(s): Pires, A.C.B.

Committee: Hardy Jost - IG/UnB
Paulo Roberto Meneses - IG/UnB
Jorge Gomes do Cravo Barros - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The area under study is located between the 14o and 14o 30' parallels south and 49o 30' and 50o meridians west. Inside the magmatic arc of the Median Massif of the Tocantins Province, the area is represented by the Santa Terezinha Sequence. The minning area of Campos Verdes is represented by a low grade metamorphic sequence (Santa Terezinha Sequence) and is located to the north of the Crixas greenstone belt, which is characterized by hidrotermall processes. The Santa Terezinha Sequence is identified by the presence of emeralds of the Campos Verdes area. Previous studies based on fluid inclusions and radiometric dating indicated high contents of potassium, cromium and vanadium associated to the emeralds. Recently, it had been noted an effort to interpret the several data sets obtained inside the Tocantins Procvince. At the beginning, this involved geophysical data and later they were integrated with remote sensing information. Now, this metodology is enlarged including other data sets. In the dta integration process we used 23 geochemistry elements, gamma ray spectrometry data (eU, eTh and % K), magnetometry and LANDSAT TM satellite images (channels 2, 3, 4, 5 and 7). The metodology used for data integration was developed by Duval (1983). This method, used with gamma ray spectrometric data produced colored images associated with lithologic features. The software used in this effort was developed in the USGS (Cordell, 1992) and others available commercially. The integration of geophysical and geochemistry data was conducted trying to enhance the areas of higher cromium, potassium and vanadium concentration and comparing them with geological features near Campos Verdes minning district. The study also tried to contribute to the improvement of the area general geological knoweledge,through the analysis of all data available.

Capilla,R. 1995. Faciologic and stratigraphic characterization of Marília formation sediments in Peirópolis - MG state - region. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1390 1995 Date of presentation:

Ramsés Capilla Advisor(s): Azevedo,S.A.K.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: MG 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

Capovilla,M.M.G.M. 1995. Petrogenetic and metalogenetic aspects of the esmerald deposits of Carnaíba and Socoto, BA state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 197 p

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1623 1995 Date of presentation: 11/8/1995

Maria Manuela Galvão Monteiro Capovilla Advisor(s): Schorscher,J.H.D.

Committee:

Subject of thesis: Metallogenesis

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Cardoso,F.B.F. 1995. Chemical, Mineralogical, Micromorphological Analisys of Collapsible Tropical Soils and Study of the Dynamic of the Collapse. MSc Thesis,, Publicação G.DM-026A/95, Departamento de Engenharia Civil, Universidade de Brasília, Brasília, DF, 140p

Colapse; Soils Micromorphology; Soils Chemistry; Soils Origin

Departamento de Engenharia Civil - Universidade de Brasília

Reference: G.DM-026A/95

DataBase Ref.: 2344 1995 Date of presentation:

Fabício Bueno da Fonseca Cardoso Advisor(s): Carvalho,J. C.

Committee: Eder de Souza Martins - EMBRAPA
Regina Davison Dias - UFSC

Subject of thesis: Engineering geology

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

This dissertation had the purpose of studying tropical soils in the genetic, chemical, mineralogical and micromorphological point of view, and to identify possible relations between this factors and the potential of collapse of each soil.

Another objective was to try to understand better the collapse dynamics, using pedography techniques based in thin plates of the studied soils for different stages of tension and saturation.

The use of optical microscopy in the micromorphological study has proved to be more advantageous tool than scanning electron microscopy.

With the analysis of this results it was possible to propose two models:

- .Chemical-Mineralogical Evolution of Collapsible Tropical Soils.
 □.Micromorphological Evolution of Collapse in Collapsible Tropical Soils.

Carvalho Jr,O.A. 1995. Data integration for mineral prospection: Case study of Palmeirópolis, Tocantins state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M099

DataBase Ref.: 159 1995 Date of presentation: 24/3/1995

Osmar Abilio de Carvalho Junior

Advisor(s): Pires,A.C.B.

Committee: Aripilino Antonio Nilson - IG/UnB
 Gilberto Amaral - IG/UNICAMP

Subject of thesis: Prospection and Economic Geology

State: TO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

In this dissertation I studied techniques of digital enhancement and geochemical, geophysical and TM-Landsat data integration applied for mineral prospection. The target area was the Palmeirópolis volcano-sedimentary sequence having several datas sets coming from different prospective stage and an excellent geological map was used to compare the results. The Palmeirópolis volcano-sedimentary sequence shows important economic aspects related to Cu, Pb and Zn ore deposits studied by Companhia de Pesquisa de Recursos Minerais (CPRM) since 70's.

I evaluated data originated from four prospective scales totaling 160.800 geochemical (Cu, Pb, Zn and AS) and geophysical observation points (CSAMT and Slingram), originally handwritten and converted to digital format. I developed a methodology to generate geophysical and geochemical images. For this purpose I used kriging interpolation with octant search procedure from SURFER (Golden Software, 1987). The geochemical and geophysical images were treated with digital image processing programs SITIM (INPE, 1990), IDRISI (Clark University, 1992) and some statistical/mathematical modelling subroutines developed by the author. The geochemical images showed an excellent correlation with the geological mapping emphasizing C-1 orebody and Cabeceira Verde occurrence. In addition these images enhanced other anomalous points which should be evaluated in the future. The CSAMT geophysical images of higher frequencies (2048Hz and 1024Hz), from semi-detail prospective phase, showed good correlation with geology but it does not indicate any typical behavior for C-1 and Cabeceira Verde anomalous bodies. Using the CSAMT geophysical images it was possible estimate the behavior of geological units in subsurface. On the other hand the detailed Slingram geophysical images did not show good results.

The satellite images were processed using spedifical methods to enhance hydrothermalized zones, but the strong anthropic interference affected the results.

Before image generation and processing, several integration procedures were used: overlapping methods (IHS transformation) and classification methods (cluster analysis, discriminant analysis and identification). With these methods it is possible to compare and integrate different descriptors enhancing geological units and mineralized zones.

Analizing the different images I identified a structural control for the mineralizations through a shear lens. The C-1 anomalous body and Cabeceira Verde occurrence are located in the edges of a shear len unified by an expressive anomalous trend NE-SW

Carvalho,M.A. 1995. Paleoecologic and paleoclimatic study, based in palinology, applied to pleistocenic and pliocenic sediments of the Amazonas mouth basin. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1593 1995 Date of presentation:

Marcelo de Araujo Carvalho

Advisor(s): Amador,E.S.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Castro,J.W.A. 1995. Morphologic-Sedimentologic and Environmental Behaviour of the Area between Ceará River and Paracumbuco (Caucaia., State of Ceará). MSc Thesis, Departament of Geology, University Federal of Pernambuco, pp.

Coastal geologic risks, Environmental impact, Coastline

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 603 1995 Date of presentation: 19/12/1995

João Wagner de Alencar Castro

Advisor(s): Coutinho,P.N.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The coast line of the Fortaleza metropolitan area (Ceará State) presents significant morphologic-sedimentological and environmental changes, with about 700.000 m² of eroded terrains along an extension of 15 km. This phenomenon is chiefly due to the implantation of coastal works, turning the dune fields impermeable by urbanization and dismounting of eolian deposits (dunes) for civil construction. In the present study has been made a map of geologic coastal risk in a 58 km² area along a 23 km beach, based on existing geomorphic features, geotectonic conditions, sediment transport, grain size composition, and dune and bathymetric contour evolution. Eolian transport and a wave-induced longshore transport have been identified as the chief solid transport mechanisms. The association of these mechanisms point to the in the region existing headlands representing the sources of sediment accumulation and dispersal, while responsible for the sedimentological balance between the beach realm and the dune fields.

Cerqueira, M.R.S. 1995. Geology and petrological evolution of the Fazenda do Buriti alkaline complex, Iporá, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M098

DataBase Ref.: 158 1995 Date of presentation: 23/3/1995

Márcia Regina Silva Cerqueira Advisor(s): Danni, J.C.M.

Committee: Jose Carlos Gaspar - IG/UnB
Mabel Norma Costas Ulbrich -

Subject of thesis: Regional Geology

State: GO 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

The Fazenda Buriti Alkaline Complex, situated at the Iporá region, state of Goiás, is composed by an association of intrusive rocks, represented by olivine clinopyroxenites, malignites, fergusonites, alkaline gabbros, essexites, monzogabbros, monzonites, syenites and nepheline syenites. Minor subordinate intrusions include microsyenites, trachytes, and lamprophyre and phonolite dykes. The K-Ar age of biotites of a monzogabbro from the plutogenic association is 86 m.y.. Petrography, mineral chemistry and geochemistry indicate continuous variations between the different lithotypes and points to an origin by fractional crystallisation, with crystal accumulation controlled specially by clinopyroxene and plagioclase. Olivine compositions varie from Fo86 to Fo51, clinopyroxene from Wo47En47 to Wo49En43, plagioclase from Ab55 to Ab68 and alkali feldspar from Or70Ab25 to Or57Ab41. A continuous evolutive trend and correlation are shown by AFM, Na₂O-CaO-K₂O and MgO-Al₂O₃-CaO diagrams. Variations of the major and trace elements vs. MgO plots show negative correlations for SiO₂, Na₂O, K₂O, Al₂O₃, Sr, Ba and Y and positive ones for CaO, Ni and Cr. It is suggested that the parental magma for the plutonic association is an alkaline picrite basalt, possibly derived by the extraction of olivine from the alkaline picrites that occur in the Iporá region. The microsyenitic and trachytic rocks seem to belong to another magmatic pulse and appear to have underwent contamination by the host sandstones, considering the presence of quartz xenocryst in these rocks.

Corrêa Neto, A.V. 1995. Geology and structural analysis of Além Paraíba lineament between Três Rios (RJ) and Sapucaia (RJ) towns. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 976 1995 Date of presentation:

Atlas Vasconcelos Corrêa Neto Advisor(s): Dayan, H.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Estudou-se grande zona de cisalhamento transpressiva dextrógira, em rochas das fácies granulito e anfibolito alto, localizada no centro da Faixa Ribeira, entre os estados do Rio de Janeiro e Minas Gerais. A área estudada tem estruturação atribuída a dois eventos tectônicos distintos, um de natureza compressiva tangencial, e outro transpressivo. Durante o primeiro evento, formaram-se foliações de baixo ângulo, falhas de empurrão e dobras isoclinais recumbentes, com vergência para NNW, e direção NNE. Os empurrões colocaram xistos de fácies anfibolito médio em contato com paragneisses de fácies anfibolito alto. O segundo evento tectônico gerou sistema anastomótico de zonas de cisalhamento destróginas subverticais NE-SW. A deformação nas zonas de cisalhamento foi caracterizada por direção de extensão principal horizontal, paralela ao strike da foliação milonítica, acompanhada de outra secundária, vertical, associada à componentes de encurtamento horizontal, ortogonal ao plano de cisalhamento. A deformação foi fracionada em domínios alternados, com predominância de componentes rotacionais ou de encurtamento. O segmento central do sistema de cisalhamento sofreu maior estiramento vertical, associado à transpressão. As zonas de cisalhamento concentram-se em espessa faixa adjacente ao curso do Rio Paraíba do Sul e provavelmente compõem parte inferior de estrutura-em-flor positiva. Sugere-se que rochas granulíticas foram elevadas por efeito da transpressão nesta faixa, onde concentrou-se o encurtamento (com consequente extensão vertical) e a transcorrência. Durante a ascensão, os granulitos sofreram retrometamorfismo. Uma intrusão, o Plutonito Sapucaia, colocou-se durante a atividade das shear-zones, aproveitando segmentos extensionais ou defasagem entre duas zonas de cisalhamento paralelas de igual vorticidade, que originou zona extensional de transferência de movimentação. Formou-se ambiente transtraccional local em meio ao regime transpressivo predominante, permitindo a ascensão do magma. A transcorrência continuou após a cristalização

do magma. Mais de um mecanismo de intrusão atuou durante a colocação do plúton, que aparentemente sofreu boudinage logo após parte do volume de magma ter sido posicionado e começado a cristalizar. Ocorreu ainda a extração e movimentação forçada do magma devido à compressão, para níveis mais superiores. Petrogramas de eixos em fitas de quartzo de gnaisses miloníticos foram utilizadas como indicador cinemático e para acessar de forma qualitativa, o strain path da deformação.

Costa, C.S. 1995. Petrogenesis of the Córrego dos Boiadeiros meta-ultramafic body, Quadrilátero Ferrífero, State of MG, Brazil.. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 172 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 11

DataBase Ref.: 2355 1995 Date of presentation: 26/10/1995

Celso Scalabrini Costa Advisor(s): Costa, A.G.

Committee: Antônio Wilson Romano - IGC/UFMG
Ariplínio Antonio Nilson - IG/UnB

Subject of thesis: Geology and Mineral Resources

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Dios, F.R.B. 1995. Geology, petrology and metamorphism of the high grade terrains at northern part of Mangaratiba sheet, RJ state - 1:50.000. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1151 1995 Date of presentation:

Fátima Regina Blanco de Dios Advisor(s): Trouw, R.A.J.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Facincani, E.M. 1995. Neotectonic structural controls forming gullies near São Pedro county, São Paulo state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 678 1995 Date of presentation: 28/11/1995

Edna Maria Facincani Advisor(s): Rueda, J.R.J.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The objective of the present work is to investigate possible neotectonic, structural controls on the formation of gullies near São Pedro, São Paulo. These structural controls principally included joints and fractures faults. The tectonic controls belong to two principal types: normal and transcurrent faults, both of which show evidence of reactivation. The normal faults were initially formed by the opening of the Atlantic and later reactivated in the Tertiary whereas the transcurrent faults are related to the dextral rotation to westward of the South American plate. The transcurrent faulting NW-SE and its complementary joint set NE-SW are the principle controls on the orientation of the smaller tributary gullies.

Ferreira, M.A.F. 1995. Petrology and Geochemistry of the Nova Olinda and Caboclo Syenitic Bodies, Riacho do Pontal Fold Belt, W Pernambuco. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Syenites, Riacho do Pontal foldbelt, Origin, Geochemistry

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 632 1995 Date of presentation: 28/4/1995

Marco Antônio Fonseca Ferreira Advisor(s): Ferreira, V.P.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Syenite to quartz syenite pluton intruded Proterozoic metapelites of the Casa Nova Complex, in the Afr nio region, of Pernambuco State in Northeast Brazil. The Caboclo pluton shows two distinct facies: one with and another without hornblende. The Nova Olinda pluton does not have hornblende and all of these plutons carry brown to green mica and clinopyroxene. These plutons are metaluminous, with alkalic to shoshonitic affinities. Cogeneticity among these plutons is attested by trends observed when SiO₂ or MgO are used as differentiation index. Chondrite-normalized rare-earth element patterns show high La/Yb ratios, are LREE-enriched in relation to HREE and discrete negative Eu anomaly. Elemental concentration diagrams display pronounced Th, Nb, P and Ti negative anomalies. Trace-element modeling lead to the conclusion that the syenitic magma formed by partial fusion at the upper mantle in a subduction environment followed by fractional crystallization late to post-tectonically. High d O₁₈ values (>+100/00SMOW) suggest a O₁₈ enriched source. Although these are not peralkalic rocks, their genesis is probably similar to that of peralkalic plutons in Northeast Brazil.

Florencio, R.V.S. 1995. Study of the intertemporal alterations of apatite rich rocks of Mina de Campos mine associated to the Ipanema Alkaline-carbonatitic Massif, SP state. MSc Thesis, Institute of Geosciences - University of S o Paulo, SP, Brazil, 90pp

Instituto de Geoci ncias - Universidade de S o Paulo

Reference:

DataBase Ref.: 1665 1995 Date of presentation: 29/5/1995

Raquel Valerio de Sousa Florencio Advisor(s): Toledo, M.C.M.

Committee:

Subject of thesis: Brazilian Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Flores, E.F. 1995. Weather information systems: Use and development of the geographycal information system "geo-inf+map". MSc Thesis, Institute of Geosciences and Exact Sciences, State University of S o Paulo, Rio Claro, pg.

Instituto de Geoci ncias e Ci ncias Exatas - UNESP

Reference:

DataBase Ref.: 676 1995 Date of presentation: 22/8/1995

Edilson Ferreira Flores Advisor(s): Zavattini, J.A.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Developing a Climatological Information System as well as inserting it in an already existent Geographical Information System-the "GEO-INF+MAP", was the attempt of this research. The main purpose of this work was to elaborate a system able to attend the most frequent necessities of the Climatological researchers, based on previous bibliographical gathering, directed to the techniques most commonly used by them. This system is composed of techniques normally found in Climatology as the Rhythmical Analysis Graph, Spatial-Temporal Models, Water Balance and Pluviogram, among others.

Godoy, M.A.M. 1995. Mineralogical characterization of ore, concentrated ore and reject of flotation from the S o Bento mine, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Bras lia, pg.

Instituto de Geoci ncias - Universidade de Bras lia

Reference: M101

DataBase Ref.: 161 1995 Date of presentation: 29/5/1995

Marco Ant nio Marques Godoy Advisor(s): Gaspar, J.C.

Committee: Nilson Francisquini Botelho - IG/UnB

Lydia Maria Lobato - IGC/UFMG

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The S o Bento deposit (Santa B rbara, MG) occurs in the middle portion of the Quadr l tero Ferr fero (latu sensu), hosted by the S o Bento iron formation. This is a BIF composed of fine layers of oxide, carbonate, silicate, and sulfide facies. Sulfides usually form veins of variable sizes that crosscut the BIF layering with very small angles. The most important minerals in the deposit are: arsenopyrite, pyrrhotite, chalcopyrite, sphalerite, galena, electrum, magnetite, ilmenite, siderite, ankerite, calcite, quartz, chlorite, stilpnomelane, and muscovite.

Arsenopyrite ($\text{Fe}_{1.01}\text{As}_{0.99}\text{S}_{1.00}$ - $\text{Fe}_{1.00}\text{As}_{0.82}\text{S}_{1.18}$) occurs mainly as rhombus and is zoned with a clearly petrographically defined core. This core presents As/S diminishing from center towards its limits, which is typical of As-rich environments. The rim shows rhythmic changes in As/S which generally increases and tends to stoichiometry from the core limit to the most external crystal rim. This is typical of environments with high S activity. This zonation indicates two arsenopyrite generations.

Pyrrhotite ($\text{Fe}_{0.91}\text{S}_{1.09}$ - $\text{Fe}_{0.96}\text{S}_{1.04}$) is clearly remobilized and occurs as aggregates of anhedral crystals, sometimes elongated and oriented. Both monoclinic and hexagonal structures. Occur hexagonal pyrrhotite varies from 50% to almost 100%, as determined by x-ray diffraction.

There are two pyrite generations: As-rich pyrite included in arsenopyrite and As-poor euhedral to subhedral cubic crystals. Gold crystals occur in many different forms: small inclusions in arsenopyrite and pyrite, sometimes associated with pyrrhotite and gangue minerals; large inclusions in pyrrhotite, usually in contact with arsenopyrite; less frequently, in mineral interfaces; in fractures, associated with sulfides or not; rarely included in sphalerite or gangue minerals; rarely filling cavities in arsenopyrite associated with galena, sphalerite, chalcopyrite, and pyrrhotite. Gold contains from 20 to 50 at.% Ag, characterizing the mineral electrum.

"Invisible" gold was found by electron microprobe analyses mainly in arsenopyrite but also in pyrrhotite, chalcopyrite, and sphalerite. It was not determined whether invisible gold occurs as structurally-bonded atoms or as extremely small inclusions. Microprobe analyses showed that the arsenopyrite from the São Bento Pinta Bem horizon is gold-enriched while arsenopyrite from the São Bento horizon is impoverished. Synchrotron fluorescence analyses in arsenopyrite were carried out at Broken Heaven Laboratory, USA, indicating that the best gold peaks are those from the São Bento Pinta Bem arsenopyrites, confirming the electron probe results.

Angular and irregular sulfide grains ($< 1\mu$ up to tens of μ) were identified in the flotation tails, partially included in quartz and carbonate.

The flotation concentrate is composed of sulfide and gangue fragments with dimensions varying from less than 1μ up to some tens of microns. Gold crystals (around 10μ) occur completely included in pyrite. Carbonate fragments may be important in the concentrate. X-ray diffraction and point counting were used to estimate mineral abundance, mainly sulfides. A comparison of the two methods showed that it is possible to obtain good results from x-ray diffraction data provided that sample size (number of determinations) and correction factors are well defined.

Godoy, M.L.S. 1995. Tecto-metamorphic evolution of the gold mineralization of Raposos mine (MG). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pp.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 695 1995 Date of presentation: 17/3/1995

Marcio Luis Silva Godoy

Advisor(s): Hackspacker, P.C.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Raposos mine is located in the northern-central region of the Quadrilátero Ferrífero, 30 km south-east of Belo Horizonte. The lithologies belong to the Nova Lima Group of the Rio das Velhas Supergroup, which has been defined as a greenstone belt terrain. There are two main sequences in the studied area: the southern sequence is composed of carbonic metasediments interspersed with meta-felsic volcanics, while the northern is composed mainly of meta-mafic volcanics interlayered with banded iron formations (BIF). The banding has a NW trend and is cut by meta-dolerite dikes, and by a pervasive foliation striking NE and dipping 35 to the SE. In the boundary between the two sequences there is a hydrothermal alteration zone, which contains the mineralized BIF. This is marked by mineralogical changes related to carbonatization, chloritization and sericitization processes, and also by different carbon stable-isotope ratios in carbonates. The mineralization is associated with replacement and filling processes in the BIF. Fluid inclusion studies of quartz crystals and geothermometry of arsenopyrite and chlorite, suggest that these processes occurred in temperatures of around 400°C and under pressures of around 3,5 Kbar.

Gois, J.R. 1995. Contribution to the petrography and geochemistry of the setentrional part of the Morro Redondo Volcano-plutonic Complex, Parana and Santa Catarina states boundary. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2230 1995 Date of presentation:

Jose Roberto de Gois

Advisor(s): Machado, R.

Committee:

Subject of thesis: Geology

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W
SC

Abstract

Goldberg, K. 1995. Palaeoenvironmental reconstruction of the Brazilian continental Cretace in the Triângulo Mineiro region. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 876

1995

Date of presentation: 6/9/1995

Karin Goldberg

Advisor(s): Garcia,A.J.V.

Committee:

Subject of thesis: Earth Sciences and Environment

State: MG

1/1,000,000 sheet: SE22

Centroid of the area:

' -

'W

Abstract**Goraieb,C.L. 1995. Geological and metalogenetic aspects of Correias Massif. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 150 p**

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1625

1995

Date of presentation: 20/12/1995

Claudio Luis Goraieb

Advisor(s): Bettencourt,J.S.

Committee:

Subject of thesis: Metallogenesis

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract**Guimaraes,G.B. 1995. Cunhaporanga granitic complex in the Joaquim Murtinho, Pirai do Sul region(PR state) : Faciologic characterization of the granitoid rocks. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 144pp**

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1662

1995

Date of presentation: 8/6/1995

Gilson Burigo Guimaraes

Advisor(s): Ulbrich,H.H.G.J.

Committee:

Subject of thesis: Brazilian Geology

State: PR

1/1,000,000 sheet: SG22

Centroid of the area:

' -

'W

Abstract**Iwata,S.A. 1995. Granitic pegmatites of the Socorro region - SP state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 121pp**

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1661

1995

Date of presentation: 11/7/1995

Sandra Akemi Iwata

Advisor(s): Madureira Filho,J.B.

Committee:

Subject of thesis: Brazilian Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract**Iyomasa,W.S. 1995. Geotechnical study of the Pirapora do Bom Jesus county, state of São Paulo. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.**

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 673

1995

Date of presentation: 13/3/1995

Wilson Shoji Iyomasa

Advisor(s): Koffler,N.F.

Committee:

Subject of thesis: Geosciences and Environment

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This study presents the geological-geotechnical map of Pirapora do Bom Jesus, in the northwest extreme of the São Paulo metropolitan area. Aerial photointerpretation and associated field work on the Pirapora tunnel and the Rasgão hydroelectric plant resulted on a map at the scale of 1:25 000. In order to aid in the terrain evaluation and check its correspondence with man action

into the environment, a declivity and a land use map were prepared, the latter being updated from interpretation of orbital images and field checks. Eight geotechnical units were identified in this study. They are ordered according to their lithology as recognized in the regional geological map. The declivity and land use maps show high correlation between geological features. An overall analysis of the information gathered in this study favors urban development in the southern part of the city and in the region of Km 51 of the Romeiros highway, which is already partly urbanized.

Lacerda, C.M.M. 1995. Contribution to the copper of Caraíba mineralization genesis, Bahia state: Structural and paragenetic relationships. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1722 1995 Date of presentation: 2/10/1995

Carla Maria Mendes Lacerda Advisor(s): Oliveira, E.P.

Committee:

Subject of thesis: Metallogenesis

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The Paleoproterozoic (Transamazonian) Curaca River Valley high-grade terrane, near the Caraíba Copper Mine, consists of three lithologic units, namely, (i) a supracrustal sequence made-up of paragneisses (biotite gneisses, hypersthene gneisses) conformable interleaved with amphibolite, quartzite, marble and iron formation, (ii) a sequence of granitoids composed of a tonalitic to granodioritic orthogneiss suite and a granitic suite, and (iii) copper-bearing mafic-ultramafic bodies. From the structural point of view, the region has been subject to a tectonic event that may be separated into two progressive deformation phases. The first (Dn) was associated with a tangential tectonics under amphibolite to granulite facies metamorphic conditions, and the second (Dn+1) with a left-sense wrench tectonics under amphibolite to greenschist grade metamorphism. The latter is marked by a significant fluid input. The copper mineralisation is host in mafic-ultramafic rocks (hypersthene and norite) which intruded the country rocks as dyke, veins and irregular bodies during the second deformation phase. Sulphides and oxides can be grouped into two parageneses, viz. Type I and Type II. The first consists of chalcopyrite, bornite, magnetite, ilmenite and hercynite, whereas the second of chalcopyrite, pyrrhotite, pentlandite, mackinawite, cubanite and magnetite. These two parageneses were interpreted as the result of magmatic differentiation under different oxygen fugacities and before their host-rocks final emplacement. The mafic-ultramafic rocks have been deformed and metamorphosed under amphibolite to greenschist facies conditions. During this tectonic episode, the ore minerals have been mechanically concentrated by mobilisation as shown by silicate fracture-infilling chalcopyrite and pyrrhotite. Deformation of orthopyroxenes took place mostly by dislocation gliding, as indicated by optical undulose extinction, deformation bands, kink-bands, formation of grains and subgrains and mechanical twinning (more rare). Microprobe analysis of father- and daughter grains of orthopyroxenes yielded a minor but significant compositional difference which has been associated to nucleation processes. The microtectonic features described above, coupled with cross-cutting relationships between ore-bearing mafic-ultramafic bodies and the country rock gneisses indicate that the emplacement of the copper-rich rocks has taken place during Dn+1. The subsequent deformation and metamorphism were responsible for the present-day heterogeneous distribution of copper sulphides as veins and massive irregular bodies.

Leal, A.C. 1995. Environmental and urban planning of the Areia Branca catchment microbasin, Campinas, state of São Paulo. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 674 1995 Date of presentation: 4/5/1995

Antonio Cesar Leal Advisor(s): Mauro, C.A.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This research has been developed altogether with our activities of Environmental Education at the Micro-hydrographic basins: "Areia and Areia Branca", which has contributed the methodology we have chosen. Our approach on this dissertation has been mostly associated to the matter of: "Environment and Urbanization" at the referred area, looking for a discussion about the importance of studying "Hydrographic basins" in the urban environment. But, more than that, its insertion into Environmental Planning, understood as a fundamental way for reaching a sustainable development. We tried to focus on that matter the construction of "Motivation Planning" (inventory, diagnostic, prognostic and purposes) as a tool able to offer conditions for a dialogue between school's community and local citizens. Indeed, we tried to develop a Global Planning involving teachers, students, neighborhood and popular organizations. We understand that only with the Knowledge's socialization and the big participation, is possible to accomplish citizenship which could help for a safe sustainable development.

Lopes, J.A.U. 1995. Soils collective motions and the evolution of natural slopes in humid tropical and sub-tropical regions. MSc Thesis, Department of Geology, University Federal of Paraná; pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 848 1995 Date of presentation:

José Antônio Urroz Lopes

Advisor(s): Soares, P.C.

Committee: Josué Alves Barrozo - DG/UFRJ
 Alberto Pio Fiori - DG/UFPR

Subject of thesis: Environmental Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Lopes, R.C. 1995. Alostrostratigraphic framework for the "Rio Bonito-Palermo" (EoPermian of Paraná basin) interval, Butiá to São Sepé region, Rio Grande do Sul state. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 875 1995 Date of presentation: 17/10/1995

Ricardo da Cunha Lopes

Advisor(s): Lavina, E.L.C.

Committee:

Subject of thesis: Sedimentary Geology

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

Magini, C. 1995. Metamorphical evolution of the Batolito São Vicente-Caicó and its relations with the Jucuratu and Serido metasediments (Rio Grande do Norte state). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 697 1995 Date of presentation: 19/6/1995

Christiano Magini

Advisor(s): Brito Neves, B.B.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The basement of "Borborema Province" is characterized by ortoderived crystalline terrains formed in polidiapiric process, having calcio-alkaline geochemical character type mantelic. These regions are surrounded by flysch or molasses metasedimentaries sequences (mobile belts) with basics and granitic intrusions.

Tectonically these portions represent para-autoctones blocks (basement) in contact with mobile belts (metasediments) molded because of the compressive tectonic here, represented by: Batolito São Vicente/Caicó (basement); Jucuratu and Seridó Metasediments (mobile belts).

The geochronology established by U/Pb, Sm/Nd and Rb/Sr methods showed that the basement was created in 2.7 Ga, crystallized and deformed in 2.2 to 2.0 Ga (Transamazonian Cycle) and reworked in Brasiliano Cycle (600 Ma).

Tectonism is followed by metamorphisms causing mineral/chemistry re-arrangement. The first deformative phase is tangential, associated to the upper amphibolite/melting facies metamorphic conditions. The dynamic evolution to the tangential phase is ductile/plastic and this regime is characterized geotectonically by thrusting.

The tangential system progressively changes to transcurent movements. The changes of tectonic movement is followed by crystallization of the batolito, allowing the achievement of the fragile/ductile dynamic. In this conditions the characteristics deformational are high angle foliation (transcurent regime) and retrogressive facies metamorphisms (green schist), because of the fluids incorporation to the system.

The purpose of this research was to investigate the different reasons which affect volumetric/chemistry transformation of the rocks during crustal evolution in the batolito. In addition quantify the deformation and mass transfer in metamorphism.

Metamorphism can be studied in two scales: 1) macroscopic: by the zones of cisalhamento where a compositional and textural successive variation has been observed; 2) microscopic: by the process of cracking, recrystallization, dissolution, neocrystallization and dislocation creep. In both scales the ionic migration with or without fluids occurs, which were incorporated in the tardi-tectonic phase.

To evaluate the metamorphism different analytical methods were used, correlating chemistry, microtextural, microthermometric, isotopic and structural data.

The geochemistry was used to compare deformed and not deformed rocks to determine mobile and immobile chemistry elements, during metamorphism in the ortoderived lithologies.

Microthermometric studies were used to identify the fluids that participated in the metamorphic reactions. Two fluids were characterized: carbonic and aquocarbonic fluids, showing that the fluids/rock ratios are important in the thermobarometric variation.

Isotopic analysis ($^{16}\text{O}/^{18}\text{O}$) has determined the thermal condition of the retrogressive metamorphic phase and it has limited areas where rehomogenization or isotopic fractionation occurred. The data of Muscovite+Quartz isotopes of oxygen variation of 310 to 320 °C.

The results of the paper showed that the Transamazonian Cycle metamorphism was related with two types of deformations

(tangencial and transcurrent) causing instability to the mineral primary association (igneous). During the metamorphic evolution mobiles: CaO, Na₂O, K₂O, TiO₂ and imobiles: Al₂O₃, SiO₂, FeO chemistry elements, aspects of dissolution and also mass transport were determined.

Transformations of the ortoderived litologys into metamorphic rocks aided in the understanding of the cronostratigraphy. The metamorphic rocks were once considered metasedimentars portions acreated (agregated) to the basement because of the tectonic process.

Data interation led to the conclusion on that some sites of the batolit, the metamorphism acted in open system and promoted the formation of metamorphic rocks through the mass transport and fluid percolations.

The studies of these processes are important to the understanding of the genetic, physical, chemistry and stratigraphic aspects and this can be used to control the mineral prospection in the metassomatic reservs acting as methodologic base.

Mancini, F. 1995. Stratigraphy and aspects of the deformational tectonics of Pindamonhangaba formation, Taubaté basin, SP state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 107 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1674 1995 Date of presentation: 21/11/1995

Fernando Mancini Advisor(s): Riccomini, C.

Committee:

Subject of thesis: Brazilian Geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Maringolo, V. 1995. Petrographic and chemical study of the ultramafic and mafic dikes of the Fernando Noronha Archipelago, Brazil. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1810 1995 Date of presentation: 7/12/1995

Vagner Maringolo Advisor(s): Ulbrich, M.N.C.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Marques, R.M. 1995. Usage of VLF (very low frequency) in the prospection of undergroundwater in crystalline rocks zones. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2229 1995 Date of presentation:

Rinaldo Moreira Marques Advisor(s): Ellert, R.

Committee:

Subject of thesis: Geophysics

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Martini, J.M. 1995. Integrated data analyses applied to the metallogenetic study of Serra dos Carajás-PA state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1748 1995 Date of presentation: 19/5/1995

José Mauro Martini Advisor(s): Amaral, G.

Committee:

Subject of thesis: Metallogenesis

State: PA 1/1,000,000 sheet: SB22 Centroid of the area: ' - 'W

Abstract

Isolated and integrated analysis of LANDSAT-TM, airborne SAR, aerogeophysics (magnetics and radiometrics), geologic and topographic data was applied to the Serra dos Carajás region. The use of digital image processing and geographic information system techniques allowed the definon of metallogenetic controls for Fe, Au, Cu, Al and Mn deposits and occurrences. As by

product, it was possible to improve the geological knowledge of the region, by the use of litho-structural units. Otherwise, the project demonstrated that these techniques could be successfully applied even in regions with dense vegetation cover.

Matos, J.B. 1995. Contribution to the geology of part of the meridional portion of the Amazônico Craton : Rio Alegre region, MT state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 108 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1658 1995 Date of presentation: 3/5/1995

Joao Batista de Matos

Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis: Brazilian Geology

State: MT 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Matos, S.L.F. 1995. Contact between Passa Dois group and Pirambóia formation in the border of the Paraná basin - São Paulo state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 110 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1667 1995 Date of presentation: 29/8/1995

Sérgio Luís Fabris de Matos

Advisor(s): Coimbra, A.M.

Committee:

Subject of thesis: Brazilian Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Medeiros, V.C. 1995. Remote Sensing and Petrology of the Brasiliano Granitoids in the Transversa Zone Domaint (NE Brazil)I. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Remote sensing, Petrology, Geochemistry, Shoshonite, Trondhjemitic

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 633 1995 Date of presentation: 24/11/1995

Vladimir Cruz de Medeiros

Advisor(s): Sial, A.N.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The main scope of this work was the mapping of the principal structural features and the petrology of Brasiliano-age granitoids in the central portion of the so-called Transversal zone Domain. The use of satellite images (LANDSAT 5-TM) and Radar allowed the identification of three photolineation sets, one of which was disregarded because they represent late, post-Brasiliano, fault/fractures. For the other two sets, literature and field data allow to state that one of them is related to Brasiliano transcurrent structures, and the other to Pre-Brasiliano features (or at least Pre-Brasiliano transcurrency). Satellite images also permitted to individualize spectral signatures for several magmatic association of granitoids in this region, one of the main purposes of this work. Brasiliano-age granitoids en cornue or mapping of photolineations were used as kinematic markers of Brasiliano shearing. This kinematics is mainly marked in shoshonitic to peralkalic granitoid and in the K-calc-alkalic ones. Granitoids with trondhjemitic affinities (Serrita-type) have all been emplaced in transection region during the main Brasiliano deformation in this region. The Teixeira batholith, Paraíba, has its western portion constituted by leucogranodiorites with probable trondhjemitic affinity. The Palmeira stock, Paraíba, exhibits petrographic similarities with these lithotypes. The central and eastern portions of the Teixeira batholith are formed by shoshonitic amphibole granites to quartz monzonites, intruded in their northeastern portion by peralkalic syenite, the Passagem da Borborema stock (Paraíba). The Brejinho batholith, (Pernambuco), is constituted by porphyritic granites/granodiorites which have been injected by quartz dioritic syn-plutonic dikes. These dikes often present pillow-like structures and acicular apatite which witness a vary rapid cooling of the magma. The chemistry of this batholith resembles somehow that of the Itaporanga batholith (Paraíba), one of the granite-types of northeastern Brazil. The São José do Bonfim calc-alkalic stocks seem to be all cogenetic epidote-bearing granitoids. Amphibole-rich clots are millimetric to centimetric and perhaps represent restites of these magmas. Some represent actinolite-tremolite pseudomorphically replaced early-crystallized pyroxenes.

Melhem, M.M. 1995. Geology and petrology of the granitoid rocks from the Atibaia Massif and neighbourhood, SP state. MSc Thesis, Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1814 1995 Date of presentation: 11/12/1995

Mario Mansur Melhem

Advisor(s): Ulbrich, H.H.G.J.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Morais, S.M. 1995. The Itapeti granit, SP: Petrography, lithochemistry and zircon morphology. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 699 1995 Date of presentation: 20/9/1995

Silvia Maria Morais

Advisor(s): Artur, A.C.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The Itapeti Granite surfaces in an area of approximately 120 Sq Km in the Southwestern part of São Paulo state. It is comet shaped having the major axis concordant to the regional structuration alongside the NE-SW direction. Its shape and position are controlled by the Taxaquara Shear Zone, intruding into to a lower to high grade metamorphic rocks of complex Embu and Gneissic-Migmatitic, with which maintain essential tectonic contact relations. It was identified 8 facies and 1 facie's association in this granite as described hereafter: Gray Porphyroid Granite (3b); Pink Porphyroid Granite (3a); Gray-Pink Porphyroid Granite (3a/3b); Mylonitic Granite (3a); Mylonitic Granite (3b) and Gray Porphyroid Granite (3a) Porphyroid Granite (3b) Inequigranular Quartz Monzonite. Their lithotypes have a gray or pink-gray color, porphyroid texture with subordinated terms inequigranulars and porphyritic. They are either massive or show a variable degree of tectonic foliation that yields prothomylonites to ultramylonites. They are granite (3a-3b) with occasional compositions in the quartz monzonite and quartz syenite fields. Dark micro-granular enclaves occur into the less deformed facie. Mafic minerals are: biotite, titanite, allanite, apatite, zircon and opaques. The chemical analysis indicates a metaluminous calc-alkaline potassic nature. Zircon tipology data confirm the calc-alkaline nature with tendency sub-alkaline.

Mourão, M.A.A. 1995. Phosphates from the Campo Sampaio member of the Espinhaço Supergroup, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M100

DataBase Ref.: 160 1995 Date of presentation: 31/3/1995

Maria Antonieta Alcântara Mourão

Advisor(s): Dardenne, M.A.

Committee:

Jose Carlos Gaspar

- IG/UnB

Alexandre Uhlein

- IGC/UFMG

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SE23

Centroid of the area: ' - 'W

Abstract

Phosphatic rocks have been identified within the sequence of the Espinhaço Supergroup in the southern-central portion of the Serra do Espinhaço Meridional. They constitute a lithological unit which is characterized by a cyclic succession of quartzitic and pelitic, normally carbonatic layers. Stratigraphic position and lithological association permit to correlate it with the Campo Sampaio Member (Fogaça & Almeida-Abreu 1982) or with the Shallow Marine Lithofaciological Association (cf Martins-Neto 1993) at the top of the Sopa-Brumadinho Formation. The basal contact of the phosphatic unit with polymictic metaconglomerates and immature quartzites (Caldeirões Member of Almeida-Abreu 1993) is concordant and sharp. The upper contact with eolian quartzites of the Galho do Miguel Formation is gradational.

The composition of the phosphate mineral corresponds to hydroxy-fluorapatite. Trace elements and REE show patterns similar to marine phosphates. Diverging values are U (not detected) and an enrichment in Ce. Chemically the phosphatic lithologies are similar to marine shales (NASC), especially as concerned to the REE concentrations. A correspondence to marine phosphorites is suggested by the values of Sr and Ba.

Weathering processes led to the formation of Fe- and Al-phosphate at the surface.

Metamorphosed basic rocks cut the phosphatic unit showing intensive shearing and hydrothermal alteration especially near the contact with metasediments. These basic rocks are composed essentially by tremolite, epidote, albite, and chlorite; in zones of most intense alteration the rocks are transformed in phlogopite-talc schists. The chemical composition of less altered rocks is comparable with such of mafic dykes and sills of Mid Proterozoic age which are very frequent in the southern Serra do Espinhaço. The phosphate sedimentation is related to an import transgressive event in the Espinhaço basin which marks the transition from mechanic to thermal subsidence.

The absence of carbonaceous and/or sulfide layers as well as the detrital nature of the sediments suggest the installation of a phosphogenetic system of low productivity which is characterized by periodic influx of siliciclastic material and low flow of organic

carbon. The alternation of arenaceous and pelitic layers is probably related to sea level changes. Arenaceous sequences correspond to prograding successions. Probably the phosphate enriched horizons were formed during periods of intensification of the transgression when bottom currents reworked and lixiviated the sediments with the consequent enrichment of apatite.

Nascimento, F.M.F. 1995. Contribution to the hydrogeologic study of the western portion of the "circuito das Águas", southern of Minas Gerais state, using remote sensing techniques. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1332 1995 Date of presentation: 28/3/1995

Flávia Maria de Fátima Nascimento Advisor(s): Anjos, C.E.

Committee:

Subject of thesis: Remote Sensing

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Negri, F.A. 1995. Geology of the charnockite rocks association in the region of São Francisco Xavier (São Paulo state). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 527 1995 Date of presentation: 16/11/1995

Francisco de Assis Negri Advisor(s): Oliveira, M.A.F.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

In the region of São Francisco Xavier (State of São Paulo, Brazil), varied lithological types occur in an area of approximately 300 km². These rocks belong to a plutonic association interrelated with high-grade terrains and were put side by side with a Metasedimentary Sequence of lower metamorphic grade by a predominantly transcurrent tectonism. The plutonic association is represented by an intrusive Mangerite-Charnockite Body and granitoids, both with porphyroid and locally inequigranular textures, whose main facies are quartz mangerites/ quartz monzonites, charnockites/granites and locally mangerites. Development of hydrated types and tectonism-related hydration signs are evidences of variations in the CO₂/H₂O ratios during crystallization. The multipulse-evolved calc-alkaline/alkali calcic magm probably resulted from partial melting of a granulitic crust with significant contribution and/or contamination of a sialic crust (high ⁸⁷Sr/⁸⁶Sr ratios and Rb, K and Zr variations). The body also presents tardi-tectonic emplacement features. The metamorphosed volcano-sedimentary sequence is composed by alumino-silicate-rich paragneisses interlain, lenses and/or boudins of ultrabasic/basic and intermediate granulites and amphibolitic rocks. The latter present a distinctive geochemistry, which shows that they are not cogenetic with the intermediate granulites of calc-alkaline affinity. The basic granulites seem to have similar origin to the amphibolites, both of tholiitic affinity, the former locally showing characteristics of cumulatic rocks. From the incompatible elements and REE characteristics, these rocks seem to be the product of mantle/mafic melting under distinct conditions. These rocks present relative depletion and/or enrichment of K, Rb and locally Zr which resulted from granulitic metamorphism and local retrorretrometamorphism of the basic types. On the other hand, the intermediate members show gains in these elements, where crustal contamination and migmatization seem to have played an important role. The evolution of the supracrustal sequences must be related to a collisional tectonics of uncertain age.

Nóbrega, V.A. 1995. Petrography and Diagenesis of the Cabo Formation in Cupe Graben (Cabo Basin, State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Alluvial fauns, Diagenetic stages, Pedogenetic features, Bioturbation, Red beds, Secondary porosity

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 602 1995 Date of presentation: 13/2/1995

Viviane Araújo Nóbrega Advisor(s): Ferreira, M.G.V.X.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Cabo Formation in the Cupe Graben in the south of Pernambuco State, belongs to the rift of the Cabo Basin. It represents a siliciclastic sequence, approximately 3.000m thick, composed essentially of continental sandstones, and minor amounts of siltstones and shales of the Early Cretaceous (Aptian). Based on sedimentological descriptions of drill cores, three facies deposited in subaqueous and subaerial environments were identified. The depositional model involved the evolution of coalescent alluvial fans of limited sedimentological development and complex geometry controlled by a pulsatile tectonic regime poorly

developed, followed by volcanic activity, resulting in an interaction between the environment of braided fluvial channels and lakes. The sandstones are classified as arkoses, having a dominantly feldspathic framework. They are texturally submature to mature with low mineralogical maturity have a predominantly diagenetic matrix of the orthomatrix type, and are well to moderately well sorted with a variety of diagenetic minerals. They were submitted to three diagenetic stages that reveal an evolution strongly influenced by the depositional environment, climate, pelitic rocks and probably by interbedded volcanics. Early diagenesis is characterized by very located pedogenic features, bioturbation, feldspar overgrowths, dissolution of unstable minerals, infiltration of clay, the development of iron oxide coatings on detrital grains in an oxidizing environment producing the characteristic red color of the Cabo Formation, precipitation of titaniferous minerals and a moderate to weak mechanical compaction. The mesodiagenesis involves a light chemical compaction, abundant silica precipitation, cementation and substitution by non-ferrous calcite and ferrous dolomite/ankerite, feldspar precipitation with secondary overgrowths, feldspar substitution by clay minerals, disseminated and irregular substitution of carbonates and grains giving rise to secondary porosity by the percolation of corrosive fluids circulating through the pores, feldspar albitization and formation of late minerals including calcite, kaolinite, chlorite, illite, illite-smectite, quartz, ferrous calcite, siderite, pyrite, apatite and anatase, greatly affecting the permeability-porosity of the sandstone. The uplifting of the buried sediments during telodiagenesis may be attributed to the strong tectonic regime operating during the basin evolution. The interstitial fluid might have been strongly influenced by the presence of under-saturated meteoric water that contributed to the dissolution of minerals and cements creating a secondary porosity; it also involves dolomite precipitation, feldspar albitization and silicate argillization. It was concluded that: 1 - the diagenetic evolution of the clay minerals dominated by the regular type (80-90% illite layers) is characteristic of an advanced diagenetic stage; 2 - the deposition has 14% porosity, mainly of secondary origin, and permeability of 18 mD. Porosity over 17% and permeability around 100 mD may be related to telodiagenetic dissolution probably around 500m deep.

Nobre-Lopes, J. 1995. Faciology and genesis of the Bambui group carbonates in the Arcos region, state of Minas Gerais. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 166 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1672 1995 Date of presentation: 16/11/1995

Jane Nobre-Lopes Advisor(s): Coimbra, A.M.

Committee:

Subject of thesis: Brazilian Geology

State: MG 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Okida, R. 1995. Remote sensing techniques as an aid to the zoning of hazard areas subjected to flooding and mass gravitational movements. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1333 1995 Date of presentation: 14/12/1995

Rosana Okida Advisor(s): Veneziani, P.

Committee:

Subject of thesis: Remote Sensing

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Oliveira, G.S. 1995. Stratigraphic analysis of the Devonian of Paraná basin in its northwestern border (Chapada dos Guimarães region - MT state). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1393 1995 Date of presentation:

Gilberto Schubert de Oliveira Advisor(s): Rodrigues, M.A.C.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: MT 1/1,000,000 sheet: SD21 Centroid of the area: ' - 'W

Abstract

Oliveira, J.B. 1995. Correlations between foraminifera and subrecent sediments of the Enseada de Ubatuba, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2227 1995 Date of presentation:

Jeferson Botelho de Oliveira

Advisor(s): Petri, S.

Committee:

Subject of thesis: Sedimentology/Sedimentary Petrology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Oliveira, O.M.C. 1995. Geological, petrographical and geochemical characterization of the Anurí syenitic massif, south of Bahia state. MSc Thesis; Institute of Earth Sciences, University Federal of Bahia - UFBA, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1313 1995 Date of presentation: 19/1/1995

Olívia Maria Cordeiro de Oliveira

Advisor(s): Conceição, H.

Committee: Valdeez Pinto Ferreira - DG/UFPE
 Pierre Sabaté - IG/UFBA
 Manoel Jerônimo M. Cruz -

Subject of thesis: Petrology Applied to Mineral Research

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

The syenitic pluton of Anurí is located in the southeastern portion of the State of Bahia and comprises a 35-kilometer long, N-S elongated body encompassing a total area of 70 km². This body is intrusive in the granulitic rocks of the Atlantic Coast Mobile Belt (southern portion of the São Francisco Craton), which display Archaean to Lower Proterozoic ages. The Anurí body is characterized by three petrographical facies: (i) gnaissic syenites, encompassing approximately 96% of the outcropping rocks of the syenitic body, showing phaneritic to porphyritic textures, with perthitic alkali feldspar, crystallized in a transolus regime; (ii) mafic syenites representing 3% of the syenitic pluton comprising clinopyroxene-bearing cumulate rocks and (iii) final filonian phases (late liquids). The textural relationships point to a crystallization sequence common to the entire pluton, represented by: apatite - Fe-Ti oxides - diopside - alkali feldspar - plagioclase. The chemical mineral data show a co-genetic origin for the different facies, with crystallization temperatures for the magmatic paragenesis over 750°C, and 5 kbar pressures. Re-equilibration at the final crystallization conditions are admitted. Chemically, these rocks are characterized as meta-aluminous ones with silica contents ranging 51,7% to 62%, average alkalinity and potassic character. These rocks are enriched in Ba, Sr, P and REE, showing similarities with potassic suites. The Rare Earth patterns suggest an origin from mantelic sources.

Paula, C.C. 1995. Environmental characterization of the Rio dos Sinos drainage basin. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 862 1995 Date of presentation: 28/9/1995

Cezar de Castro Paula

Advisor(s): Lorandi, R.

Committee:

Subject of thesis: Earth Sciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Pedraõ, E. 1995. Palinostratigraphy and palaeoenvironmental evolution of aptian-cenomanian sedimentary rocks of the Bragança-Viseu and São Luís basins (Brazilian equatorial margin). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1592 1995 Date of presentation:

Elizabete Pedraõ

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Pedrosa, F.J.A. 1995. Sedimentologic and geomorphologic subsidies to the geoenvironmental zoneography of the Recife quadrangle (PE state) (SC.25-V-AIII). MSc Thesis; Institute of Earth Sciences, University of

São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2228

1995

Date of presentation:

Fabio Jose de Araujo Pedrosa

Advisor(s): Fúlfaro, V.J.

Committee:

Subject of thesis: Sedimentology/Sedimentary Petrology

State: PE

1/1,000,000 sheet:

SB25

Centroid of the area:

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'W

Abstract

Penteado, H.L.B. 1995. Organic geochemical characterization of Ponta do Tubarão beds in the northwestern portion of Potiguar basin. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1389

1995

Date of presentation:

Henrique Luiz de Barros Penteado

Advisor(s): Carvalho, I.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Pereira, S.L.M. 1995. Lithostructural controls of the gold mineralization in the Santa Bárbara district, Quadrilátero Ferrífero, State of MG - Mina São Bento mine. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 158 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 13

DataBase Ref.: 2357

1995

Date of presentation: 21/12/1995

Sérgio Luiz Martins Pereira

Advisor(s): Ladeira, E.A.

Committee:

Antônio Wilson Romano

- IGC/UFMG

Carlos Alberto Rosière

- IGC/UFMG

Friedrich Ewald Renger

- IGC/UFMG

Subject of thesis: Geology and Mineral Resources

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

Pinto, C.P. 1995. Petrology of alkaline, calc-alkaline and tholeiitic rocks from the Serra da Mantiqueira range in Minas Gerais state, Brazil. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 143 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 12

DataBase Ref.: 2356

1995

Date of presentation: 14/12/1995

Claiton Piva Pinto

Advisor(s): Costa, A.G.

Committee:

Hans Dirk Ebert

- IGCE/UNESP

Joel Jean Gabriel Quémèneur

- IGC/UFMG

Subject of thesis: Geology and Mineral Resources

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

Porto Alegre, H.K. 1995. Hydrogeochemical aspects in regenerated area of schist minning in São Mateus do Sul, Paraná state - Brazil. MSc Thesis, Department of Geology, University Federal of Paraná; pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 847

1995

Date of presentation:

Henrique Krahenbul Porto Alegre

Advisor(s): Bittencourt, A.V.L.

Committee: Carlos C. Cerri - IGc/USP
Lázaro Valentim Zuquette - IGc/USP

Subject of thesis: Environmental Geology

State: 1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

Queiroz, C.L. 1995. Characterization of the structural domains and the architecture of the Crixás greenstone belt, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pp.

Instituto de Geociências - Universidade de Brasília

Reference: M102

DataBase Ref.: 162 1995 Date of presentation: 13/7/1995

Claudia Lima de Queiroz

Advisor(s): Alkmim, F.F.

Committee: Aripilino Antonio Nilson - IG/UnB
Emanuel Ferraz Jardim de Sá - DG/UFRN

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet:

SD22

Centroid of the area:

' - 'W

Abstract

Crixás greenstone belt is inserted within the Massif of Goiás, Tocantins Province. Supracrustal rocks are found along a main trough of NS approximate strike, with local inflections to the E, NW and SW. This trough is within granite-gneissic bodies, generating a dome-keel-like structure. By means of topographic lineament techniques, it was possible to differentiate Crixás greenstone belt as a distinct morphostructural entity from the adjoining granite-gneissic terrains. Within the greenstone nine homologous zones can be distinguished, albeit little variations of lineament orientations. The results show that positive topographic lineaments express Sn+1 foliation trace, as well as Sn foliation rotation during Dn+1 phase. Three phases of deformation are characterized in the greenstone belt: Dn-1; Dn and Dn+1. Dn-1 is related to the dome and keel framework, as a result of the emplacement of granitoid bodies. Phase Dn generates structures that indicate frontal tectonic movement, from NW towards SE. They are subdivided into Fn folds (hinge around N20-50W strike); Sn foliation (N18E/19NW); Lm/en mineral and stretching lineation (N71E/16) and Flhn faults, described in the Córrego Geral - Meia Pataca Shear and Thrust Belt, by Magalhães (1991). Phase Dn+1 characterized the nucleation of the Ribeirão das Antas/Rio Vermelho Transpressive Corridor, of N50-70W strike, as a result of the EW compression. Structural styles of this phase are Fn+1 folds, Sn+1 foliation (» N09W/44SW), Ln/n+1 intersection lineation (N01W/15) and sinistral ductile shear zones of the Transpressive Corridor. Crixás greenstone belt show a polyphase deformation history. Identified structures are attributed to two tectonic events of Archaean (Dn-1 phase) and Neoproterozoic (Dn and Dn+1 phases).

Réquia, K.C.M. 1995. The paper of the metamorphism and fluid phases in the Salobo copper mineralization genesis, Carajás Mineral Province, Pará state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1749 1995 Date of presentation: 2/6/1995

Karin Cecília M. Réquia

Advisor(s): Xavier, R.P.

Committee:

Subject of thesis: Metallogenesis

State: PA 1/1,000,000 sheet:

SB22

Centroid of the area:

' - 'W

Abstract

The Salobo polymetallic ore deposit, Pará, consists of a primary Cu (Au, Ag, Mo) mineralization, hosted by Archean iron formations of the Salobo sequence. The type 1 (magnetite-fayalite-grunerite±biotite-hastingsite-almandine-greenalite-fluorite-apatite-allanite-tourmaline-titanite-chalcopryrite-bornite-uraninite-graphite-ilmenite-molybdenite-cobaltite-saforite-gold) and type 2 (magnetite-almandine-grunerite-biotite±quartz-tourmaline-chlorite-fayalite-apatite-allanite-graphite-bornite-chalcosite-molybdenite-uraninite) iron formations underwent a progressive high amphibolite facies metamorphism (650°C, 3 kbars, 302=10-20-10-18 bars), followed by a greenschist facies metamorphic-hydrothermal event (347°C, given by the chlorite geothermometry). The Cu mineralization is mostly formed by bornite-chalcopryrite and bornite-chalcosite disseminations, in association with magnetite-rich levels. During the metamorphic evolution of the ore deposit, under high amphibolite facies conditions, the sulfide assemblage was probably represented by a Cu-rich cubic solid solution (i. s. s.), in equilibrium with a bornite solid solution. The evolution of the sulfide assemblage to tetragonal chalcopryrite, stable below 547°C, and to bornite and chalcosite from the separation of the bornite solid solution at 335°C, took place at the greenschist facies retrograde event. The association of the Cu-rich gold (6.98-10.82 wt% Cu) with cobaltite, Cu sulfides and chlorite veins, together with the stability temperature range of Au and cobaltite (T < 400°C), indicates a strong relationship between the greenschist facies metamorphic-hydrothermal event and the fluids involved in the Cu and Au remobilization. Fluid inclusion studies showed that two types of fluid inclusions occur in the Salobo ore deposit: monophasic carbonic inclusions (CO₂ e < 10 mol% CH₄) and aqueous inclusions, subdivided into highly saline aqueous inclusions (30.6-58.4 wt% eq. NaCl) and low to moderate saline aqueous inclusions (1.0-25.8 wt% eq. NaCl). The carbonic fluids are interpreted as fluids generated or re-equilibrated under high amphibolite facies conditions. The bulk composition of the highly saline aqueous fluids (acidic PH, J02=10-30-10-28 bars, ES=0.1-0.01 molal) is estimated around 45 wt % NaCl and 5,3 wt%

MgC12±FeC12±CaC12. Those highly saline fluids seem to be the responsible for both Cu and Au remobilization, via Cl-complexes, during the greenschist facies metamorphic-hydrothermal event and probable sources include formation waters, meteoric waters which became highly saline through retrograde hydration reactions, and magmatic waters. The low to moderate saline aqueous fluids can be interpreted as externally-derived solutions, probably meteoric waters, which caused a progressive dilution of the highly saline fluids. The bulk-density isochores representing the compositional range of the saline aqueous inclusion fluids, combined with the chlorite geothermometry, demonstrated that Cu and Au deposition probably occurred in the range of 334° to 366°C and 3.7-1.4 kbars. The decreasing in the aCl-, caused by fluid mixing, and the subsequent cooling, possibly are the main mechanisms for the metal deposition in the Salobo ore deposit.

Resende, L. 1995. Stratigraphy, petrography and geochemistry of the Pilar de Goiás greenstone belt sedimentary sequence, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M104

DataBase Ref.: 164 1995 Date of presentation: 22/9/1995

Leonardo Resende Advisor(s): Jost, H.

Committee: Marcel Auguste Dardenne - IG/UnB
Eduardo Antonio Ladeira - IGC/UFMG

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The Pilar de Goiás Greenstone Belt is divided into four stratigraphic units, two are metavolcanic and the other two are metasedimentary. The sedimentary units are the Boqueirão and Serra do Moinho Formations. The Boqueirão Formation is made up essentially of chemical sediments, iron-manganese oxides and metacherts at the base, calcisilicate rocks and marbles at the top and a thin layer of chlorite- talc schist at the very top of the section. Its evolution is related to variations in physical and chemical conditions and depth deposition and is controlled by the equilibrium established by the carbonates compensation. The Serra do Moinho Formation is essentially made of detritic sediments, a repetition of carbonaceous shales and quartz-chlorite schists. Its evolution is related to distinct depositional environments in different levels of energy. The petrographic, geochemical and stratigraphic characteristics of these units lead to a better understanding about the composition, the environment and the tectonic and paleogeographic evolution of the Boqueirão and Serra do Moinho Formations. It was also possible to identify members with distinct characteristics in each formation, 6 members in the Boqueirão Formation and 4 members in the Serra do Moinho Formation. The detritic metasediments of the Serra do Moinho Formation tectonically overlay the chemical metasediments of the Boqueirão Formation. The geochemical data from the Boqueirão Formation rocks, associated to the microprobe analysis of tremolites and carbonates, show that these rocks are geochemically correlated and cogenetic. The REE data and carbon/oxygen isotopes analysis show that these chemical rocks were precipitated under equilibrium with the sea water. The petrographic characteristics of the Serra do Moinho Formation show a transitional aquatic environment with different energy levels of deposition, reaching turbiditic and biogenic environment. Its geochemical properties are very similar to equivalent sequences in the Crixás and Guarinos greenstone belts. It is particularly similar to the detritic rocks of the Cabaçal Formation, at the top of the Guarinos Greenstone Belt.

Rocha, W.J.S.F. 1995. Origin of the sulfide mineralizations in the mesoproterozoic sediments of the Chapada Diamantina-BA northern border. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 966 1995 Date of presentation: 19/1/1995

Washington de Jesus Sant'Anna Franca Roc Advisor(s): Misi, A.

Committee: Hartmut Beurlen - DG/UFPE
Maria da Glória da Silva - IG/UFBA
José Maria Landim Dominguez - IG/UFBA

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

Lead, silver-rich sulfide mineralizations in the Galena area, Northern border of the Chapada Diamantina Oriental, have been the object of field and petrologic investigations, including detailed petrographic studies and stable isotopic determinations. Sulfide mineralization is mainly composed of galena, with minor chalcopyrite, occurring as stratabound concentration within dolarenites or as veins or lenses with quartz, crosscutting the carbonate stratification. Stratabound mineralization forms a typical "zebra-type" zone in which clear bands, mainly composed of quartz and feldspar, alternates with dark bands contained moscovite, biotite, K-feldspar, plagioclase, quartz, and barroque dolomite. Galena forms small lenses or veinlets associated with the bands. Tourmaline needles occur within in quartz crystals. Host rocks are basal dolomite lenses within siliciclastic (mainly pelitic) facies of the Caboclo Formation, a platformal marine facies dated $1,14 \pm 0,14$ Ga (Pb/Pb isochronic age). Mineralized zones are associated with extensional faults, aligned NNE-SSW. The mid-Proterozoic sedimentary basin of the Chapada Diamantina Group, that includes the Caboclo Formations, is typically an intracratonic basin that formed under extensional crustal regime.

Aligned structures that limitates the extensional blocks are controlled by the old basement structures. Petrographic investigations supported by major and trace element determinations within the carbonate host rock, indicate a strong process of hydrothermal alteration surrounding the mineralized zone, confirmed by stable isotopic and radiogenic studies (C, O, S e Sr) of the host carbonate and of the sulfide mineralization. Petrographic and geochemical data and the geologic setting of the mineralization, indicate a possible genetic model for the sulfide mineralizations, related with the "sedimentary exhalative" type of deposits (SEDEX).

Sameshima, R.H. 1995. Geometric error in the stock evaluation of the phosphatic residual ore of the Anitapolis alkaline complex-SC state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 105 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1675 1995 Date of presentation: 28/4/1995

Roberto Hisayoshi Sameshima Advisor(s): Yamamoto, J.K.

Committee:

Subject of thesis: Brazilian Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Silva, C. M. 1995. Palynology of the São José dos Campos peats - São Paulo state. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1591 1995 Date of presentation:

Célia Maria da Silva Advisor(s): Cruz, N.M.C.

Committee:

Subject of thesis: Palaeontology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Silva, C.R. 1995. Geology of the Zn, Pb, Ag, and Cd deposit in João Neri - Municipality of Guapiara - SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1953 1995 Date of presentation: 18/12/1995

Cassio Roberto da Silva Advisor(s): Bettencourt, J.S.

Committee:

Subject of thesis: Economic Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Silva, E.L. 1995. Stratigraphic analysis of the Itararé subgroup (P-C) in the Buri-Itapeva region (SP). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 700 1995 Date of presentation: 22/9/1995

Edival Lopes da Silva Advisor(s): Gama Jr, E.G.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This work objectivity of this research were the comprehension of facies and sedimentary enviroment of upper portion of Itararé Subgroup (PC), Paraná Basin, in Buri-Itapeva region, southern outcropping margin of São Paulo State, comprehending the Itaberá, Itapeva, Taquarivaí, Guapiara, Capão Bonito, Buri and Campina do Monte Alegre municipalities. The main steps of the research were:

- (1) facies analysis after litologic and sedimentary structures descriptions of surface and subsurface, the latter, obtained from core data from Instituto de Pesquisas Tecnológicas (IPT) wells for coal prospection in 1982/4;
- (2) the interpretation of geophysics logs from those wells, aiming the caracterization of parasequences, parasequences sets and

facies association

(3) data integration data including sedimentary processes and hydrodynamics, and paleoenvironment interpretation, which were based on facies analysis seismic stratigraphy concepts.

Facies identification and description followed scheme by Eyles et al. (1993). It includes reworked facies under glacial influence, as gravity flows (Middleton & Hampton, 1976; Lowe, 1979, 1982; Pickering et al., 1986), genetic linkage of gravity flows processes and glacial sedimentation (Eyles et al., 1983; Miall, 1983), facies model concepts (Walker, 1984), and resedimentation hydrodynamic processes (Gama Jr. et al., 1989). Diamictites, sandstones and fines-grained (lutites) of glacial origin are recognized in the study area, and exhibit a depositional pattern as attested by BI-3-SP and BI-4-SP logs.

The analysis of facies association allowed to identify two genetically-related facies sets:

(1) a coastal facies tract, which represents subaerial to subaqueous deposition, and comprises cross-bedded and cross-laminated sandstones (St, Sr), and coal;

(2) resedimented facies tract, deposited under relatively deep-water conditions, and encompassing massive, graded and laminated sandstones (Sm, Sg, Sh), massive conglomerates and diamictites (Gm, Dmm), and massive and laminated fines-grained (Fm, Fl), sometimes dropstones-bearing (F-d).

The St, Sr and coal facies are members and remaining of the one deltaic complex, while the second group of facies (sandstones, fines-grained and diamictites) were deposited as submarine fans in an epicontinental sea settling (cohesive debris flows and turbidity currents).

The investigated interval in the area involves the Itararé/Tatui interface, which is particularly important from the paleogeographical and economic viewpoints: it is transitional between the glacial dominated Itararé Subgroup and the non-glacial Tatui Formation. Coastal marine and shelf environments already indicated mildly interglacial conditions (Cabral Jr. et al., 1988). An epinearitic shelf worked as basal-level for submarine fan deposits of Itararé Subgroup. Cohesive debris flows were responsible for the eglaciated currents, while turbidity currents originated turbidites. Two important factors influenced the Itararé sedimentation: the glacial climate and active tectonic settling.

In the complex cenary, marked on the one hand by an intensive tectonic settling, and on the other hand by sea-level rise, associated with glacial periods, will be the sedimentation in the research area. The sedimentation in these areas realize through of pulses, proportioned by the advancement and receding of glaciers, with retrogradational shelf settling below base-level, interrupted by progradational deltaic lobe advances and, representing, locally, a paleogeography of regional dimensions materialized during all Perm-Carboniferous.

Interglacial periods were responsible by implantation of distributary channels from deltaic systems in the coastal areas, proportioning the deposition of St, Sr and coal facies. On the other hand, glacial times were marked by glacial-feds distal shelf submarine fans deposition (massive, graded and laminated sandstones, massive conglomerates and diamictites, massive and laminated fines-grained, and dropstones-bearing (F-d)).

Silva, L.G.T. 1995. The geochemical study of the weathering cover soil occurring in Marabá-PA region: An environmental management contribution. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 677

1995

Date of presentation: 4/9/1995

Luiz Guilherme Teixeira Silva

Advisor(s): Rueda, J.R.J.

Committee:

Subject of thesis: Geosciences and Environment

State:

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

A geochemical study was done in order to characterize and map (on a scale of 1:100,000), the weathering cover - WC (solum+saprolitic) which occur in an area of about 2 thousand square kilometers in Southeastern of the Pará state, using techniques for the remote sensing applied to the geopedological mapping, which was based upon preliminary interpretation of TM-5 Landsat satellite images, morphological description of the area, the result of physical analysis (granulometric analysis and the real and bulk densities), chemical analysis (total and exchangeable), and mineralogical analysis of fractions of sand, silt and clay of the twenty profiles. In the geological characterization was used the geochemical balance calc (isovolumetric and isochemistry) and weathering index, for was relationships: age, degree of development, weathering stage and potential fertility of the soil (based on the total chemical analysis, granulometrical analysis and mineralogical analysis). The WC shows the shallow and very weathered-leached soils, in which the lithotypes and the stability of the landscape are control factors of processes as the latosolization and podzolization (specially) and a Kaolinite represent the mineral in the course of neoformations and transformations/translocations, in which the hydrolysis totally removed the bases (on the monosialitization) and the contribution of the bisialitiques elements and the iron (hematites) is present in everything environment, domain on the sialferrilitic and ferrilitic WC and control of a hematitic soil cover on the more stable and old surfaces. Relating the mineralogical, physical and chemical characteristics of the WC with the edafological management we can say that the presence of the mica in the schist profiles and the ironmagnesium minerals in the cristalogical rocks lithotypes contribute to the potential fertility of the WC. But, the presence of the gravel volumes in the topsoil represent a great physical limitation for its agricultural utilization. The utilization of the total chemical analysis and the geochemical balance in the evaluation of the soil potential fertility is recommended when the material to be analysed presents weathering minerals.

Silva, W.L. 1995. Study of fluid-rock interaction in São Francisco auriferous deposit, Currais Novos, northeastern Brazilian: Structural and metamorphic aspects. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 526 1995 Date of presentation: 10/11/1995

Wanilson Luiz Silva Advisor(s): Legrand, J.M.

Committee:

Subject of thesis: Regional Geology

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

A mica schist sequence of the Seridó Formation in the domain of the São Francisco/RN Deposit - Northeastern Brazilian (Fig. 1), a typical auriferous mineralisation associated with sulphides in quartz veins, was mapped on a scale of 1:10,000. The structure of this deposit is marked by a previous foliation Sn+1, parallel to the So sedimentary, that was crenulated/folded and developed, in the axial plane, a new foliation Sn+2 at a low angle. Thrusts with NNE transports occurred in these structures. Progressive inflections over Sn+2 gave rise to a foliation at high angle (Sn+3) over which strike slip shear zones developed with right-handed and finally left-handed, kinematics. The trend defined by Sn+2 and Sn+3 has a NE direction, displaying pods, and the dip of the foliation occurs between 10 and 70 SE (with a major incidence at 45 SE) due to the progression between the low and high angle styles. During the strike slip shear zones, the formation of quartz veins parallel and sub-parallel to the Sn+3 occurred which, in a strip of the São Francisco shear zone, form the support of the auriferous mineralisation. In this structure, a regional metamorphism is printed that characterizes the biotite-garnet zone. The intense participation of hydrothermal fluids during the evolution of the deposit, promoted the crystallization of aluminous index minerals over a protolith at the biotite-garnet zone level. These hydrothermal fluids, that caused hydrogen metasomatism in the mica schist, promoted the development of metamorphic zones at the cordierite-andalusite level and finally, a sillimanite-muscovite zone in the shear zone domain. It is in this last context that the mineralized veins occur. Geothermometric and geobarometric studies in all metamorphic zones presented consistent P and T values with a metamorphic evolution in isothermal and isobaric conditions (576 25 C and 3500 500 bar). Fluid inclusion data show the existence of carbonic and aquosaline fluids during the metamorphic process, with an expressive oscillation in the quantity of dissolved salts in the latter. These studies also revealed the presence of CH₄ in the auriferous veins, characterizing the reduced state of the mineralizing fluid. The isobaric and isothermal conditions for the metamorphic zones of the deposit, lead to a model where the activity of the chemical elements during metamorphism was one of the main factors for the crystallization of the aluminous index minerals. In this process, the participation of biotite and plagioclase was an important base for the reactions that promoted the formation of cordierite, staurolite, andalusite, sillimanite and muscovite. It is in this metamorphic context that the mineralizing process probably occurred in amphibolite facies conditions. The chemical equilibrium established between the sulphides and the biotite-garnet geothermometer, among other factors, confirms this by showing a consistent temperature with a metamorphic peak. Geochemical data of trace elements (e.g. Au, Cu, As, Bi, among others) show that the mineralizing event is a consequence of the metamorphic process that caused progressive steps in the concentration of gold.

Simplício, M.A.R. 1995. The employ of geo-referenced geographic system (GIS) in the identification of mafic-ultramafic bodies of the Uauá region - Bahia state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1761 1995 Date of presentation: 18/9/1995

Maria Araguacy Rodrigues Simplício Advisor(s): Silva, A.B.

Committee:

Subject of thesis: Metallogenesis

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The analysis based on Image Digital Processing and Geo-Referenced Information System (GIS) v employed to co-register and analyse the data base, made up by Landsat/Tm images, aerogeophysics á geological and topographic maps from Uauá region, northeastern of Bahia, Brazil. This study attempts to ider the known mafic-ultramafic bodies and to contribute for localization of other bodies eventually not found, sir these bodies are important host of mineral resources, good indicator of geological environments and excell subjects for the magmatic processes study, in continental regions. In this way, it was used the integrator geological, aerogeophysics and Landsat/TM data, through the methodology of Geo-Referenced Informal Systems (GIS). To reach the objective, the following methodology was adopted: initially, the geological study of region was done, with emphasis in the geotectonics, together with a review in previous works, specially ones related to mafic-ultramafic rocks and their mineral occurrences associated. The next phase consistec analysis of the available data, that were transformad to a digital format compatible with the GIS us Operational error techniques involved in the data capture process were employed in this phase. The image digital processing constitutes an additional source of information, revealing import subsidies for the field work, becoming it easily to visualize the spectral features, geological structures showing a better geotectonic compartment of the area. The behavior of aerogeophysics data led to characterization of magnetic units, showing the presence of mafic terrain, constituting an important instrum to the geological mapping. It was possible to show the granitic rocks occurrences in some regions through most elevated radiometric levels of U, K e Th.

From these data, anomalous areas were defined and the subsequent fusion selected areas of ma ultramafic rocks with favorable geological factors to mineralizations, suggesting geological investigations in next future.

Sobreira, M.N.M. 1995. The Serra da Lagoinha High K-Calc-Alkalic Batholith (State of Paraíba): Petrology and Geochemistry. MSc Thesis, Departament of Geology, University Federal of Pernambuco, pp.

Calc-alkalic granite, Oxygen isotopes, Magma mixing, Petrology, Geochemistry

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 631

1995

Date of presentation: 31/3/1995

Maurício de Nassau Matos Sobreira

Advisor(s): Mariano, G.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The Serra da Lagoinha batholith (SLB) is located in the tectonic province of Borborema, northeastern Brazil, emplaced at the border of the Cachoeirinha-Salgueiro fold belt along a major sinistral transcurrent shear zone (Boqueirão dos Cochós) which connects the Patos lineament to the north and the Pernambuco lineament to the south. Geological mapping at the scale of 1:70.000, allowed the identification of four lithologic domains: felsic porphyritic (monzonite, qz monzonite, qz monzodiorite, granite to granodiorite); high K-dioritic (biotite qz diorite to tonalite); hybrid (monzonites and biotite qz diorites) and biotitic (monzonites and biotite qz diorites). Field evidence indicates that these two latter lithologic domains were produced by the coexistence and mixing of the two magmas of contrasting compositions, the felsic porphyritic and high K-dioritic. Chemical analysis indicate that most of the samples are metaluminous, with the exception of two samples of the felsic porphyritic domain which are slightly peraluminous, with normative corundum of 0.6 and 1.08 respectively. The mafic rocks are enriched in Nb, Ba and Zr and LREE in relation to the felsic porphyritic rocks. The REE patterns for mafic and felsic rocks are similar and characterized by enrichment in the LREE relation to the HREE, with the (La/Yb)_N varying from 22.4 to 36.1 for the felsic porphyritic rocks and from 27.2 to 58.9 for the mafic rocks. The geobarometric equations based on AlT in amphibole proposed by Hammarstrom and Zen (1986), Hollister et al. (1987) and Johnson and Rutherford (1989) were used and their results compared. The first two equations showed reasonable agreement and the values for pressure obtained by use of the equation proposed by Hollister et al. (4.5 kbar) are considered as good approximation of the pressure of amphibole and plagioclase as proposed by Blundy and Holland (1990) gives a temperature of 742°C. Using the pressure and temperature data it was possible to determine a geothermal gradient for the area of 54.9°C/km. Oxygen isotope data for whole rock show identical values for the mafic (δ¹⁸O = +8.0‰SMOW) and felsic rocks (δ¹⁸O = +8.8‰SMOW). The quartz corrected values determined for the felsic porphyritic rocks averaged δ¹⁸O = 7.8‰SMOW, and are very close to the whole rock values, suggesting that these values are primary. The geochemical data obtained so far for the SLB do not suffice to establish the petrogenetic process of this pluton, but the field evidences are the most important features suggestive of coexistence and local mixing of magmas of contrasting compositions. The emplacement of the pluton along a major shear zone could have been responsible for the intense mechanical and chemical interaction between magmas of contrasting compositions.

Souza Neto, J.A. 1995. Geological studies of the Itajubatiba (Paraíba state) gold mineralization: Tecto-metamorphic evolution, metassomatism and fluids characterization. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 698

1995

Date of presentation: 7/8/1995

João Adauto de Souza Neto

Advisor(s): Legrand, J.M.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This work embraces a geological mapping (1:25.000), at the Itajubatiba Au deposit, with Marbles and Mica Schists of Seridó Group, variables Migmatites and Granitoids Rocks (alkaline). The area is situated in the Patos Lineament Zone (E-W), where exists a transpressive tectonic with two tectono-metamorphics phases: Dn/Mn e Dn+3/Mn+3. The last phase occurred progressively in 04 (four) pulses. Between the last pulses, there was an important metassomatism (Mx), that originated calcissilicate rocks from marbles, metatonalites and metassienogranites, and, probably, originated the Au mineralization bearing-calcissilicate rocks. The Geochemical analyses of metassomatic transformations, suggest a gain in Ca⁺⁺, Mg⁺⁺, Fe⁺⁺, Cr e Ni, and a lost in Si and K, to the calcissilicate rocks protholites. The fluid inclusion study suggests a fluid composition with Ca and Mg, to the quartz-sulfides-calcite veins of mineralization, and to the quartz from calcissilicate rocks matrix, formed between 350 a 480°C and 4 Kb. The gold was deposited, possibly, at the same moment of veins, from a fluid composed by thyo-complexes, unstable by physico-chemical factors.

Tamara, G. 1995. Contribution to the study of Barreiras group in the Vitória (ES state) metropolitan area. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1392

1995

Date of presentation:

Gustavo Tamara

Advisor(s): Amador, E.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: ES 1/1,000,000 sheet: SF24

Centroid of the area: ' - 'W

Abstract

Tanno, L.C. 1995. Geology and technological characteristics of the smectitic clays of Franca region - SP state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1657 1995 Date of presentation: 28/9/1995

Luiz Carlos Tanno Advisor(s): Carvalho, A.

Committee:

Subject of thesis: Brazilian Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Teixeira, A.L. 1995. Generator environments of the Eleutério basin sediments. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2226 1995 Date of presentation:

Antonio Luiz Teixeira Advisor(s): Petri, S.

Committee:

Subject of thesis: Sedimentology/Sedimentary Petrology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W
MG

Abstract

Teles, M.S.L. 1995. Study of clay minerals of the Araripe, Rio do Peixe, Barro and Padre Marcos basins in northeastern of Brasil and organic geochemistry of the Santana and Rio da Batateira formations in the Araripe basin. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1391 1995 Date of presentation:

Maria do Socorro Lopes Teles Advisor(s): Berthou, P.Y. Machado Filho, I.A.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: PE 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W
PB
CE

Abstract

Theodoro, S.M.C.H. 1995. Sedimentary environment of the Ribeirão das Antas formation, Crixás group, Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M105

DataBase Ref.: 165 1995 Date of presentation: 25/9/1995

Suzi Maria de Córdova Huff Theodoro Advisor(s): Jost, H.

Committee: Carlos José Souza de Alvarenga - IG/UnB
Newton Souza Gomes - DEGEO/UFOP

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The petrographic, textural, structural, and compositional features of the detrital and chemical metasedimentary rocks of the upper stratigraphic portions (Ribeirão das Antas Formation) of the Crixás greenstone belt, Central Brazil, are proposed to be grouped into three Members, as follows: (1) the Volcanosedimentary Member, made up of carbonaceous phyllites with volcanoclastic fragments probably pumice in nature; (2) the Carbonatic Member, which consists of massive to laminated marbles, with oncoids or lects of probably stromatolites, respectively deposited in barriers and tidal and inter-tidal environments, and local carbonate

sedimentary breccias; (3) the Siliciclastic member, comprising rhythmically layered metarenites, metasilstones, and metashales, with plane-parallel and cross-lamination, normal graded bedding, and locally also fine-grained intraformational metaconglomerates, deposited by distal turbidity currents. Sedimentation took place under two stages. The older consists of organic muds deposited in an anoxic environment subdivided into a southwestern portion with pyroclastic contribution of pumice and a northeastern portion which gradually evolved into a shallow carbonate shelf. The younger is represented by the distal turbidites, deposited over the underlying Volcanosedimentary and Carbonatic members by an unconformity. The strata succession, paleoenvironmental evolution, and primary sedimentary structures indicate that the stratigraphy of the sequence is entirely overturned, which in turn is due to deformation followed by folding and thrusting. Geochemical data indicate that (a) the composition of both carbonaceous phyllites and metaturbidites may be explained by a source area composed of metabasalts, with subordinate felsic and minor ultramafic rocks; (b) no major compositional differences occur between the detrital rocks of both units and among these detrital metasedimentary rocks of the easterly Guarinos greenstone belt, and (c) noted minor compositional differences between detrital rocks of both belts may be explained by paleogeographic means.

Viana, M.G. 1995. Geochronology and geochemistry of the orthogneissic and metavolcanic rocks from the Mara Rosa region, northern Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M097

DataBase Ref.: 157 1995 Date of presentation: 3/3/1995

Maria das Graças Viana Advisor(s): Pimentel, M.M.

Committee: Nilson Francisquini Botelho - IG/UnB
Jean Michel Lafon - CG/UFGA

Subject of thesis: Regional Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The Mara Rosa Volcano-Sedimentary Sequence is located in the northern part of Goiás State, and comprises metavolcanic (mafic to felsic) and metasedimentary rocks. The sequence consists of three belts, separated by orthogneiss terrains. The metamorphic rocks are intruded by post-orogenic granitic and gabbro-dioritic plutons. These rock units are part of the so called "Maciço Mediano de Goiás", in the Tocantins Province, central Brazil. U-Pb isotopic data for zircon fractions separated from metavolcanic and orthogneissic rocks, suggests rock-forming events between 862-856 Ma. Deformational, metamorphic events, and intrusion of syn-tectonic bodies happened at ca. 630 Ma., according U-Pb isotopic data for zircon and sphene fractions from metavolcanic and syn-tectonic dioritic rocks. Rb-Sr geochronological data for orthogneissic, metasedimentary and mylonitic rocks indicates the closure of Rb-Sr isotopic system at ca. 600 Ma., after isotopic re-homogenization. These rocks show isochronic ages of respectively 600 ± 136 Ma., 559 ± 161 Ma. e 603 ± 135 Ma.. The $87\text{Sr}/86\text{Sr}$ ratios are lower than 0.705 (0.7032, 0.7045, 0.7035, respectively). A post-tectonic dioritic body shows a Rb-Sr age of 496 ± 160 Ma. and initial $87\text{Sr}/86\text{Sr}$ ratio of 0.7048. Sm-Nd data, from metavolcanic and orthogneissic rock samples, indicate positive ϵNd (T) ($+3.7$ e $+4.6$) and model ages (TDM) of ca. 1.0 Ga. The syn-tectonic dioritic body presented also a positive ϵNd (T) value ($+2.1$) and TDM of ca. 1.0 Ga. The analysis of the Amador granite, a post-tectonic pluton (< 600 Ma.), indicates Nd isotopic composition comparatively depleted in ^{143}Nd , with a negative value of ϵNd (T) (-2.1) and TDM of 1.2 Ga. Nd and Sr isotope characteristics of the Mara Rosa rocks suggest short crustal residence for the precursors of these rocks. The "primitive" character of the parental magmas, with an important contribution of a depleted mantle-derived component, is indicated by the positive values of ϵNd (T). Geochemical characteristics of the Mara Rosa rocks were investigated to assess the petrogenesis of parental magmas and its probable tectonic setting of emplacement. The geochemical characteristics showed by orthogneisses suggest tonalitic composition for their protoliths, calcic to calc-alkaline nature and support a origin in a subduction zone, probably associated with an intraoceanic island arc setting. Granitic and gabbro-dioritic post-tectonic bodies show the bimodal character of the post-orogenic magmatism. These rocks also show geochemical characteristics of arc rocks. The Mara Rosa amphibolites composition is similar to modern subduction zones basalts, island-arc type. The felsic metavolcanics are geochemically similar to primitive low-K₂O suites of modern immature island arcs. The gneissic rocks of Mara Rosa region show geochemical, isotopic and geochronologic characteristics very similar to the Arenópolis-Iporá rocks, in western Goiás. This suggests a similar tectonic setting for the origin of the igneous precursors, in the course of a crustal accretion event, during the Neoproterozoic, in the central part of Brazil. An ensimatic model evolution is suggested to the Mara Rosa terrains.

Weissberg, I. 1995. Rehabilitation study of soils in bauxitic mined areas in Pocos de Caldas (MG state) : An environmental approach and a technical contribution to optimization. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2225 1995 Date of presentation:

Iara Weissberg Advisor(s): Toledo, M.C.M.

Committee:

Subject of thesis: Pedology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Zaine, J.E. 1995. Geology of the Rio Claro formation in the Rio Claro sheet (SP). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 696 1995 Date of presentation: 20/4/1995

José Eduardo Zaine

Advisor(s): Hasui, Y.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The Rio Claro Formation of Cenozoic age has its type section in the Município of Rio Claro, São Paulo, where it supports thick sandy soils on uplands well above the valley of the Corumbataí River. The formation was studied over an area of 600 km², five sections were described in detail and structural studies were made of 1.269 lineaments and some of its outcrops. These studies were made because much of the city of Rio Claro is built on this formation. Characteristically, the Rio Claro Formation occurs on large flat interfluvies 50 to 60 m above the Corumbataí River at elevations between 580 to 670 m, has a distinct disconformity at its base, and consists predominantly of fine to coarse sand with only a few thin beds of gravel and clay. Colors range from white to yellowish and redish at depth. Maximum thickness appears to be about 40 m, although thicknesses of 25 to 30 m are more typical. Fossils consist mostly of fragmental, poorly preserved plant remains, in clay lenses. Newly plants fossils described are very important to paleobotanical knowledge of this sedimentary unity. Structural analysis of faulted and fractured outcrops reveals two different tectonic events - the first was tensional and the second transcurrent. These are thought to indicate a pre Miocene age. The geological and structural knowledge on Rio Claro Formation will be enable to a better planning and management on soil employments in the Município of Rio Claro. So, more wells could be very helpful to a study foccused mainly on buildings, underground water and mining.

Almeida, M.E. 1996. Geology, petrography and geochemistry of the Capivara leucogranite, Itamonte, southern of Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1005

1996

Date of presentation:

Marcelo Esteves Almeida

Advisor(s): Junho, M.C.B.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

Os migmatitos e leucogranitos a leste de Itamonte (MG) foram gerados pelo processo metamórfico-anatético, que afetou os metassedimentos da base do Ciclo Deposicional Andrelândia I. A sequência migmatítica representa dois estágios distintos de fusão parcial, marcados por tipos metatexiticos e diatexiticos. O biotita gnaiss migmatítico (metatexitico) preserva em parte as características ré-migmatização, enquanto o leucognaisse migmatítico (diatexitico heterogêneo), gerado sob condições de fusão parcial mais avançada, possui estruturas pré-migmatíticas bastante destruídas. Anfibólitos e muscovita-quartzo xisto constituem resíduos do processo anatético. O leucogranito Capivara apresenta três fácies distintas, denominadas de Ribeirão da Prata, Dois Irmãos e Monte Belo. Este corpo possui contatos intrusivos, concordantes e gradativos com esta sequência migmatítica, possui composição monzogranítica e demonstra, em planta, forma lenticular, alongada na direção NE-SW. Apresenta textura equigranular à levemente porfírica, e associação mineral essencial composta por quartzo, microclina (microperítica), plagioclásio (albita-oligoclásio), muscovita, biotita, turmalina, granada; e acessória formada de zircão, apatita, monazita e minerais opacos. A fácies Ribeirão da Prata corresponde a um granito migmatítico ou diatexitico homogêneo, e marca a transição entre o leucogranito Capivara e as rochas encaixantes migmatíticas. É caracterizada por apresentar aglomerados de biotita e porções com textura migmatítica preservada. As fácies Dois Irmãos e Monte Belo correspondem, respectivamente, a muscovita-biotita e biotita-muscovita leucogranitos, apresentando caráter intrusivo e associações minerais semelhantes, diferindo entre si, apenas, em alguns aspectos texturais e químicos. A geração do magma leucogranítico ocorreu no ápice do metamorfismo sin-Dn (principal fase de deformação), intrudindo posteriormente estruturas relativas a Dn+1. A sudeste, o leucogranito Capivara é bordejado por biotita granito porfírico, denominado granito Maromba, que é caracterizado por apresentar-se bastante deformado, com caráter porfírico conspicuo e matriz enriquecida em biotita. Os diagramas químicos discriminativos apontam para uma gênese envolvendo fusão crustal, em condições PT similares às observadas em ambientes de colisão continental ou de subducção do tipo-A. A origem do leucogranito Capivara e das rochas encaixantes migmatíticas, baseada na fusão parcial de material crustal, encontra embasamento nas relações de campo e petrográficas. Constata-se uma gradação contínua, que segue uma sequência baseada no aumento crescente proporcional de fusão: biotita gnaiss migmatítico (metatexitico) @ leucognaisse migmatítico (diatexitico heterogêneo) @ Fácies Ribeirão da Prata (granito migmatítico ou diatexitico homogêneo) @ Fácies Dois Irmãos (muscovita-biotita leucogranito) @ Fácies Monte Belo (biotita-muscovita leucogranito).

Alvarez, V.A.V. 1996. Geology and Metallogeny of the Yauricocha Mine (Cu-Pb-Zn-Ag), Central Peru. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M106

DataBase Ref.: 2502

1996

Date of presentation: 29/1/1996

Victor Adolfo Valdivia Alvarez

Advisor(s): Dardenne, M.A.

Committee:

Raul Minas Kuyumjian

- IG/UnB

Jorge Silva Bittencourt

- IGc/USP

Subject of thesis: Prospection and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

In order to investigate the controls of the Cu-Pb-Zn-Ag mineralization of the Yauricocha District, Peru, field, petrographical, geochemical lead isotope studies were carried out. The Peruvian territory is morphologically divided, in five zones, roughly in the northwest-southeast. These zones are: Coastal, Western Cordillera, Altiplains, Eastern Cordillera and Subandean. The Yauricocha District is situated in the eastern portion of the Western Cordillera zone, Central Peru. In that area, Paleozoic and Mesozoic rocks are cut by NW-SE longitudinal regional faults and by N-NE transversal faults, which controlled the emplacement of granodioritic intrusive rocks of Cenozoic age. These stocks correspond to the so-called "isolated intrusions", parallel to the eastern edge of the dominantly Mesozoic Coastal or Andean Batholith. At the Yauricocha District, the fracturing pattern defines a duplex structure with secondary faults of Yauricocha-type, which control the location of the granodioritic stocks. It is suggested a sub-volcanic environment for the emplacement of the stocks, which have generated large amounts of high s fluids. The Yauricocha Fault, its secondary fractures and the intrusive-derived fluids were responsible for the ore bodies geometry, mainly with pipe forms. These pipes are located at the intersection of secondary fractures and present a clear structural zoning, apparently controlled by the fluid-pressure. The high s of the fluids accounts for the pyrite enrichment of the pipe ore bodies, as well as for the high contents of sulfur in some minerals (bornite, tennantite and tetrahedrite). The district zoning is characterized by an internal zone of enargite, followed by an enargite-chalcopryrite-bornite zone, enveloped

by a sphalerite-galena zone, which is in turn involved by a peripheral silver zone.

Lead isotope data from galena indicate clearly a primary source for the ore bodies, derived from the stocks and their apophysis, with restricted contribution from the sediments. These data agree perfectly the regional lead isotopic zoning from west to east.

Araújo, D.P. 1996. Metasomatism in the Catalão I Carbonatitic Complex: Implications for carbonatite melt composition and for metasomatism in the upper mantle. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M109

DataBase Ref.: 169 1996 Date of presentation: 5/7/1996

Débora Passos de Araújo Advisor(s): Gaspar, J.C.

Committee: Roberto Ventura Santos - IG/UnB
Mabel Norma Costas Ulbrich - IGc/USP

Subject of thesis: Mineralogy and Petrology

State: GO 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

The Catalão-I Carbonatite Complex is located in the southeast of the Goiás State, 15 Km far from Catalão city, Goiás. The Complex was emplaced in the Upper Cretaceous (~ 85 Ma) in metasedimentary rocks from de Araxá Group (Upper Proterozoic). The Complex is comprised of dunites and clinopyroxenites (primary ultramafic phases) that were strongly altered to phlogopititic and sodian clinopyroxenitic rocks, due to multiple phases of carbonatite intrusions. A carbonatitic breccia dike cuts the complex sampling a varied of its lithotypes. The investigation of textures, mineralogical associations, mineral chemistry (olivine, pyroxene, phlogopite, carbonate, spinel, ilmenite, amphibole, apatite and potassic feldspar) and whole-rock chemistry (major, trace and rare earth elements) have supplied evidences for the carbonatitic metasomatism in the Catalão-I Complex. This process was responsible for the alteration of dunites and phoscorites to phlogopitites and of clinopyroxenites to phlogopitites and sodian clinopyroxenites. The phlogopite's Fet/(Fet+Mg) ratio distinguishes phlogopitites originated after olivine-rich rocks (Fet/(Fet+Mg) = 0.02 to 0.15) from those originated after pyroxene-rich rocks (0.15 to 0.48). The carbonatite melt of Catalão-I is rich in K, Na, H₂O, F, Cl, and P. The chemical signature of secondary and carbonatite rocks is characterized by Ti, Rb, and Sr negative anomalies, by Ba positive anomaly, and by the high La/Yb ratio.

The carbonatite metasomatism in the upper mantle, studied through mantle xenoliths, was compared to this process in crustal carbonatite complexes. It was found that the chemical signatures (trace and rare earth elements) of xenoliths, that were equilibrated with carbonatitic melts, are similar to those found in the Catalão-I Complex. In the upper mantle, the occurrence of K-rich carbonatite melts has been demonstrated by experimental data (Thibault et al., 1992 and Sweeney, 1994) and by diamond fluid inclusions (Schrauder and Navon, 1994). In the Catalão-I Complex, phlogopite is the main product of the reaction between carbonatite melts and ultramafic rocks. It is suggested here that similar reactions take place in peridotitic mantle assemblages resulting in phlogopite formation, which has been usually ascribed to metasomatism by silicate melts. The role of K in mantle metasomatism should be carefully evaluated since carbonatite melts may also be responsible for potassic assemblages in enriched xenoliths.

Araújo, R.N.G. 1996. Geochemistry study of the contamination by urban waste and its propagation in the water resources of Distrito Federal, Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M107

DataBase Ref.: 167 1996 Date of presentation: 26/6/1996

Ricardo Natal Gonçalves de Araújo Advisor(s): Pires, A.C.B.

Committee: Geraldo Resende Boaventura - IG/UnB
Sérgio Koide - ENC/UnB

Subject of thesis: Regional Geology

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

Brasília's landfill has been receiving the waste of the whole Federal District for about 25 years. Today, nearly 1200 tons of solid waste are deposited there daily. The lack of any environmental protection measure, such as the impermeabilization of the cells, the drainage and the treatment of the leachate, exposes the aquifer to the contamination derived from the landfill. This region is inhabited by approximately 2500 people who use this water for their personal consumption. Additional concern comes from the fact that the landfill is located next to Brasília's National Park, and to the streams Vicente Pires and Acampamento. The purpose of this work is to detect the damages caused to the superficial and subterranean water resources in the vicinity of Brasília's landfill. Twelve monitoring wells were installed and seven cisterns were chosen, besides the assessments in the stream mentioned above, to analyse quality of the water in the landfill region. A topographic survey of the wells and cisterns was conducted aiming the definition with a higher accuracy of the contamination plum behaviour. The analyses covered a period of eight months, from September 1995 to April 1996.

A total sum of 2200 determinations involving 22 elements and 4 composites as well as conductivity measures, total dissolved solids and pH were obtained. The results of the chemical analyses showed that the waste deposit causes the mineralization increase in the ground water near the landfill: the conductivity in the region varied from 3.7 to 1,300 mS/cm. It was noticed,

through linear correlation, that the composites and elements ammonia, chloride, nitrate, phosphorus, manganese, magnesium and calcium contributed to the increase of conductivity of the ground water in the region. The ammonia and chloride turned out to be particularly good indicators of the waste pollution.

The lateral dissemination of the contaminants is limited to its location and does not reach more than 100 meters in the region were was studied. No ground water contamination was detected affecting the streams. It was observed that elevation of the ground water causes the increase of the mineralization of the water, due to increase in leachate mobilisation.

Beisl, C.H. 1996. Remote sensing, geology, gravimetry and topography data integration for the study of the structural framework in a section of the northeastern compartment of the Recôncavo basin. MSc Thesis, National Institute of Spatial Research, INPE, pp.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1331

1996

Date of presentation: 12/12/1996

Carlos Henrique Beisl

Advisor(s): Almeida Filho, R.

Committee:

Subject of thesis: Remote Sensing

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

Bertolo, R.A. 1996. Relationships between rivers and sedimentary aquifers of the São Paulo basins in area of intensiv underground water exploration. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 108 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1676

1996

Date of presentation: 9/4/1996

Reginaldo Antonio Bertolo

Advisor(s): Ellert, R.

Committee:

Subject of thesis: Brazilian Geology

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

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Abstract

Bessa Jr, O. 1996. Stratigraphy and sedimentation of the Cenozoic continental deposits of the coastal plane of the Paraná state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1951

1996

Date of presentation: 17/10/1996

Oduvaldo Bessa Jr

Advisor(s): Suguio, K.

Committee:

Subject of thesis: Sedimentology/Sedimentary Petrology

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

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Abstract

Bonacim, E.A. 1996. Dynamics of Tranqueira area hydrogeologic karstic system, Metropolitan region of Curitiba. MSc Thesis, Department of Geology, University Federal of Paraná; pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 843

1996

Date of presentation:

Elaine Aparecida Bonacim

Advisor(s): Rosa Filho, E.F.

Committee:

Subject of thesis: Environmental Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

Borges, S.V.F. 1996. Geology of the medium Curimatau river region (PB state) and the emplacement of Dona Inês granite associated to transcurrent Transbrasilian shearing zones. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 139 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1215 1996 Date of presentation: 7/3/1996

Sergio Vieira Freire Borges Advisor(s): Brito Neves, B.B.

Committee:

Subject of thesis: Tectonic and Structural Geology

State: PB 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

Abstract

Brito, M.F.L. 1996. Geology, Geochemistry and Petrology of the Sítios Novos Granitic Complex, Sergipe Fold Belt. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Magmatic epidote, Granites, Geochemistry, Sergipe Fold belt

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 635 1996 Date of presentation: 4/10/1996

Maria de Fátima Lyra de Brito Advisor(s): Silva Filho, A.F.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet: Centroid of the area: 09 54 's - 37 35 'W

Abstract

The present thesis describes the geologic, geochemical and petrologic features of the Sítio Novo Granitic Complex (CGSN), situated in the following geographic coordinators: 09048'09" and 10°S and 37°18'09" and 37°52'09" W. This complex has an elongated form with NW-SE and ENE-WSW trends, occupying an area of about 500 km. It is located within the Sergipe Fold belt between the Poço Redondo (migmatites), Marancó (metavolcanic sediments and Serra Negra granitoid) and Macururé (metasediments) tectonic domains. The CGSN is composed of the suites Rio Jacaré (SRJ) and Sítios Novos (SSN). Field relationships indicate that SRJ is a composite intrusion represented by the hbl-biotite-quartz monzodiorite to medium equigranular granodiorite facies and medium equigranular and/or medium-coarse porphyritic hbl-biotite granodiorite, this latter with normal zonation characteristics. In this suite microgranular mafic enclaves (EMM), melanochromatic enclaves (EM) and a melanochromatic (SM) and leucocratic stock as well as leucocratic dikes and pegmatites dikes, were identified. The SSN is a late intrusion containing SRJ xenoliths, and being composed of the muscovite-biotite monzogranite facies. The CGSN is represented by rocks with SiO₂ contents 46, 75-74, 54%, K₂O/Na₂O ratios near 1, and FeO/MgO ratio 0.9-2.5. It is composed of metaluminous (SRJ) to slightly peraluminous (SSN) rocks belonging to the high-K calc-alkaline series. Geochemistry of major and trace elements indicates: (1) the majority of SRJ facies are cognetic between them, generated by partial fusion of rocks with compositions similar to lower crust which suffered contamination of upper crust, and developed by fractionized crystallization of amphibole, plagioclase, apatite, sphene, Fe-Ti oxides and zircon; (2) the EMM, EM and SM represent a recurrence of mafic magma generated by partial fusion of rocks with similar composition as the MORBs, which suffered contamination with material and evolved by fractionized crystallization of sphene, apatite, amphibole, Fe-Ti oxides, zircon and restricted in plagioclase; (3) the SSN, because of presenting very fractionized patterns (CeN/YbN > 28), suggest an origin from a crystal progenitor in which evolution were involved sphene, Fe-Ti oxide and hornblende (or garnet) which fractionized or stayed retained in the source. This granitic complex crystallized at high fO₂ between the "buffers" HM and NH, and at moderate-low pressure of 3.67+1 kbares. The CGSN is a late to post-orogenic intrusion, placed along the shear planes of the Belo Monte-Jeremoabo overthrust, functioning as conductor. Geochemistry of this complex points to composition similar to the granites of a compressive regime with an island arc. These results correlated with those existing about the development of the Sergipe Fold belt agree with the interpretation of Del'Rey (1993) who suggests for this fold system, an evolution by inversion of an asymmetric basin formed during the opening of a restricted ocean and its closure by oblique collision between the Pernambuco-Alagoas massif and the São Francisco craton, causing a northward subduction.

Cabral, A.R. 1996. Gold with palladium mineralization in itabirites: The jacutinga from Gongo Soco, Quadrilátero Ferrífero, Minas Gerais state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1720 1996 Date of presentation: 16/12/1996

Alexandre Raphael Cabral Advisor(s): Xavier, R.P.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The Gongo Soco gold mine became famous around 1830 for its astonishing high grade gold ore. In 30 years (1826-1856) the English company "Imperial Brazilian Mining Association" produced 12.887 kg of gold. In spite of the economic and historical importance of the Gongo Soco mine its ore genesis is still poorly understood in part due to inaccessibility to the ancient underground workings. This study has aimed at the recently exposed auriferous bodies by iron ore mining at the Gongo Soco iron

mine. The English enterprise wrought thin auriferous layers intermingled conformably to the adjoining soft high-grade haematite ore of the Lower Proterozoic Itabira iron formation (N) of the Quadrilátero Ferrífero (QF), Minas Gerais, Brazil. These banhes, known as jacutinga, were composed by specular haematite, talc, kaolinite and manganese oxide and characterized by absence of sulphide minerals. The linear disposition of the ore bodies towards east is assigned to the eastward dipping stretching lineation. Gold occurs typically as free particles or as inclusions within specular haematite, pyrolusite or goethite. Two stages of hydrothermal gold mineralization are envisaged: (i) an early stage synchronous with specular haematite and talc formation and (ii) a low temperature deposition together with goethite and pyrolusite. The impressive old descriptions of gold prills reaching few pounds seem to be related to mobility and enrichment in supergene environment as they were usually found near surface. Gold grain morphology varies from prolate and bent to rounded and faceted forms. The prolate ones have been considered to be in response to stretching. Microprobe analyses of gold grains have confirmed the existence of palladium although in lesser quantities than those reported in the nineteenth century literature. Silver exceeds palladium content up to five times. An intriguing dark palladium and iron-rich coating around gold grain is worthy of note. A highly oxidizing and acidic environment is assured upon the basis of the existence of specular haematite and kaolinite. Under these conditions (haematite-magnetite buffer) gold is expected to be transported as chloro complexes. An efficient depositing mechanism is achieved by reacting such a fluid with magnetite promoting its oxidation to haematite and precipitating gold species. The interface between impermeable hard haematite hanging-wall and cherty itabirite footwall would be a suitable path way to allow fluid flow and precipitation reactions. This scenario is congruous with the acidic and oxidizing metamorphism of the 1117 in its cumingtonite zone. As temperature decreases, oxygen gets high enough to account for precipitation of manganese oxide/hydroxide and goethite along with gold. This later stage of gold mineralization, wherein gold is soluble as chloro complexes, is considered a remobilization of the higher temperature stage. Some fluid inclusion homogenization data near 130°C are compatible with the goethite-pyrolusite assemblage; salinities range from 8.0 to 17.5 % NaCl equivalent. It has long been known that the 1117 contains small amounts of gold. Like the manganese-bearing portions of the UF, gold is supposed to be a syngenetic component that could have been primarily concentrated elsewhere. Metamorphism and hydrothermal leaching of the UF mobilized gold that was deposited in the proximity to the source sedimentary-enriched stratum. This hypothesis is taken in preference to the hydrothermal leaching of the Archaean greenstone rocks of the Rio das Velhas Supergroup (RVS). The inexistence of palladium mineralization in the RVS supports evidence that palladium is an element particular to the DF. Palladium is tentatively correlated with the syngenetic manganese-rich portions of the HF.

Campagnoli, F. 1996. Considerations on the geology of the Turvo-Cajati sequence, in the High Jacupiranguinha river region, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1831 1996 Date of presentation: 28/5/1996

Fernando Campagnoli

Advisor(s): Egydio-Silva, M.

Committee:

Subject of thesis: Stratigraphy

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Campos, V. 1996. Study of the phosphate fixation in minerals representatives of soils with acidic characteristics. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2237 1996 Date of presentation:

Valquíria de Campos

Advisor(s): Hypolito, R.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Carmo, I.O. 1996. Stratigraphic analysis of pleistocene deposits in the medium Rio Paraíba do Sul valley (SP/RJ states). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1386 1996 Date of presentation:

Isabela de Oliveira Carmo

Advisor(s): Moura, J.R.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

RJ

Abstract

Castelo Branco, M.P.N. 1996. Depositional Systems of the State of Ceará Coast (Parajuru and Aracati sheets). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Sedimentary facies, Coastal geology, Depositional systems evolution

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 605 1996 Date of presentation: 7/3/1996

Mônica Pimenta de Novaes Castelo Branco Advisor(s): Mabesoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The coastal area of the State of Ceará has been chiefly characterized in terms of the dynamic agents acting in the ecosystems. The recognition of the different depositional systems present in this coastal area has not been made. Thus, the present study was realized in the lower Jaguaribe river area coastal region, aiming at furnishing information related to depositional systems and, where possible, correcting their stratigraphy. In the area eight depositional systems were identified: braided river, anastomosing river, alluvial fan, eolian, lagoonal, beach, delta and shelf. The anastomosing river system corresponds to the base of the vertical sections studied along the Jaguaribe river margin, where fining-upward textures, lenticular cross-bedding, clay balls and bioturbation enabled the recognition of residual channel and channel bar deposits. The sequence has been correlated with the sediments of the Tertiary Tibau Formation (Potiguar Basin). The alluvial fan deposits cover the above-mentioned river sediments, constituting a sandy sequence, red-coloured, friable, and correlatable with the Barreiras Formation sediments. The eolian system has been recognized in the area as three types of dunes. The oldest ones present a flat surface covered by thick soils and low-shrub vegetation, where barchan and longitudinal shapes prevail. The moving dunes, located in the berm, are those of the third generation. The lagoonal system appears as a semi-closed water body, originated by the progradation of the coastline during regression events in the coastal evolution. The beach strip is marked by a part of low coast, characterized by the section sequence of foreshore, berm and dunes, and where the coast is high, of foreshore and cliff. The present Jaguaribe river course marks the realm of the braided river system, where its lower course area forms fluvial-marine plains. The delta system reflects the evolution of the coastline, with the formation of beach ridges which characterized the subaerial delta plain. The sedimentation on the continental shelf is represented by terrigenous and organogenous sedimentary facies. The terrigenous deposits proceed from erosional processes acting on former coastlines, and the organogenous facies represents the accumulation of calcareous algal and fragments of organic carapaces.

Cavalcanti, M.A.M.P. 1996. Impact of the in situ sanitations systems in the underground waters of Piratininga quarter- Niteroi municipality (RJ state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2234 1996 Date of presentation:

Malva Andrea Mancuso Paraiso Cavalcanti Advisor(s): Pacheco, A.

Committee:

Subject of thesis: Hydrogeology

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Chaves, A.O. 1996. Proterozoic mafic dike swarms of the meridional portion of the São Francisco craton, State of MG, Brazil. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 91 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference:

DataBase Ref.: 2360 1996 Date of presentation: 2/7/1996

Alexandre de Oliveira Chaves Advisor(s): Neves, J.M.C.

Committee: Joel Jean Gabriel Quémèneur - IGC/UFMG

Wilson Teixeira - IGC/USP

Subject of thesis: Geodynamics and Crustal Evolution

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Chaves, N.S. 1996. Beachrocks of the Pernambuco Coast: Sedimentology and Stable Isotopes. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Beachrocks, Stable isotopes, Sedimentary petrography, Diagenesis, Coastal geology, Quaternary

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 604 1996 Date of presentation: 23/2/1996

Núbia Siqueira Chaves

Advisor(s): Sial, A.N.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

A sedimentological and stable isotope study was done on the beachrock line in the intertidal zone of the present Pernambuco coast. These rocks represent the most morphologic characteristic feature on the litoral of the Pernambuco State, and serve as a substratum for the development of algal and coral reefs, as well as an effective protection to the litoral. The beachrocks are elongate, forming discontinuous bands with irregular tops and smooth inclination to the sea. They exhibit abrupt, almost vertical termination on the side that faces the continent and a slope in the direction of the sea. They have a clear textural variation, that is related with changes in the velocity of currents. The grain size varies from medium sand to pebble. Cross, laminar and organic stratifications were recognized in the rocks, which consist of cemented sands containing 80% of quartz, 4% of feldspars (microcline predominating over plagioclase) and carbonate fragments, essentially mollusks and algal (5% to 8% consist of algal remains, especially *Halimeda*). Two types of cement were recognized: around the siliciclastic sediments as a micritic envelope, and acicular fringe as well as infilling of pores by cryptocrystalline calcite. The cement is formed by 55% of high-magnesium calcite and 45% of aragonite, showing values of $MgCO_3$ changing between 18 moles% and 20 moles%. The presence of magnesium calcite with values of Mg in the first line of beachrocks can be explained by the conditions of the surface diagenesis that accelerates the process of cementation. δC^{13} values of the carbonate cement vary from -1.4‰ to $+3.5\text{‰}$ PDB, with an average values of $+1.9\text{‰}$ PDB. δO^{18} vary from $+28.7\text{‰}$ to $+32\text{‰}$ SMOW with an average value of $+30.4\text{‰}$ SMOW. These values suggest that the cement was produced in a mixed environment with a dominance of shallow marine conditions. A well-defined isotopic trend from the North to the South of the State of Pernambuco is verified, possibly related to salinity variations. The beachrocks were formed in an infratidal zone and cemented in an intertidal zone during transgressive events. The depositional paleocurrents show that the cross stratifications characterize the lower portion of a humid beach, and therefore it is supposed that the sands of the beachrocks were deposited in a lower portion of a humid beach with current direction SE-NW, corresponding to the general trend of stream direction on the present coast of the State of Pernambuco, in a marine freatic depositional environment. The studied beachrocks can be related with short intervals of stillstands that occurred within a larger marine transgression, and correspond to sea levels lower the present ones. The environmental conditions favored both the influence of meteoric and burial diagenesis, and avoided the removal of the sands by marine processes, therefore, we admit that the cementation was influenced by a combination of a sea water and a fresh water that was carbonate poor.

Chula, A.M.D. 1996. Geological and geochemical characterization of the metamagmatites and metasediments of the Planalto de Minas region, Municipality of Diamantina, State of MG. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 157pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 19

DataBase Ref.: 2363 1996 Date of presentation: 20/8/1996

Ana Maria Dias Chula

Advisor(s): Abreu, P.A.A.

Committee: Friedrich Ewald Renger - IGC/UFMG
Alfonso Schrank - IG/UNICAMP

Subject of thesis: Geodynamics and Crustal Evolution

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Coelho, R.O. 1996. Hydrochemical and isotopic study of Bauru aquifer, southwestern of São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 103 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1090 1996 Date of presentation: 16/4/1996

Rodrigo Octavio Coelho

Advisor(s):

Committee:

Subject of thesis:

State: SP 1/1,000,000 sheet: SF22 Centroid of the area: ' - 'W

Abstract

Colares, J.Q.S. 1996. Preliminary geotechnical mapping of the great Fortaleza área (CE) - 1:100.000 scale. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 681 1996 Date of presentation: 29/3/1996

Jaime Quintas dos Santos Colares Advisor(s): Zuquette, L.V.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The preliminary engineering geological mapping of the Fortaleza in Ceará state was developed based on the Zuquette's methodology (1987 e 1993) at a 1:100.000 scale. The main purpose of the work is defined and delimitate the preliminary geological-geotechnical units.

The results obtained from previous geological-geotechnical studies plus field works and specific geological-geotechnical studies permit the elaboration of the follow graphic documents: basic map, declivity chart, rock substrate map, unconsolidated materials map, map of the areas that present environmental problems and preliminary geological-geotechnical zoning chart.

Based on geological-geotechnical data from preliminary engineering geological mapping the region was divided into 166 units. The units were defined by superposition of the maps and charts and combination of the attributes.

The units were classified in term of hazards potential, environmental problems, liquid solid waste disposal and escavability conditions.

Condé, V.C. 1996. Microgastropoda from the Eocretaceous of Sergipe state, Brazil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1468 1996 Date of presentation:

Valéria Cerqueira Condé Advisor(s): Hessel, M.H.R.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: SE 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

Costa, A.L.L. 1996. Geology of the Mina Inglesa Sequence: Chemical characterization of the associated granitoid rocks, Crixás-Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M110

DataBase Ref.: 170 1996 Date of presentation: 10/7/1996

Andre Luiz Lima Costa Advisor(s): Kuyumjian, R.M.

Committee:

Márcio Martins Pimentel - IG/UnB

Carlos Maurício Noce - IGC/UFMG

Subject of thesis: Regional Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The Mina Inglesa Sequence is located at the northern part of the Crixás greenstone belt and contains rocks with distinct geochemical and lithological characteristics of the remaining rocks of the greenstone.

The sequence consists essentially of a ultramafic volcanic layer with layers of carbonous pelitic sediments and metacherts, intruded by granitic and gabbroic plutons.

The volcanic ultramafic rocks differ from the komatiites in the southern part of the greenstone, with respect to their ratio Al₂O₃/TiO₂ and LREE pattern. They may represent a distinct event of volcanism in the greenstone belt.

The granitic intrusions consist of tonalites, thondjemites and granites, which were classified geochemically in three suites with characteristics similar to those associated to the final evolution of granite-greenstone terrains of the world. A granitic body (Mumbuca), corresponding to the last event in the sequence, was dated by the Rb-Sr method and yielded an 1.7 Ga isochron.

The gold mineralizations are of the lode type (quartz veins). They have a galena-rich sulphide paragenesis, and are closely related to the intrusion of the granitic bodies and with the hydrothermalism identified by gammaespectrometric geophysical treatment of thorium and potassium.

Costa, V.S. 1996. Mineralogic and chemical studies of the Batovi 6 Kimberlite (MT state) in comparison to the Três Ranchos 4 (GO state) and Limeira 1 intrusions (MG state). MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1782 1996 Date of presentation: 14/6/1996

Vicente Sérgio Costa

Advisor(s): Figueiredo, B.R.

Committee:

Subject of thesis: Metallogenesis

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Mineralogical and textural phase relations in the Batovi 6 (State of Mato Grosso, Brazil) kimberlite, together with geochemical and radiogenic isotope data ($^{143}\text{Nd}/^{147}\text{Nd} = 0.512701$, $^{87}\text{Sr}/^{86}\text{Sr} = 0.70440$) indicate that this intrusion is a tuffitic kimberlite breccia of diatreme facies, classified as a craton related Group IA kimberlite. Garnet macrocrysts of peridotite type are abundant in Batovi 6 and their chemical compositions indicate equilibration under high temperature and pressure conditions. However, some garnet crystals separated from heavy mineral concentrate show Na_2O , Al_2O_3 , SiO_2 contents resembling Group B eclogitic garnet which occur as inclusions in diamond from the Monastery kimberlite mine (South Africa) and from alluvial deposits of Juína, MT (Brazil). Although there are indications that the Batovi 6 kimberlite was formed in a fertile portion of the asthenospheric mantle, the chemical compositions of ilmenite and garnet suggest the occurrence of unfavorable conditions for diamond preservation. The Três Ranchos 4 and Limeira I intrusions show petrographic characteristics of hipabyssal facies and are classified as macrocrystalline kimberlites. Whole rock chemistry, and mineral compositions of the Três Ranchos 4 intrusion indicate its derivation from a portion of mantle with favorable conditions for the formation and preservation of diamond. Inasmuch as magnesian ilmenites in the Limeira I intrusion depicted relatively higher Cr_2O_3 and MnO contents, indicating low $f\text{O}_2$, the absence of garnet and whole rock with low MgO/CaO ratios suggest that this intrusion originated in a shallow lithospheric source, in which diamond is not stable.

Dehler, N.M. 1996. Geometric and kinematic analysis of the klippe de Ijaci metasediments, southern of Minas Gerais state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 126 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1679 1996 Date of presentation: 18/6/1996

Nolan Maia Dehler

Advisor(s): Machado, R.

Committee:

Subject of thesis: Brazilian Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Encinas, C.N.R. 1996. Petrology and Geochemistry of the W Sector of the Pajeú Batholith, Alto Pajeú Terrane, Serra Talhada (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Petrology, Geochemistry, Calc-alkaline, Metaluminous-peraluminous, Shoshonite

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 636 1996 Date of presentation: 16/12/1996

Cristina Nancy Reyes Encinas

Advisor(s): Sial, A.N.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The chief aim of this work was the mineralogical, petrological and geochemical study of the Pajeú batholith, in the central Part of Pernambuco State, Northeastern Brazil. This pluton is located at about 45 km S of Serra Talhada and tectonically, it was emplaced within the frame of the Alto Pajeú terrane. It shows a surface area of about 400 km² and the study was mainly centred on the western and central portion of the batholith. Two petrographic facies were identified: (i) a porphyritic syenite facies which K-feldspar megacrysts (perthitic microcline) up to 8 cm long and (ii) a fine-grained syenitic facies with granular texture. Mafic microgranular enclaves and synplutonic dikes are observed throughout the pluton. From the field relationships, it looks that the fine-grained facies intruded the coarse-grained one. Its mineral components can be grouped in three different growth stages: magmatic, represented by apatite, zircon, opaque minerals, amphibole, biotite, allanite, plagioclase and alkali feldspar; late-magmatic, constituted by perthitic feldspar, myrmekites, quartz and titanites and post-magmatic, which encompasses epidote, opaque minerals, muscovite, chlorite, calcite and clay minerals. Mineral chemistry data reveal a monotonous mineralogy in the three main petrographic facies. Amphibole composition varies from edenite to Mg-hornblende. Micas are normal trioctahedral subaluminous biotites with $\text{Fe}/(\text{Fe}+\text{Mg})$ content between 0.3 and 0.4. K-feldspar shows composition along the albite-orthoclase side line in the Ab-Na-Or diagram. The plagioclase has the composition of oligoclase (Ab₈₀-An₂₀). Chemical rocks in the batholith are calc-alkalic with high K contents. They are metaluminous to slightly peraluminous. They show high Ba, Sr, Rb and K contents and are depleted in Nb, Ti and P. They are LREE-enriched ($28 < \text{Cen}/\text{Ybn} < 86$) and HREE depleted when normalized to chondrite values. Based on mineralogical and geochemical data, it seems that fractional crystallization has played an important role in the formation of these rocks. In addition, field relationship evidences conmingling between mafic and syenitic magmas (coarsely porphyritic facies), with some degree of mixing.

Ferrari, M.A.D. 1996. Tectono-structural aspects of the Piumhi Greenstone belt- MG state, in relation to the chromite and gold mineralization. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1759 1996 Date of presentation: 11/6/1996

Márcio Anselmo Duarte Ferrari Advisor(s): Chouduri, A.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The Piumhi greenstone belt of Archaean age in SW Minas Gerais State, Brazil, is located within the limits of the Tocantins and São Francisco provinces of Almeida et al. (1981). This belt is made up of a lower volcanic sequence, the Ribeirão Araras Group, consisting of komatiites, tholeiites, acid and intermediate volcanic rocks, overlain by metasediments of the Paciência and Lavapés Groups. Banded iron formation and chromite in ultrabasic rocks form a part of the latter succession. Gold mineralization, although of minor importance, occurs in the lower stratigraphic unit - the Ribeirão Araras Group. Regional structures that affected the greenstone belt are an initial oblique, tangential low-angle thrust with south to north movements, and later transcurrent SE-NW faults related to the Capitólio Shear Zone (ZCC). Gold mineralization is associated with the latter deformation event, which was responsible for hydrothermal alteration of host volcanic rocks in local shear zones and formation of mineralized quartz-carbonate-sericite veins. Geochemical analyses of altered rocks reveal an increase in silica and potash and a concomitant decrease in MgO, CaO, TiO₂ and MnO during this process. On the other hand, the lenses and pods of chromite in intensely sheared ultrabasic rocks of the Lavapés Group may be their emplacement to the first tangential movements and accompanying deformation. Platinum Group Elements in the chromite indicate a possible ophiolite affinity of the enclosing ultrabasic rocks, and the chromite is tentatively classified as podiform.

Ferreira, J.A. 1996. Hydrogeology and Hydrochemistry of the Alagoinha Region (State of Pernambuco): Application of New Technical Criteria for Well Location in Fissural Aquifer. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Fissural aquifer, Hydrochemistry, Water quality

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 557 1996 Date of presentation: 26/2/1996

José de Assis Ferreira Advisor(s): Costa, W.D.

Committee:

Subject of thesis: Hydrogeology

State: PE 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The present research was conducted towards a better comprehension of the behavior of fissure aquifers in crystalline rocks, especially concerned with geologically oriented location of wells and the quality of the water. The chemical characteristics were also analysed. The area selected for this study with 220 km², comprises the upstream section of the Ipanema and Ipojuca hydrographic basins and the counties of Alagoinha and Pesqueira, in the western-central portion of Pernambuco State. The shortage of surface water reservoirs and the search for groundwater in a dry semi-arid area with low annual rainfall were the main reasons for this research to be undertaken. During the field work phase of this study traction fractures in granitic rocks were mapped. These fractures were classified as open fractures and suitable for groundwater withdrawal through wells, even though they were not associated with the main drainage systems in the area. These fractures, commonly oriented N-S, occur as faint straight lines in aerial photographs on the scale of 1:25,000, cutting valleys and hills. The most common fracture system in the area has NE-SW direction and is associated with transcurrent shear zones. Sometimes these fractures are suitable for groundwater exploitation. The geophysical methods of electroresistivity and Very Low Frequency - VLF were used in the area in order to identify fracture systems favorable to well location. Taking into consideration the restrictions of these methods the results obtained were very satisfactory. The wells studied in the area, independent of the hydrographic basin did not have water suitable for human consumption. Some of the wells located in the Ipojuca basin, at the Liberal stream, have a high concentration of salt (map of residue evaporation). The increase in salt content in the weathered mantle of the granites added to the low rainfall and high temperature of the area, are the main reasons for this anomaly. The residue evaporation of the groundwater in this area shows a negligible variation over a period of 13 months. The study of the quality of surface water identified three distinct zones: a) Ipanema river basin - with water of good quality, suitable for most uses. b) Northern portion of the Liberal stream basin (subordinated to the Ipojuca river basin) - with poor quality water, with high concentration of salts. This portion of the basin drains a grey granite. c) Southern portion of the Liberal stream basin (subordinated to the Ipojuca river basin) - poor quality water, but lower salt concentration. This portion of the basin drains a white granite. Based on these observations it is clear that the portion of the Liberal stream basin which drains through the grey granite weathered surface contributes to the increase in salt content of the Ipojuca basin. Further work involving chemical analysis of the weathered surface of the grey granite area is proposed in order to establishing the area of anomalous salt concentrations and propose mechanisms of control to reduce the salt content of the Ipojuca basin.

Florescio, C.P. 1996. Geology of the Paripueira evaporites in the alagoan portion of the Sergipe basin. MSc Thesis, Institute of Geosciences, University of São Paulo, 94 pg.

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 261

1996

Date of presentation: 11/4/1996

Claudio Pires Florencio

Advisor(s): Ribeiro Filho, E.

Committee:

Subject of thesis:

State: AL

1/1,000,000 sheet:

SC25

Centroid of the area:

' -

'W

Abstract

Fonseca, A.S.S. 1996. Petrology and Lithogeochemistry of the Irajá Complex Metavolcanic Rocks, NW Sertânia (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Amphibolites, Calc-alkaline pyroclastics, Pajeú-Paraíba belt, Metamorphic evolution, Chemical composition

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 634

1996

Date of presentation: 30/5/1996

Adriana da Silva Sampaio Fonseca

Advisor(s): Beurlen, H.

Committee:

Subject of thesis: Mineralogy and Petrology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The present thesis deals with the study of a metavolcanic-sedimentary sequence of supposed Middle Proterozoic age, known as the Irajá Complex in the Pajeú-Paraíba belt, 20 km NW of Sertânia (Pernambuco State).

Paragneiss with amphibolite and marble intercalations constituted the sedimentary part of the sequence, while basic to acid orthoamphibolites, tuffs and crystal tuffs are the volcanic components of the sills and dikes of metagabbros/diorites. Small bands of metacherts are also rarely observed.

At least, two metamorphic stages can be distinguished. A paragenesis of hornblende + clinopyroxene + garnet + plagioclase (labradorite) in the orthoamphibolites point to a high amphibolite facies for the chief and oldest stage, according with a temperature of 720°C suggested by the Na/Ca division between plagioclase and amphibole. Representing the second stage, a retrogressive assemblage towards the greenschist facies is often seen, superposing upon the earlier-formed minerals. The chemical composition of the orthoamphibolites varies between basalt and andesitic low-K basalts. The pyroclastics include andesitic basalts, andesites, trachyandesites and low-K trachytes. A series of discriminatory diagrams based on low-mobility trace elements and rare earths suggest tholeiitic affinities of oceanic island arcs with the orthoamphibolites, in contrast with the volcanoclastic and metagabbro/diorite rocks with calc-alkaline filiation of island arc, generated by the fusion of a metasomatized lithospheric mantle.

According to these data a convergent margin tectonic environment may postulate for the Irajá area, similar to the Floresta and ENE areas, in the same regional structural trend in the Pajeú-Paraíba belt.

Fonseca, V.P. 1996. Morpho-tectonic studies of the Açu (Açu-Macau) river low course, State of Rio Grande do Norte. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 103 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 17

DataBase Ref.: 2361

1996

Date of presentation: 9/8/1996

Vanildo Pereira da Fonseca

Advisor(s): Saadi, A.

Committee:

Henri Simon Jean Benoit DuPont - IGC/UFGM

Emanuel Ferraz Jardim de Sá - DG/UFRN

Subject of thesis: Geodynamics and Crustal Evolution

State: RN

1/1,000,000 sheet:

SB25

Centroid of the area:

' -

'W

Abstract

Franco, H.A. 1996. Geophysics and water chemistry applied to the study of contamination of the underground water resources in the Jockey Club landfill, Brasília- DF (Brazil). MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M113

DataBase Ref.: 173

1996

Date of presentation: 4/10/1996

Heitor de Araújo Franco

Advisor(s): Pires, A.C.B.

Committee: João Willy Corrêa Rosa - IG/UnB
Jandir de Meneses Travassos - ON/CNPq

Subject of thesis: Regional Geology

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

This work presents the geophysical (vertical electric sounding, electromagnetic profiling, magnetotelluric sounding, magnetic gradiometry and seismic refraction) and aquatic chemical results obtained in the landfill of the Jockey Clube de Brasília - DF. The main objective of this work was to characterize a possible contamination plume coming from the landfill.

In order to determine the thickness of the soil and of the landfilled waste layer, as well as of the freatic level depth, five seismic refraction sections were done on an area where the parameters were well known. Only the depth of the freatic level was able to be determined because of the small thickness of the waste layer and the small length of the geophones spread.

The magnetic gradiometry was used in a small area of the old landfill, totaling 1254 sampling points. In order to distinguish between the landfilled area and the preserved area, the sections and contour maps of the magnetic intensity field measured in the lower and upper sensor, as well as the difference between them, were analyzed. This method has correctly defined the interface landfill/vegetation, showing the great sensibility of the equipment when it pass from a environment to other.

Thirteen analysis of physical-chemical parameters and 10 of metal elements were done in 34 water samples collected in holes made by the neighborhood and in 2 samples collected in the Parque Nacional de Brasília. These data were used in a contour map to characterize the spatial variation of the contaminating concentration.

A total of 86 vertical electrical sounding with maximum AB of 100 meters lead to 14 resistivity isovalue maps for each AB/2 opening. The electromagnetic profiles were carried in places where the electroresistivity data have presented major anomalies.

This area was a target for 109 sampling points, presenting investigation depths of 7.5, 15 and 30 meters, providing 3 electrical conductivity isovalue maps. In order to investigate the fissural system, a 240 meters-section of magnetotelluric sounding was performed crossing the upstream extension of the Córrego do Acampamento.

The electroresistivity, electromagnetic profiles and aquatic chemistry data suggest the existence of a shallow contamination plume from the old landfill area toward the Parque Nacional. The magnetotelluric sounding showed the possibility of contamination of deep subsurface water whether.

Frota, E.S.T. 1996. Molecular and isotopic stratigraphy of inferior Eocretaceous in the southern portion of Espírito Santo basin, Brasil. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1385 1996 Date of presentation:

Elisidiney Séfora Tucci da Frota Advisor(s): Carvalho, I.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Garcia, M.G.M. 1996. Kinematics analysis of the junction sector between the São Bento do Sapucaí, Sertãozinho and Jundiuvira directional shearing zones in the Piracaia neighbourhood - SP state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 104 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1677 1996 Date of presentation: 12/4/1996

Maria da Gloria Motta Garcia Advisor(s): Campos Neto, M.C.

Committee:

Subject of thesis: Brazilian Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Geraldes, M.C. 1996. Geochemical and isotopic studies of the auriferous mineralizations and associated rocks of the Pontes e Lacerda region (MT state). MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1765 1996 Date of presentation: 17/5/1996

Mauro Cesar Geraldes Advisor(s): Figueiredo, B.R.

Committee:

Subject of thesis: Metallogenesis

State: MT 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Geochemistry and isotope studies were carried out on the gold deposits of Pontes e Lacerda region (Mato Grosso state, Brazil) where rocks of the Aguapei and Rondoniense mobile belts (SW of Amazon Craton) occur. The stratigraphy of this part of Amazon Craton consists of the Pontes e Lacerda Metavulcano-sedimentary Sequence (PLMVSS), Santa Helena Granite-Gneiss (SHGG), Maraboa Granite (MG), Aguapei Group (AG) and Nene Tonalite (NT). The PLMVSS rocks resemble ocean floor basalts in composition, and their isotopic signature indicates a Sr depleted and Nd enriched source in the mantle. Sm/Nd dating yielded an isochron age of 1910 ± 387 Ma and a model age of 1200 Ma. These ages are not conclusive due to the limitations of the dating method. The foliated SHGG is sub-alkaline in composition. Its age at 1318 ± 24 Ma. (Rb/Sr isochron) may represent isotopic homogenization of a former granitic protolith. The $86\text{Sr}/87\text{Sr}$ initial ratio of 0.711 indicates crustal source for the magma. MG was separated from SHGG due to its isotropic texture and its Rb/Sr isochron age of 1257 ± 125 Ma, besides its intrusive character in SHGG and PLMVSS. NT is represented by intrusive bodies concordant with the mineralized horizons. Its mineralogy suggests greenschists facies metamorphism and its rare earth elements pattern with a positive Eu anomaly indicates that this rock derived from a differentiation process. 1:20.000 geological mapping was done in an area where a large number of deposits occur. The ore bodies consist of quartz, pyrite and gold, and the hydrothermal alteration zone contain quartz, sericite, pyrite (altered to limonite), and magnetite (altered to hematite). Furthermore chalcopyrite, galena and sphalerite occur only in the Onça deposit. Gold deposits occur in two main areas, the Santa Elina sector, with 2 deposits and Pontes e Lacerda sector, with 23 deposits. Mineralization is associated with a 200 km long shear zone related to the Aguapei event. Tectonics involves oblique overthrusting (from NE to SW) which led to formation of recumbent folds and thrusts, upright folds and faults with dominant strike-slip component. These unconformities are potential sites for mineralization, and provided pathways for the mineralizing fluids. Hydrothermal alteration at Pontes e Lacerda region consists dominantly of sericitization, sulfidation and silicification. The hydrothermal processes were responsible for enhanced concentrations of K₂O, Rb, Ba and Fe₂O₃ and losses in CaO, Sr, MnO and FeO. The Zr, Y, Cr, Al₂O₃ SiO₂ and TiO₂ contents remained unchanged during the process. Increasing rare earth elements contents in the altered volcanic rocks may be due to a probable magmatic contribution to the fluids, which is also indicated by positive Ce anomaly in altered basalts and high contents of Bi, Se and Te in sulfides and gold. The K/Ar dating of hydrothermal sericites from gold deposits veins yielded ages in the range 960 to 920 Ma which may indicate the age of original crystallization of sericite. Pb-Pb dating in galenas yielded model ages in the range 1000 to 800 My for the Onça deposit, in agreement with K/Ar ages. Pb isotopic ratios indicate a high U/Pb and low Th/Pb for the Pb source in Upper Crust before incorporation in galena crystals. Thus, the Pontes e Lacerda gold deposits yielded ages in correlation to Aguapei event and they were probably originated during a Proterozoic extensional tectonic period in SW part of Amazon Craton, which may characterize an important metallogenic epoch in the Pontes e Lacerda region. The present study comprising 11 gold deposits led to a regional exploration model which includes the following ore controls: structural (thrust zone due to the Aguapei event), stratigraphic (PLMVSS and AG geological contact), lithologic (mineralization associated to PLMVSS, AG and tonalites), mineralogical (sericite, magnetite and sulfides), geochemical (loss and gain of elements and oxides) and chronostratigraphic (age in the range of 1000 to 800 Ma).

Góis, D.L. 1996. Chromium and cadmium breakthrough curves for unconsolidated materials in the Franca region (São Paulo state). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 679 1996 Date of presentation: 8/2/1996

Diana Lúcia Góis Advisor(s): Sinelli, O.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This work aimed to evaluate the vulnerability conditions of residual and transported unconsolidated materials in the Franca (SP) region, for chromium and cadmium solutions. These solutions represent the liquid wastes produced by local tanneries, which are thrown in trenches. The breakthrough curves obtained from column tests which solution concentrations were 20 and 120 mg/l. So we obtained the values for retardation coefficient for cations with both concentration, and different materials. The greatest values are observed for least concentrated solutions of chromium and for cadmium for every material.

Harara, O.M.M. 1996. Structural, petrologic and geochronologic analysis of lithotypes of Pien region (PR state and neighbouring. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 196 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1214 1996 Date of presentation: 11/6/1996

Ossama Mohamed Milad Harara Advisor(s): Basei, M.A.S.

Committee:

Subject of thesis: Tectonic and Structural Geology

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Hoff, R. 1996. Remote sensing and geoprocessing techniques applied to geological/geotechnical mapping on Três Cachoeiras County, North Coast of Rio Grande do Sul state, Brazil. MSc Thesis; Institute of Earth Sciences, - CEPSSRM-UFRGS - University Federal of Rio Grande do Sul, 1996. Porto Alegre - 131 pp.

geotechnical mapping; applied geoprocessing; applied remote sensing; North Coast RS - Brazil

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 1086 1996 Date of presentation: 27/7/1996

Rosemary Hoff

Advisor(s): Zouain, R.N.A.

Committee: Tânia Sausen - INPE
Dirce Suertegaray - IG/UFRGS
Humberto Magro - IG/UFRGS

Subject of thesis: Remote Sensing Applied to Natural Resources

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: 29 20 's - 49 45 'W

Abstract

Remote sensing and GIS techniques are basic for processing and integration in geological/geotechnical mapping, mainly in management and planning studies. The surveyed area was Três Cachoeiras County, north coast of Rio Grande do Sul State, Brazil, which is included in "Mata Atlântica Biosphere Reserve". This investigation results in thematic maps, such as declivity, lithology, hydrology, surface formations and land use. Such maps were crossed and superposed. The mentioned county has problems in terms of waste sites as well as supply and environmental preservation sites. Such aspects were surveyed from a geological/geotechnical point of view, that includes integration by geological/geotechnical mapping, image processing and classification data integration by geoprocessing techniques. By means topographic maps, aerial photographs and TM LANDSAT 5 images layers were developed such as DEM, declivity map, county boundary, ecological reserves limits based on current environmental laws and county road network. The photoanalysis generated drainage network, lithology, morphostructure and surface formation layers. Fieldwork georeferenced data was superposed on photolithology to generate a lithological map. Image processing techniques such as enhancement, stretching, filtering and principal component analysis contribute to classify the orbital image. As results, the lithology/soil and cover/land use were obtained, generated a current land use map. Surface formation map was obtained by crossing aerial surface formation data and image lithology/soil data. Environmental physics attributes were clustered by crossing and distributed in recommendation maps containing building material extraction, waste sites and human / industry settlement, building construction works, agriculture and environmental preservation and reclamation areas.

Klein, P.B.W. 1996. The evolution of soil use and its consequences to the environment in the region of the ultramafic-alkaline-carbonatite complex of Catalão I, Goiás (Brazil). MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M115

DataBase Ref.: 175 1996 Date of presentation: 20/12/1996

Percy Boris Wolf Klein

Advisor(s): Walde, D.H.G.

Committee: Paulo Roberto Meneses - IG/UnB
Sérgio Koide - ENC/UnB

Subject of thesis: Regional Geology

State: GO 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

This thesis of environmental characterization is related to the evolution of soil utilization in the Ultramafic-Alkaline-Carbonatite Complex of Catalão I, located in the Southeast of Goiás State - Brazil. This study was based in the usage of geoprocessing techniques, geochemical analyses of water samples, observation and confirmation of field obtained data. The area is under the influence of tropical warm - sub humid climate (typical), mainly associated to the savanna vegetation dominion (cerrados). Geology is characterized by an intrusive and a metasomatic complex stage, associated to several magmatic phases, establishing the arising of rock families called ultramaphics, metaphoscorites, phlogopite rich rocks and a series of magmatic carbonatites with a later formation of a thick soil profile originated from weathering, determining the final Supergenic and residual phase of mineralization, specially of niobium and phosphate. This magmatic body is located in the rocks of the Araxá Group, associated to the Brasília stripe inner province of Tocantins. The evolution of this intrusive body determined the morphologic dome formation surrounded by quartzites fenites in the form of crest and xists which integrate the destroyed slopes of the complex. In the inner central part occurred the pediplane evolution in which are found the inserted depressions. This pediplane is formed by latosoils and podzolic soil, in the slopes are found the cambisoils and in the lower parts inside the Araxá Group dominion appear, once more, the podzolic soils and the latosoils. The water system is characterized, basically by drainages which follow an annulet radial pattern represented by the microbasins of "dos Cardosos", "Fundão", "Taquara I", and "Taquara II" streams. The antropoc action in the area is determined by the mineral exploitation of niobium and phosphate associated to an expressive reforestation and also by agricultural activity. Through geoprocessing techniques it was possible to make thematic maps for the usage of the soil in the years of 1964, 1992 and 1995. These maps identified the predominance of the utilization of soil classes over the vegetation distribution classes, characterizing the pastures as the main element of native vegetation replacement. The geochemical analyses portrayed the importance of Geology in the classification of water, in which quality we may find the

limits of Class 2, according to the Resolution 20 from CONAMA (06-18-86).

Through the interpretation of thematic maps and the water geochemical data, it was possible to characterize the areas under environmental risk, establishing the sites which are disposed to erosive processes, to the influence of the antropic action over the water resource system and also the sites where the soil is being used in an unsuitable way. It was possible, once more, to establish the relations concerning the usage of the soil and water quality in the Carbonatites Complex of Catalão I region. Once the areas under environmental risk were determined, measures for the assuagement and retrieval of the measures for soil, water resources, and flora protection.

Lima, C.V. 1996. Compositional nature and metallogenetic perspectives of metasedimentary rocks intercalated in komatiitic basalts of the Piumhi Greensstone Belt, Minas Gerais state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1727 1996 Date of presentation: 3/5/1996

Claudia Valéria de Lima Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Rocks of the Piumhi Massive, Brazil, are subdivided into the Ribeirão Araras, Paciência, and Lavapés Groups. The Ribeirão Araras Group is an Archaean greenstone belt and consists, from base to top, of a Lower Tholeiitic, a Komatiitic, and an Upper Tholeiitic Units. Metasedimentary rocks occur as (i) silicified rocks between massive and pillowed basalt flows of the Lower Tholeiitic Unit; (ii) a homogeneous sequence of metaturbidites (metargillites and metasilites) separating the Lower Tholeiitic Unit and the Komatiitic Unit, and (iii) metaturbidites and carbonaceous phyllites in twelve intercalations in lava flows of the Komatiitic Unit. The latter are the focus of this thesis. The metasedimentary rocks of the Komatiitic Unit are divided into three lithotypes (Mafic Metaturbidites, Mafic Carbonaceous Metaturbidite, and Carbonaceous Phyllites), which were analysed for their Noble Metal (Au, Pd, Pt, Ag), Transition Elements (Cr, Ni, Co), and Chalcophile Elements (Cu, Zn, Pb) contents. Pyrite, followed by chalcopyrite and sphalerite are the main sulphides and occur as disseminations or as films and millimetric layers in all rocks of the twelve intercalations. Noble Metals are in general very low (< 120 ppb) and the Mafic Metaturbidites are frequently richer in Pt than other lithotypes, in general richer in Au and Pd. The Cr, Ni, and Co proportions of these rocks are higher than those of post-Archaean sedimentary rocks and are similar to N-MORB up to Primitive Mantle, suggesting a mafic to ultramafic source area. The abundance of Chalcophile Elements follows the order Zn>Cu>Pb with no distinction between the lithotypes. The ratios of Transition Elements as well as Chalcophile Elements are similar to those found in other Archaean metasedimentary rocks. From the metallogenetic stand point, the studied sections do not show characteristics for the occurrence of komatiite hosted Ni-sulphide PGE deposits, volcanogenic massive sulphide deposits and carbonaceous shale hosted base metal deposits. The lack of local diagnostic features does not preclude the potential of other portions of the area.

Martins, F.J.C. 1996. Geological features survey in Alcântara and setentrional part of Ilha de São Luís island regions (NE of São Luís sedimentary basin), Maranhão state. MSc Thesis, Departament of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1387 1996 Date of presentation:

Francisco José Corrêa Martins Advisor(s): Carvalho, I.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Martos, H.L. 1996. Effects of the organic matter addition on the chemical, physical and biological properties of an altered metarenite of the São Roque group, in function of a mined area reclamation. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 680 1996 Date of presentation: 28/3/1996

Henry Lesjak Martos Advisor(s): Schlittler, F.H.M.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

To study the effect of organic matter in the introduction of vegetation in degraded mining areas, the addition of seven different

types of organic matter to a sterile lime mine was studied. The sterile lime was constituted of altered metarenites of the São Roque Group. The following sources of organic matter were added in amounts equivalent to thirty tons. of dry matter/ha: sugar cane bagasse, dried and grinded shoots of *Crotalaria juncea* L., urban litter compost, worm humus, filter pie from a sugar producing plant, cattle manure and a commercial product based in chicken manure (Provaso). Substrat and organic matter were analyzed before the incorporation and 130 days after incorporation. The species *Brachiaria brizantha* cv. Marandu was used as an indicator for treatment efficiency. Best results in terms of plant production were obtained with *Crotalaria juncea* L. Whereas the poorest result was observed with sugar cane bagasse. Several alterations in substrat properties were observed, such as pH elevation, lower soil density and elimination of exchangeable Aluminum cations. These alterations were not observed in the treatment with sugar cane bagasse. It was concluded that, in the assayed conditions, the incorporation of organic matter rich in N and a low C/N ratio is the best indication for vegetation introduction, aiming the reclamation of degraded areas due to mining activities.

Medeiros, A.B. 1996. Geologic-Geomorphologic and Environmental Partition of the South Coast of the Recife Metropolitan Area (Ponte dos Carvalhos and Santo Agostinho Sheets, State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Cabo basin, Coastal geology, Geomorphology

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 606

1996

Date of presentation: 29/3/1996

Alberto Bezerra de Medeiros

Advisor(s): Ferreira, M.G.V.X.

Committee:

Subject of thesis: Sedimentary Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The study area is located in the coastal zone, southern part of Pernambuco State. Geotectonically, it is inserted in the Cabo basin. This basin is composed by Precambrian crystalline basement rocks, and filled in with an Early Cretaceous variable volcanic-sedimentary sequence, represented by the Cabo, Ipojuca, Estiva and Beberibe(?) Formations, covered by a Tertiary section represented by the Algodoads and Barreiras Formation sediments; on top there occur still Quaternary deposits. In this study two compartments of the area are proposed: geological-geomorphological and geoenvironmental. The first is supported in the Geosystem or Land systems method, based upon the principle of a landscape to be considered as addition of its parts and the function they represent. The area is differentiated by the relief units of the Precambrian crystalline rock landscape, Cretaceous formation hills domain, Tertiary formation coastal cliffs and compartments of the coastal plain represented by river plain, lagoonal-river plain, and inundation plain, tidal low relief and mangrove swamps, upper marine terrace (Pleistocene), lower marine terrace (Holocene), eolian dunes, present beach, and beach rocks. In the geomorphic compartments the units are related first, with the geology, and subsequently with the chief relief elements: plane and rounded tops; rectilinear, concave and convex slopes; flat-bottom, V- and U-shaped valleys, river heads, dejection cones, and areas of continental erosion related with forest cleaning and civil construction removed material. In the geoenvironmental compartments three areas of distinct characteristics are identified: development area, conservation area, and preservation area. Based on the potential use concept these are plot by the Area Regulation Code: park area (conservation); ecologic reserve, biologic reserve and estuarine areas (preservation); the Suape Harbour Industrial Complex (development). Furthermore is dealt with the protection of the marine edge area (conservation) and the water source areas (preservation), which have their limits outside the study area. Some areas are detached on the map as Special Areas: present beach, industrial areas and aquifers. The general aspects and the methodology adopted for the Coastal Macrozone chiefly, thematic and synthesis maps, are also discussed. Finally, a discussion is proposed of the data and the geomorphological-geoenvironmental map presented for this Coastal Macrozone, as a perspective of the study, to compose an experience base for the environment diagnose of the physical means of the studied region.

Medeiros, M.A.M. 1996. Analysis of the permian section of the Candiota depression - RS state, with emphasis on the cyclic sedimentation. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1388

1996

Date of presentation:

Marco André Malmann Medeiros

Advisor(s): Chaves, H.A.F.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: RS

1/1,000,000 sheet: SH22

Centroid of the area:

' -

'W

Abstract

Mello, C.S.B. 1996. The contribution of the geology and geochemistry in the evaluation and prognostic of the quality of water supply of Rio Macaé river, RJ. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1006

1996

Date of presentation:

Carlos Siqueira Bandeira de Mello

Advisor(s): Penha, H.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Este estudo teve como objetivo enfatizar a importância das ferramentas geológicas e geoquímicas na avaliação do quadro e dos impactos ambientais decorrentes de processos naturais e /ou antropogênicos no rio Macaé, RJ, em especial no baixo curso do rio, onde concentra-se a maior parte das atividades de agricultura, pecuária bem como as estações de tratamento da água de abastecimento do município de Macaé, RJ. Para isso, realizou-se um reconhecimento geológico em 1.750 km² correspondentes a bacia de drenagem do rio Macaé e tributários, ao longo dos 110 km de percurso desse rio. Efetuou-se, ainda um levantamento geoquímico numa área de 230 km², do baixo curso do rio Macaé, onde foram coletadas amostras de solos, rochas e águas. Baseados na geologia e nas análises dessas amostras, e mediante um estudo estatístico - com enfoque em backgrounds, correlações de elementos e substâncias; análise de agrupamentos e componentes principais, foi possível obter-se tanto as assinaturas geoquímicas da área estudada como também mostrar-se a importância de levantamentos desse tipo na discriminação dos impactos ambientais em sistemas naturais e/ou de origem antrópica. A análise comparativa entre os teores geoquímicos de rochas e solos indicaram a tendência dos elementos Fe, Al, Sn, Pb e V em fixarem-se nos solos. Ao que parece a incorporação desses elementos às águas do rio Macaé deve estar ocorrendo através das partículas de solos carregadas pelo runoff. Por outro lado, a mesma análise comparativa, indicou que os elementos Mn, Ba, Co, Cr, Cu, Ni, Sr, Zn, As, Si e Ca mostraram-se mais propensos à lixiviação. Por intermédio do estudo geoquímico foi possível, também, detectar-se os locais em que as condições naturais das águas estão sendo modificadas antropicamente - a exemplo do aumento do teor de nitrogênio provavelmente ligado a decomposição de alimentos e dejetos de trutas, na parte montanhosa do alto rio Macaé. De outro lado, ressaltou-se que os backgrounds litológicos naturalmente elevados das rochas, devem ser separados daqueles a origem antrópica, a exemplo do alumínio - encontrado nas águas do rio Macaé com valores coincidentes ao máximo tolerável pela legislação, devido à sua abundância em rochas oriundas de pelitos aluminosos na Unidade São Fidélis. Tais discriminações seriam difíceis de serem avaliadas, apenas com as análises químicas rotineiramente determinadas em amostras de águas de rios, sem um conhecimento prévio de geoquímica das unidades geológicas da região. No caso específico das análises de solos, os elementos Sr e Ba serviram ainda para caracterizar a Unidade Região dos Lagos devido à correlação perfeita existente entre eles. Dentre os principais impactos encontrados na região, ligados aos aspectos geológicos, reconheceu-se, avaliou-se e sugeriu-se ações mitigadoras para a melhoria da qualidade das águas do rio Macaé em: regiões sujeitas a movimentos rápidos de massa, devido a abertura de estradas e plantio de bandeiras em zonas de encostas íngremes; áreas de canais retificados do baixo rio Macaé, seus efeitos no regime de deposição dos sedimentos e as prováveis consequências para a biota; contaminação das águas devido ao runoff - na maioria das vezes incrementado pela descentralização geológica e vegetal nas margens do rio Macaé, bem como as bolsas que dragam areia no fundo do rio Macaé.

Melo Filho, L.S. 1996. Stromatolites of the Paranoá group in the region between São Gabriel and Mato Seco/Mimoso, Goiás (Brazil). MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M114

DataBase Ref.: 174

1996

Date of presentation: 29/11/1996

Leonildes Soares de Melo Filho

Advisor(s): Dardenne, M.A.

Committee:

Carlos José Souza de Alvarenga - IG/UnB

Thomas Richard Fairchild - IGc/USP

Subject of thesis: Regional Geology

State: GO

1/1,000,000 sheet:

SD23

Centroid of the area:

' -

'W

Abstract

The Paranoá Group, placed in the outer zone of the Brasília Fold Belt, comprises psamo-pelitic rocks with great contribution of carbonatic rocks. A unit composed of Pelitic and carbonatic rocks (Pelito-carbonatada Unit) occurs in the upper part of this group. This unit was found in the region between São Gabriel and Mato Seco/Mimoso (Goiás), and it was divided in three horizons: Lower Horizon - Composed of alternated lenses of quartzite, stromatolitic limestone and dolostone in a metasilite and slate sequence. Intermediate Horizon - Comprised of slates and metasilites presenting arcosean metasilite alternations. Upper Horizon - Composed of quartzite, stromatolitic dolostone and limestone lenses alternated in a metasilite and slate sequence. In this horizon, the lenses are thinner and smaller than those of the lower horizon. Over the Pelito-carbonatada Unit, it is suggested the occurrence of a new unit called Metaritimto R5. This unit is formed by the alternation of metasilite and fine-grained quartzite lenses with hummocky structures. The carbonatic lenses of the Lower and Upper horizons show 6 associations of stromatolites. In these associations, less structured forms, as planar stromatolites, and more structured ones, as cilindric-conics, were described. Each association occurs in a small stratigraphic sequence marking specific paleoenvironment.

Mothé Filho, H.F. 1996. Contribution to the geology of Florália region / MG state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1150

1996

Date of presentation:

Heitor Fernandes Mothé Filho

Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Oliveira, N.S.M. 1996. The Capoeira pegmatites : mineralogy, classification and genetic considerations. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 144 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 15

DataBase Ref.: 2359 1996 Date of presentation: 28/6/1996

Narla Sathler Musse de Oliveira

Advisor(s): Karfunkel, J.

Committee: Hubert M. P. Roeser - DEGEO/UFOP
Reinhard Richard Wegner - UFPB

Subject of thesis: Geology and Mineral Resources

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

Paixão, M.A.P. 1996. Geology and metallogenetic potential of the Lagoa da Vaca Anorthositic Leucogabbroic complex, Curaçá municipality, Bahia state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1760 1996 Date of presentation: 22/3/1996

Marco Antônio Pires Paixão

Advisor(s): Oliveira, E.P.

Committee:

Subject of thesis: Metallogenesis

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The complex is one of the three litho-structural domains mapped (central domain), and has an outcrop width of 3 kilometers. It is made up mostly of north-south-trending layers of anorthositic, meta-leucogabbroic, meta-gabbroic and ultramafic compositions. Ultramafic rocks of unknown stratigraphic relations, vz. peridotite and amphibole meta-peridotite, were also included in the complex. Mineralogically, the anorthositic rocks contain hornblende and labradoritic plagioclase, whereas the peridotites contain olivine, pyroxenes, spinels and amphiboles. Primary structures are given by mineral layering and synmagmatic slump faults. The limit of the complex to the North is unknown. It is bounded, to the East, by granulite facies rocks of enderbitic to jotunitic composition (eastern domain), and to the West by quartz-feldspathic gneisses with interleaved bands of amphibolite (western domain) which have been strongly deformed by the Caldeirão belt orogenic event. The tectonic and metamorphic evolution of the mapped area is described in terms of three deformation phases; the first two and the last one have respectively ductile and brittle characteristics. Granulite facies metamorphic conditions have been attained during the first phase, followed by retrogression (vz. decompression textures, hydration) under amphibolite facies conditions, which is a characteristic of the second deformation phase. The third phase, on the other hand, is locally observed in all domains; it shows typical brittle-ductile characteristics, and metamorphic mineral assemblages diagnostic of the greenschist facies.

The Lagoa da Vaca anorthositic rocks were dated by the whole-rock Pb-Pb isochron technique, yielding an age of $3,161 \pm 65$ Ma. Zircons from a granulite have yielded an age of 3072 ± 72 Ma by stepwise Pb evaporation technique. Pyroxenes from the Lagoa da Vaca Complex and peridotites show a significant compositional gap, suggesting that the two rock types most likely are not consanguineous nor cogenetic. The lack of sulphide or oxide concentrations, combined with spinel compositions, indicate that both anorthositic and peridotitic rocks have little potential for Chromium, Copper and Nickel mineralisations. The Lagoa da Vaca Complex is very much like other Archaean layered anorthositic complexes found in high grade terranes, such as the Fiskensæset (Greenland) and Messina (South Africa). Its age, Pb isotopic characteristic ($\epsilon = 8,8 \pm 0,62$) and field relationships strongly suggest a continental environment for its emplacement rather than an oceanic one.

Paranhos Filho, A.C. 1996. The erosional process and the strand morphodynamic variations in Ilha do Mel island, Paranaguá bay - PR. MSc Thesis, Department of Geology, University Federal of Paraná; pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 845 1996 Date of presentation:

Antônio Conceição Paranhos Filho

Advisor(s): Angulo, R.J.

Committee: Kenitiro Suguio - IGc/USP
Paulo César Fonseca Giannini - DG/UFPR

Subject of thesis: Environmental Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Passarelli, C.R. 1996. Structural analysis and characterization of the magmatism of the Major Gercino shearing zone, SC state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 178 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1060 1996 Date of presentation: 24/5/1996

Claudia Regina Passarelli Advisor(s): Basel, M.A.S.

Committee:

Subject of thesis:

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Pereira, L.A. 1996. Soil conditions on fertilization of eucalypt plantation in mountainous region - SP. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 682 1996 Date of presentation: 6/9/1996

Lucio Alberto Pereira Advisor(s): Fowler, H.G.

Committee:

Subject of thesis: Geosciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

In a tropical mountainous area, the capacity of exchange of cations, which indexes soil fertility, was superficially elevated. Soils had an elevated capacity of nutrient retention. However, base saturation, indexing the actual soil fertility, was low. In spite of the high nutrient retention capacity, few were actually retained in these soils because Aluminium was occupying sites of disponivel exchange. The soils were physically homogeneous, classified as Red Yellow Podzols with three types. Soils were generally deep and did not hinder radical growth. Soils were superficially medium textured, and clays in deeper layers. The relation between soils and releif indicated, generally, hills with accented declivity and small, rounded peaks with shallow soils in the peaks and sides with declivity in excess of 60%. Local relief was mountainous, with sides possessing a large declivity associated with a significant textural soil gradient, leading to high erosion risks with subsequent loss of the surface layer, richer in nutrients, which further aggravated soil fertility. Results also demonstrated fertility differences with respect to altitude. Soil fertility increased inversely with altitude. Three altitude levels were assessed: high ($\geq 1000\text{m}$), intermediate (900-999m) and low (800-890m), forming distinct groups with unique characteristics.

Pereira, L.M. 1996. Study of the hydrothermal alteration of the SE-Z body, level 5, of the Juca Vieira gold mine, Quadrilátero Ferrífero, State of MG. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 199 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 18

DataBase Ref.: 2362 1996 Date of presentation: 12/8/1996

Ludmila Motta Pereira Advisor(s): Lobato, L.M.

Committee: Tânia Mara Dussin - IGC/UFMG
Hardy Jost - IG/UnB

Subject of thesis: Geodynamics and Crustal Evolution

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Perez Aguilar, A. 1996. Geology, petrography and genesis of the garnet-cordierite-cumminatonite / antofilite anfibolites and associated rocks of the Serra do Itaberaba Group, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1843 1996 Date of presentation: 8/4/1996

Annabel Perez Aguilar Advisor(s): Juliani, C.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Pessoa, P.F.P. 1996. Hydrogeologic characterization of the Sete Lagoas karstic region - MG state : potentialities and risks. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2233

1996

Date of presentation:

Paulo Fernando Pereira Pessoa

Advisor(s): Duarte, U.

Committee:

Subject of thesis: Hydrogeology

State: MG 1/1,000,000 sheet:

SE23

Centroid of the area: ' - 'W

Abstract

Pires, P.F.R. 1996. Tectono-metamorphic characterization of the Ambrosio auriferous deposit, Rio Itapicuru Greenstone Belt - Bahia state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1768

1996

Date of presentation: 3/5/1996

Paulo Fernando Ravacci Pires

Advisor(s): Batista, J.J.

Committee:

Subject of thesis: Metallogeneses

State: BA 1/1,000,000 sheet:

SC24

Centroid of the area: ' - 'W

Abstract

The Ambrósio lode gold deposit, located in the northern sector of the lower Proterozoic (2.200 to 2.000 Ma) Rio Itapicuru greenstone belt, northeast Brazil, is enclosed within a narrow belt of highly deformed supracrustals, tightly squeezed between two syn-tectonic granitic batholiths (Pedra Alta and Ambrósio domes). The deposit is hosted at the contact of amphibolites and clastic-chemical metasediments, which represent part of the mafic volcanic domain at the basal portion of the greenstone belt sequence. The metasediments and amphibolites comprise the footwall and hangingwall of mineralization, respectively. The former are represented by andalusite-garnet-biotite schist and the latter consists mainly of hornblende and plagioclase; these lithotypes show mylonitic texture developed in amphibolites facies. The deposit is closely associated with structures developed in a ductile strike-slip duplexes system, in the offset region between two main shear zones at the boundary of the granite-gneiss domes. The gold mineralization occurs in centimetre-wide quartz veins containing disseminations of iron sulphides (arsenopyrite, pyrrhotite and pyrite), and subordinate amounts of biotite, plagioclase and muscovite. The veins were submitted to intense recrystallization processes and are controlled by: 1) transcurrent shear zone (NNE) and 2) drag folds with subhorizontal axis in the NNE direction. These mineralized structures are related to early stages of evolution of the duplexes system, and are broadly synchronous with regional metamorphism and granite intrusions. CO₂ - rich inclusions, mostly monophase at room temperature, are the dominant or virtually the only fluid inclusion type, in the quartz veins of the Ambrósio deposit. The CO₂ - rich inclusions appear restricted to intergranular trails, or along subgrain boundaries. Microthermometry and laser Raman microprobe data demonstrate that the carbonic fluids are composed of pure CO₂. Fluid inclusions and petrographic studies suggest that gold was transported by tiocomplex in an original H₂O-CO₂ fluid, which was enriched in CO₂ by loss of H₂O during the vein formation and later deformation.

Ponte Filho, F. 1996. Stratigraphic and structural analysis of the Iguatu basins (state of Ceará). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pp.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 530

1996

Date of presentation: 18/9/1996

Francisco Celso Ponte Filho

Advisor(s): Gama Jr, E.G.

Committee:

Subject of thesis: Regional Geology

State: CE 1/1,000,000 sheet:

SB24

Centroid of the area: ' - 'W

Abstract

This dissertation deals with the tectono-sedimentary evolution and identification of depositional systems in the Iguatu group of sedimentary basins, including four units: Iguatu, Malhada Vermelha, Lima Campos and Icó. The sedimentary analysis was based on the genetic concept of depositional systems and tectono sequence stratigraphy. The structural analysis was focused on modern structural and tectonic models for intracontinental rifts. The sedimentary fill of the Iguatu basin was included into a tectono-sedimentary mega unit named Iguatu Tectono-Sequence. This comprises two tectono depositional intervals (itd),

represented by two respective, alluvium-fluvial-lacustrine systems tracts. The oldest interval encompasses two depositional systems: the Alluvial and Fluvial Braided Depositional System (Sd1) and the Fluvial Meandering and Lacustrine Depositional System (Sd2). The youngest tectono-depositional interval is also composed by two depositional systems: Sd3 and Sd4, genetically similar to Sd1 and Sd2, respectively. Tectonically, the Iguatu Rift Zone was aborted in early stage of Juvenile Hemigraben, correspondent to the stage of crustal stretching with block tilting. In the general architecture of this rift zone, each isolated basin represents a fundamental unit or unitary rift. They are grouped as collateral hemigrabens with similar polarities, dipping to SE and separated by interposed hinge blocks which form structural and topographic highs.

Ponte Neto, C.F. 1996. Paleomagnetic study of the swarms of precambrian mafic dykes of Lavras region, Minas Gerais state. MSc Thesis, Instituto Astronômico e Geofísico - University of São Paulo/USP, 100 pp

Instituto Astronômico e Geofísico- Universidade de São Paulo

Reference:

DataBase Ref.: 1524 1996 Date of presentation: 26/9/1996

Cosme Ferreira da Ponte Neto

Advisor(s): Pacca, I.I.G.

Committee:

Subject of thesis: Geophysics

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Portocarrero, J.L.T. 1996. Geology of the Mina Nova gold deposit, Crixás greenstone belt, Goiás (Brazil). MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M111

DataBase Ref.: 171 1996 Date of presentation: 23/8/1996

José Luis Torres Portocarrero

Advisor(s): Jost, H.

Committee: Claudinei Gouveia de Oliveira - IG/UnB

Zorano Sérgio de Souza - DG/UFRN

Subject of thesis: Regional Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

Mina Nova is a gold deposit of the Archaean Crixás (Central Brazil) greenstone belt (2.8Ga) mining district. The deposit lies within a narrow zone of sheared carbonaceous schist of the Ribeirão das Antas Formation (Crixás Group) and comprises three types of ores. Type I consists of carbonaceous schist with disseminated pyrrhotite, arsenopyrite, and minor calcopyrite. Type II is a sericite-carbonate schist with arsenopyrite and minor pyrrhotite and calcopyrite. Type III consists of arsenopyrite-bearing quartz veinlets within carbonaceous schist. While types I and II occur within one single ore-body, type III is an independent mineralization. The three types are concordant with a local mylonitic foliation, indicating that the mineralization is structurally controlled by shearing. The structural features that control the sulfide dissemination in ore-types I and II and the quartz veinlets of type are zones of dilation observed from outcrop to thin-section scale. The mineralized zones cross-cut the local stratigraphy at low angle and superimpose folding, the metamorphic foliation, and the stratigraphic overturning of the archaean supracrustal sequence, indicating that the mineralization is epigenetic. Textural relationships among sulfides and gold, as well as microprobe compositional data of the former indicate that the mineralization event took place at several stages, among which only the latest where rich in gold.

Praça, U.M. 1996. Shallow water and swampy limestones of the Lagoa Feia formation sequence of coquinas, Bacia de Campos basin. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1384 1996 Date of presentation:

Uyara Mundim Praça

Advisor(s): Hessel, M.H.R.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: RJ 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Raposo, F.O. 1996. Iron formations and chemical metasediments of Quadrilátero Ferrífero selected areas and their relationships to rudaceous levels. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 136 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 14

DataBase Ref.: 2358 **1996** Date of presentation: 15/4/1996

Frederio Ozanam Raposo

Advisor(s): Ladeira, E.A.

Committee: Friedrich Ewald Renger - IGC/UFMG
Marcel Auguste Dardenne - IG/UnB

Subject of thesis: Geology and Mineral Resources

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Reboucas, A.M. 1996. Contribuicao to the study of the chrome behaviour in the saturated and the non-saturated zone. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2235 **1996** Date of presentation:

Andre Marcelino Reboucas

Advisor(s): Szikszay, M.

Committee:

Subject of thesis: Hydrogeology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Ribeiro, L.F.B. 1996. Serra da Mantiqueira southern border neotectonics: Structural geology and geochronology by fission tracks. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR035

DataBase Ref.: 531 **1996** Date of presentation: 1/10/1996

Luiz Felipe Brandini Ribeiro

Advisor(s): Hackspacker, P.C.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W
MG

Abstract

This work shows an evolution model of resurgent tectonics in Mantiqueira province.

Were used one new geochronologic method of fission track, for dating rupture faults. Also were used paleostress methods in faults and joints.

This data results in:

(a) Occurred on Carboniferous (reagglutination of plates) one reactivation in faults of northeast São Paulo state near Bragança Paulista city (321-290 My).

(b) During South Atlantic reactivation occurred one strong reactivation in faults, originated joints on Mantiqueira ridge (170-140 My)

(c) The last reactivation in faults of Mantiqueira ridge were 80-40 My (last reflections of south Atlantic reactivation).

This data corroborates fission track dating method related to faults, is a valid method to resurgent tectonic and neotectonic analyses.

Ribeiro, S.H. 1996. Mineralogic characterization of the Divino das Laranjeiras - Mendes Pimentel region (State of MG) with emphasis on its gemstones and mineral collection deposits. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 112pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 20

DataBase Ref.: 2364 **1996** Date of presentation: 13/12/1996

Sérgio Henrique Ribeiro

Advisor(s): Karfunkel, J.

Committee: Adolf Heinrich Horn - IGC/UFMG
Hubert M. P. Roeser - DEGEO/UFOP

Subject of thesis: Geodynamics and Crustal Evolution

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

SE24

Rocha, A.L. 1996. Environmental, hydrogeological and geochemical characterization of alluvial deposits of Rio Pequeno hydrographic basin, metropolitan region of Curitiba, Paraná state. MSc Thesis, Department of Geology, University Federal of Paraná; pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 846

1996

Date of presentation:

Ana Lisete Rocha

Advisor(s): Bittencourt, A.V.L.

Committee:

Uriel Duarte

- IGc/USP

Luiz Eduardo Mantovani

- DG/UFPR

Subject of thesis: Environmental Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Rocha, W.J.S. 1996. Hydrogeology and Hydrochemistry of the Fernando de Noronha Island. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Fernando de Noronha island, Hydrogeology, Hydrochemistry, Fissural aquifer, Island water supply

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 558

1996

Date of presentation: 4/3/1996

Wilton José Silva da Rocha

Advisor(s): Costa, W.D.

Committee:

Subject of thesis: Hydrogeology

State: 1/1,000,000 sheet:

Centroid of the area: 03 54 's - 32 25 'W

Abstract

Fernando de Noronha is a small isolated archipelago in the Equatorial Atlantic, formed by a main island (which lends its name) and by twenty other small islands, who occupy an approximate area of 26 km². It constitutes the top of a submarine mountain, of 60 km diameter, in NN/WSSE direction, and whose base rests at a depth of 4000m. It is located on the coordinates 03054' South and 32025' West, distant approximately 350km from Natal-RN and 545 km from Recife, State of Pernambuco. The climate is of the Aw type, with two defined seasons: a wet season (February-July); and a dry season (August-January). The average annual rainfall is 1.274mm. The predominant wind varies from ESE to SSE, and the average annual temperature is 26.0°C. K-Ar dating in whole-rock and mineral separate indicate ages varying between 21 and 1Ma. The archipelago is constituted by a substrate of pyroclastic rocks deposited in a subaerial environment, cut by a great variety of alkaline eruptives, which after hiatus were recovered by outflows of nephelinitic lavas. The volcanic rocks of Fernando de Noronha island possess several litho-structural characteristics, which distinguish them hydrogeologically from the other fissured environments, such as igneous and metamorphic rocks in general. The structural pattern is a series of joints of shear stress and traction. The existing sedimentary rocks represent 7.5% of the total area of the island, with characteristics of aquifer. The main factor that controls the salinization of groundwater of the archipelago is the high temperature that promotes concentration of salts in the recharge water (rainfall) as well as marine spray. The chemical composition of the predominant rocks of the island limits its influence on the salinization of the groundwaters. In function of the hydrogeological characterization, this fissured aquifer, although presenting a medium- to low- hydrogeological potential, can be used as water supply, from the quantitative point of view. The pumping rate tests of the wells, permits to define through extrapolation of the specific pumping rate, a hydraulic availability between 39.924 m³/h. This groundwater availability together with regular pumping rate from the Xaréu Dam around 17280 m³/h, attends the water consume demand of the island. The existing wells present an average specific discharge of 0.327 m³/h/m, predominating chlorinated, bicarbonated, chlorinated-bicarbonated and bicarbonated-chlorinated water, with an average of total dissolved solids of 1007 mg/l and mean pH of 8.44. From the chemical point of view, they are of poor quality, with restrictions for human use and irrigation.

Rodrigues, J.B. 1996. Geochronology and geochemistry of the Iporá volcano-sedimentary sequence and associated granitic rocks, Goiás state- Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M108

DataBase Ref.: 168

1996

Date of presentation: 27/6/1996

Joseneusa Brilhante Rodrigues

Advisor(s): Pimentel, M.M.

Committee:

José Caruso Moresco Danni

- IG/UnB

Miguel Ângelo Stipp Basei

- IGc/USP

Subject of thesis: Regional Geology

State: GO 1/1,000,000 sheet: SE22

Centroid of the area: ' - 'W

Abstract

The studied area is located in the Goiás Magmatic Arc in the western portion of the Goiás State. In that region, orthogneissic units (deformed granitoids), the Iporá Volcano-Sedimentary Sequence and late to post-tectonic gabbro-dioritic and granitic intrusions are exposed, as well as Phanerozoic rocks of the Paraná Basin and of the Iporá Alkaline Province. Among the main geological units,

only the Pre-Cambrian rocks were studied.

The orthogneissic rocks show compositions between granite and tonalite, but granodiorites are predominant. These rocks are strongly sheared, but in some places they show preserved igneous textures and migmatitic pods.

The Iporá Volcano-Sedimentary Sequence is mainly formed by metadacitic, metarhyolitic rocks and, in a smaller proportion, basaltic flows. Muscovite schists, garnet-muscovite schists and rare metaconglomerates are included in the metasedimentary unit.

The orthogneisses and the Volcano-Sedimentary Sequence show mineral paragenesis that indicate metamorphism varying from upper greenschist to amphibolite facies followed by a retrometamorphic event at low greenschist facies (chlorite zone). Intruding the orthogneissic rocks and the Volcano-Sedimentary Sequence are the late-tectonic to post-tectonic bodies (Lajeado Diorite, Caiapó Granite and Iporá Granite). The geochemical data show that the magmatism that originated the Orthogneissic Units is calcalkaline, probably of high potassium character. It was most probably produced in a magmatic arc setting, with little crustal contribution.

The orthogneiss sample yielded Rb-Sr isochron ages of approximately 680 Ma, with low initial $87\text{Sr}/86\text{Sr}$ ratio (~ 0.7046). The Sm-Nd Model ages are similar to those observed in rocks of the Arenópolis region. The TDM ages of the orthogneiss unit are ca. 1.0 to 1.1 Ga and the ϵNd values are positive (ca. +6). A metarhyolite sample of the Volcano-Sedimentary Sequence was dated by the U-Pb method. The zircons yielded ages of 636 Ma, interpreted as the age of crystallization of the igneous protolite, and 597 Ma, which considered as the metamorphic recrystallization age. The Model Ages of the Volcano-Sedimentary Unit vary from 0.76 to 1.01 Ga and the ϵNd values are positive. The Rb-Sr isochron age of the Córrego Lajeado is 651123 Ma.

Among the areas that were studied at the Goiás Magmatic Arc, the rocks of the Iporá Region are the youngest and their isotopic ratios suggest that their source is isotopically similar to the rocks of the Arenópolis region.

Rosa, A.A.S. 1996. Paleogeography and provenance of cretaceous sandstones of the pre-rift sequence in the countryside basins of Brazilian northeastern. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 861 1996 Date of presentation: 20/8/1996

Átila A. S. da Rosa Advisor(s): Garcia, A.J.V.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Rosolen, V.S. 1996. Pedogeochemical charts of soils developed on Serra Geral formation volcanic rocks: Use of a geographic information system (GIS). MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 84 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1058 1996 Date of presentation: 14/3/1996

Vania Silvia Rosolen Advisor(s): Melfi, A.J.

Committee:

Subject of thesis:

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Rossete, A.N. 1996. Environmental planning and mining - Case study: The sand exploitation in the Itaguaí municipality - RJ state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1721 1996 Date of presentation: 11/12/1996

Amintas Nazareth Rossete Advisor(s): Cavalcanti, R.N.

Committee:

Subject of thesis: Mineral Resources Administration and Politics

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

This dissertation brings a discussion of some aspects of the mining industry, with emphasis on building materials, especially sand, and their social, economic and environmental relationships. This discussion is based on a case study accomplished in Itaguaí Municipality, Rio de Janeiro State. The above municipality presents an intensive sand exploitation activity, where 54 companies produce 2 million cubic meters per year, being the major output center supplying the Rio de Janeiro Metropolitan Region. As a result, this industrial activity yields a number of environmental impacts, either positive ones - job creation, tax collection, supply of sand to the Metro Region, etc., - or negative ones - disguised landscape, contamination of water table,

abandoned mined areas, etc. Given its magnitude, this activity has suffered many actions from the public sector in order to legalize and establish environmental control on it, such as the attempt to create a Zone of Mineral Production, and the requirement to develop environmental impact studies. In this dissertation, the major legal and administrative procedures imposed by the three different levels of government - federal, state and municipality - as well as future scenarios are presented. With the creation of a new municipality - named Seropédica - encompassing 90 per cent of the existing sand pits, it is foreseen the birth of a new environmental policy envisaging mining industry as an economic activity included in an environmental zoning pattern.

Sant'Anna, M.V. 1996. Study of ruptil and ruptil-ductil tectonic structures in part of Quadrilátero Ferrífero and Serra do Espinhaço Meridional range, using remote sensing techniques. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1330 1996 Date of presentation: 11/12/1996

Marília Vidigal Sant'Anna Advisor(s): Santos, A.R.

Committee:

Subject of thesis: Remote Sensing

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Santos, M. 1996. Structural model of the O'Toole deposit in Fortaleza de Minas (MG). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 529 1996 Date of presentation: 9/4/1996

Marcilene dos Santos Advisor(s): Hasui, Y.

Committee:

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The O'Toole deposit, located at the surroundings of Fortaleza de Minas, Southwestern Minas Gerais, Brazil, is hosted in rocks which belong to the Morro do Níquel unit of the Morro do Ferro Sequence (Archean), of greenstone belt type, in the Fortaleza de Minas segment. The deposit is composed of nickel, copper and cobalt sulfides associated to the contact between serpentinite (metamorphosed olivina peridotite) and metachert. The mineral assemblage is pyrrhotite-pentlandite-chalcopryrite, with significant cobaltite and platinum-group mineral (PGM); the principal secondary mineral is bravoite-violarite, occurring in the oxidized cap. The host rocks and the mineralization strikes N50W, dipping 85 towards southwest, along a late sinistral brittle-ductile transcurrent shear zone. The chlorite-actinolite/tremolite-antigorite-hornblende-cumingtonite-talc-carbonate assemblage indicates that the rocks were affected by lower to upper greenschist retrometamorphism during the transcurrent deformation, and controlled by shear zones intergrowth textures of sulfide+antigorite+magnetite developed. The O'Toole deposit is markedly controlled by the transcurrent shear zone which seems to be part of a negative flower structure in the Campo do Meio Shear System. Features either like extensional stepover or extensional bend have controlled the progressive sulfide remobilization and concentration, as well as the shape and spacial distribution of orebodies. Four ore types are recognized:

- 1) disseminated,
- 2) interstitial,
- 3) breccia, and
- 4) of fault zone ores.

The disseminated one consists of sulfides in serpentinite and talc schist, with intergrowth textures controlled by ortogonal brittle-ductile shear zones in an ortogonal network pattern. The other ore types have developed by progressive sulfides concentration along shear surfaces with anastomosed pattern. These ore differences suggest the heterogeneous strain and its partition.

Schiker, G. 1996. The Ribeirão da Prata lead, zinc, copper and silver deposit, Blumenau municipality - Santa Catarina. MSc Thesis, Department of Geology, University Federal of Paraná; pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 844 1996 Date of presentation:

Gernot Schiker Advisor(s): Biondi, J.C.

Committee: José Manoel dos Reis Neto - DG/UFPR

Sebastião Gomes de Carvalho -

Subject of thesis: Exploratory Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Silva, I.S. 1996. Vertical distribution and chemical fractionation of phosphor in sediments of the Rio Tietê river (Pirapora do Bom Jesus region, São Paulo state). MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 65 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1680 1996 Date of presentation: 16/8/1996

Ivone Silveira da Silva

Advisor(s): Toledo, M.C.M.

Committee:

Subject of thesis: Brazilian Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Silva, M.A. 1996. Geology and petrography of the precambrian metagabbroic body of São Sebastião da Vitória, Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1149 1996 Date of presentation:

Márcio Antônio da Silva

Advisor(s): Valença, J.G.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG 1/1,000,000 sheet: SF23

Centroid of the area: ' - 'W

Abstract

Souza, P.A. 1996. Palinology and biostratigraphy of the Itararé subgroup in Araçoiaba da Serra (Westphalian, Paraná basin), State of São Paulo. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 192 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1678 1996 Date of presentation: 29/1/1996

Paulo Alves de Souza

Advisor(s): Petri, S.

Committee:

Subject of thesis: Brazilian Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Torres, M.G. 1996. Mineralogic characterization of the phosphate ore from the Arafertil mine in the Barreiro carbonatite complex, Araxá, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M112

DataBase Ref.: 172 1996 Date of presentation: 28/8/1996

Murilo Gomes Torres

Advisor(s): Gaspar, J.C.

Committee:

Roberto Ventura Santos - IG/UnB

Sônia Maria Barros de Oliveira - IGc/USP

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SE23

Centroid of the area: ' - 'W

Abstract

The Barreiro Alkaline Carbonatitic Complex is located in the Minas Gerais State, Araxá district, about 600 Km south of Brasília. It is a semicircular intrusion with 4.5 Km in diameter. Barreiro, Catalão I and II, Salitre, Tapira, and Serra Negra are all carbonatite-bearing complexes that belong to the Alto Paranaíba Magmatic Province, intrusive in the Brasília Mobile Belt. The Barreiro Complex is composed of phlogopite intruded by carbonatite (necks, plugs, and veins), apatite, nelsonite, and magnetite (these as veins and dikes), and by silicite and barite veins. Pyrochlore and apatite are the most important ore minerals in the complex. There are three types of apatite. The first is a magmatic fluorapatite (ETR2O3~0.8%; SiO2-0.8%; SrO~1.1%; CaO/P2O5-1.3) that occurs as euhedral to subhedral aggregate crystals in sovites, as xenocrysts in magnetites, and as zoned xenocrysts in apatites. The second apatite type is a late/post-magmatic fluorapatite (ETR2O3~2.5%; SrO~4.6%; Na2O~0.4%; CaO/P2O5~1.2) that occur in apatite and nelsonite as a matrix of very fine crystals. The third type is an acicular and botryoidal carbonate-

fluorapatite (ETR2O3-0.3%; SrO~1.0%; Al2O3~0.3%; BaO~0.3%; MgO~0.3%; CaO/P2O5~1.4) formed by supergenic dissolution and reprecipitation of a phosphate plasma in lower levels of the weathered mantle.

Exogenetic processes have developed a lateritic profile which varies from few meters down to 230m deep. These processes also gave rise to the world-largest niobium deposit that occurs in the central portion of the complex. The weathering profile is subdivided in three horizons based on chemical, mineralogical, and pedographical features: a) the fresh-rock horizon is composed of phlogopite, dikes and veins of carbonatite, apatite, nelsonite and magnetite, and barite veins. Chemically it is characterized by CO₂ varies from 7wt% to 25wt%, MgO varies from 8wt% to 15wt% and CaO/P2O₅ >2; b) a saprolitic horizon subdivided into a coarse horizon at the base and a fine one at the top. The coarse horizon is composed of phlogopite saprolite (vermiculite and magnetite) and fresh apatite, nelsonite, and magnetite dikes and veins. Not weathered carbonatite and phlogopite fragments are frequent. CO₂ varies from 1.5wt% to 6wt%, MgO varies from 3wt% to 8wt% and CaO/P2O₅ 1.5. The fine saprolitic horizon contains a brownish yellow matrix that becomes reddish towards the top. This horizon is characterized by the absence of vermiculite and the presence of iron oxi-hydroxides (goethite, hematite, and magnetite), kaolinite, anatase, gibbsite, and fresh apatite veins. CO₂ is ~0.5wt%, MgO ~0.5wt%, and SiO₂ varies from 5wt% to 40wt%, while Fe2O₃ riches up to ~35wt%. CaO and P2O₅ display a similar behavior with CaO/P2O₅ = 1.3 indicating the presence of apatite; c) the laterite horizon is composed of a reddish matrix with the original rock structure still preserved and contains iron oxi-hydroxides, secondary phosphates (crandalite group), gibbsite, kaolinite, and anatase. Fe2O₃ Varies from 45wt% to 70wt%, Al2O₃ varies from 5wt% up to ~15wt%, SiO₂ is ~3wt%, and CaO is ~0.1wt%. Al2O₃ and P2O₅ display a similar behavior indicating the presence of secondary phosphates. CaO/P2O₅ is 0.1 as the result of apatite alteration. its uppermost portion is composed of Al-rich levels with gibbsite and secondary phosphate nodules and a hematitic duricrust (50cm) without rock structure. In this portion Al2O₃ increases faster than P2O₅ due to an increase in the content of Al-bearing minerals, as gibbsite. Siliceous veins in the Barreiro Complex are the result of hydrothermal process. Besides that silica is dissolved and transported during weathering from upper to lower levels, filling voids in the saprolite. The genesis of the apatite deposit resulted from the intrusion of a swarm of nelsonite and apatite dikes and veins and the later differential weathering in the fine saprolitic horizon where carbonate and phlogopite were transformed and apatite preserved.

Vasconcellos, A.C. 1996. Phylogenetic relationships between middle carboniferous lophophyllid corals from Amazonas basin (Pará state, Brazil) and the mesocontinental region (Center-West, USA). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1467

1996

Date of presentation:

Alberto Corrêa de Vasconcellos

Advisor(s): Brito, I.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Yamamoto, I.T. 1996. Palynology from taphrogenic basins of southeastern Brazil (Taubaté, São Paulo and Resende basins): Biostratigraphic analysis and paleoenvironmental interpretation. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 528

1996

Date of presentation: 25/3/1996

Irma Tie Yamamoto

Advisor(s): Chang, M.R.C.

Committee:

Subject of thesis: Regional Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The palynological studies of cenozoic sediments from São Paulo, Taubaté and Resende basins provided the elements for the determination of the age and paleoenvironmental interpretation of the lithostratigraphic units.

The palynological assemblage comprises 94 genera and 109 species identified from analysis of 118 samples. The highly diversified microflora is composed of plants belonging to Algae, Fungi, Bryophyta, Pteridophyta, Gymnosperms and Angiosperms. The identification of botanical affinity of palynomorphs allowed the study of changes in the vegetation occurred during depositional history and provided paleoclimatic data. To achieve these proposals, the fossils were compared with their extant representatives in terms of climatic distribution and habitat.

The eight microfloras (A, B, C, D, E, F, G and H) determined from the Q-mode statistical analysis were correlated to lithostratigraphic units. Microflora A is clearly distinct from the others.

São Paulo Basin contains three microfloras (A, B and C) indicating time interval ranging from Oligocene to Miocene for deposition of Itaquaquecetuba Formation and Oligocene for São Paulo Formation. Warm and humid climate probably tropical to subtropical were observed at the three microfloras.

Taubaté Basin contains five microfloras. Tremembé and São Paulo formations have four (D, E, F and H) and three (B, F and H) microfloras, respectively. The age for both units is related to the Oligocene. Tremembé and São Paulo formations show climatic changes during sedimentation: the former unit is humid to relatively dry subtropical to warm temperate and the latter is humid tropical to warm temperate.

Resende Basin contains two microfloras (C and G) of a humid tropical climate, but deposited at different intervals: the former

microflora is related do the Oligocene and latter is related to the Eocene.

Amarante, A. 1997. Geochemical behaviour of heavy metals in mussy sediments of the Bacia de São Paulo basin, Suzano - SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 98 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1268 1997 Date of presentation: 3/7/1997

Andrea Amarante Advisor(s): Sígolo, J.B.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Apati, S. 1997. Mineralogy, micromorphology and granulometric distribution of altered material of a toposequences of the Lagoa Campestre lagoon, Salitre II carbonatitic alkaline complex, Minas Gerais state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1915 1997 Date of presentation: 25/6/1997

Sueli Apati Advisor(s): Sígolo, J.B.

Committee:

Subject of thesis:

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Salitre complex is located near the Patrocínio city, in Minas Gerais State, Brazil. The litological types associated classify it like an ultramafic-alkaline-carbonatitic complex. This complex is surrounded by fenites which resulted from a metassomatic event with the schistites and quartzites wall rocks. The geomorphological shape of this complex is a semicircular dome with a interior drainage basin that converges in a depression. This depression is named Lagoa Campestre. To understand the process of the materials transported into this system, it was developed in a tematical project, a sistematic work in the area. Among these, it was carried out many toposequences in the slopes around the lake. This work presents the results obtained from the study of one of these slopes. The LCA toposequence was made with a sistematical series of boring along the portion that comprise from the inferior middle to downslope, in the SE edge of the lake. Isodifferentiation curves was done based on the material from the boring. These curves clearly showed a succession of superimposed soil horizons that permitted to divide the toposequence in three zones. At the top of the toposequence the horizons were parallels topographic surface; at the middle the horizons were discordant and thickened itself to the downslope; and at the downslope the horizons have peats features or reliquial peats. Granulometrical, mineralogical and micromorphological analyses was made for the purpose of detail these sections and try to understand it

Araújo, J.M.M. 1997. Petrology, Geochemistry and Emplacement Mechanisms of the Solidão Granitic Batholith (State of Pernambuco). MSc Thesis, Departament of Geology, University Federal of Pernambuco, pp.

Granite body, Petrologic aspects, Geochemistry

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 637 1997 Date of presentation: 17/3/1997

João Maria Martins Araújo Advisor(s): Guimarães, I.P.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Solidão Granite, located NW of Afogados da Ingazeira (Pernambuco), situates at the NW limit of the Pajeú-Paraíba Belt within the Transversal Zone Domain of the Borborema Province. It is intrusive in biotite schists correlated to the Irajá Complex metasediments and in orthoderived gneissified granodioritic-tonalitic rocks. In the field four petrographic types are recognized: coarse pink granite - Grg (dominating type), equigranular grey granite - Gce, coarse whitish granite - Geg, and fine whitish granite - Gef.

The leucocratic nature of the dominant type shows a high enrichment in silica and alkalies, and a consequent depletion in FeO, MgO and CaO, reflecting an alkaline metaluminous magmatic filiation, which contrasts with a previously suspected shoshonite affinity. Its great homogeneity, characterized by the chiefly monzonitic composition, dispersion points in Harker-type diagrams, rare earth element patterns and fairly similar spidergrams between the various petrographic types, seem to be rather a reflection of geochemical signature of the source rock than magmatic fractionation processes. This way, the proposed petrogenetic model involves a partial fusion of a mantle source with important crustal contribution.

The synkinematic mineral association and the microtextural features of the Solidão pluton mylonites within the Solidão Shear Zone (ZCS), indicate that the zone functioning must have reached amphibolite-facies thermal conditions. Its emplacement mechanism is related to the ENE-WSW trend growths, recorded in its mylonites, and which originated during the establishment of the ZCS or in larger scale, by the jointed and synchronous settlement of the Afogados da Ingazeira Shear Zone (ZCAI) with the ZCS.

Azevedo, D.T. 1997. The tourmaline granites of Perus, SP state: Geologic and petrographic aspects. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1815 1997 Date of presentation: 15/12/1997

Dionísio Tadeu de Azevedo

Advisor(s): Ulbrich, H.H.G.J.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Baggio, S.B. 1997. Underground water in Joinville-SC state: hydrogeologic evaluation of the fractured aquifer. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1926 1997 Date of presentation: 5/11/1997

Sérgio Benjamin Baggio

Advisor(s): Rebouças, A.C.

Committee:

Subject of thesis: Hydrogeology

State: SC 1/1,000,000 sheet:

SG22

Centroid of the area: ' - 'W

Abstract

Barreto Sousa, S. 1997. Hydric resources of Maranhão island. MSc Thesis, Department of Geology, University Federal of Paraná; pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 838 1997 Date of presentation:

Sérgio Barreto Sousa

Advisor(s): Canali, N.E.

Committee:

Riad Salamuni

-

Luiz Eduardo Mantovani

-

Subject of thesis: Environmental Geology

State: MA 1/1,000,000 sheet:

SA23

Centroid of the area: 02 30 's - 44 15 'W

Abstract

Barrueto, H.R. 1997. Alkaline Sub-volcanic intrusions and lamprophyres in the auriferous mineralizations of the Rio Itapicuru Greenstone Belt, Bahia state: Petrography geochemistry and fluid inclusions. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1744 1997 Date of presentation: 30/1/1997

Hector Rolando Barrueto

Advisor(s): Xavier, R.P.

Committee:

Subject of thesis: Metallogenesis

State: BA 1/1,000,000 sheet:

SC24

Centroid of the area: ' - 'W

Abstract

At the Fazenda Maria Preta (FMP) and Mari (MR) gold deposit, in the Rio Itapicuru greenstone belt (RIGB), two host volcanic rocks and a mafic dyke were studied and reclassified. In the Corpo H body (FMP) the host rock is called silicified dacite, but in this work, based on the mineralogy and textural framework, the rock is reclassified as Elcáli-feldspar syenite (AFS). The mineralization is confined only to this lithology which does not extend to its sheared equivalent, previously called dacite. The C1 of MR is emplaced in a hypabyssal rock here classified as alkali-feldspar trachyte (AFT), considered previously as microgabro. Along the gold shear-zone in the RIGB, some disrupted dykes may be found, named sheared metadiorite. In this work, these

dykes are redefined by texture] and, mainly, chemical criteria, as monitic lamprophyre. The AFS and the AFT have high contents of Na and are very poor in K. Both are silica-saturated, and have very low values of Nb, Y, Rb and Sr. The AFS is more fractionated in REE than the AFT, without significant changes during the shear-event or hydrothermal alteration. Both rocks have constant Ti/Zr, Zr/Y, Nb/Y and La/Y ratios between fresh and altered parts. The high Na concentrations in the AFS, are considered to be primary, without metasomatic contribution. Otherwise, the high Na values in the AFT are considered as a product of a metamorphic contribution, although, an igneous origin cannot be discarded. These rocks show rhyodacitic/dacitic trace-element ratios indicating syn-collisional volcanic arc, calc-alkaline (AFS) to transitional (AFT) affinities. The AFS has Andean signatures, whereas the trondhjemitic gabbros, and the AFT shows andesite characteristics of continental margin arc. The lamprophyre data show a basic composition, with high magnesium number, high TiO₂, CaO, P₂O₅, Ni, Sr, Ba, and high REE fractionated pattern. The mineralization in the AFS occurs as inclusions preferentially in the matrix, in a paragenesis composed of arsenopyrite, pyrite, chlorite, ankerite and rutile. This scenario was caused by a brittle event, possibly with a late-magmatic degassing contribution. On the other hand, the mineralization in the AFT is associated with quartz, carbonate, albite and pyrite, and occurs in the altered parts of these rocks. Microremoval of fluid inclusions in mineralized and unmineralized veins reveal fluids in the AFS and AFT with high CO₂, and subordinate amounts of N₂ and CH₄. This extreme CO₂ enrichment can not be attributed to the deformation, but is linked to the pervasive degassing process, favoured by the presence of lamprophyres, as well as little hydrated alkaline bodies (not much hydrated), with the orientation following the megashear zone trend. In all likelihood, the gold genesis in the middle portion of the RIGB is related to the generation and/or intrusions of alkaline and lamprophyric magmas in deep shear zones (transcrustal), to high CO₂ concentrations, and to an arc setting in a collisional regime.

Becker, C.R. 1997. Sequences stratigraphy applied to the Permocarboniferous of the Solimões basin, northern of Brazil. MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, 100 pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 279 1997 Date of presentation: 1/4/1997

Carlos Roberto Becker

Advisor(s):

Committee:

Subject of thesis: Stratigraphy

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Application of cyclostratigraphic and sequence-stratigraphic concepts to the Permocarboniferous of Solimões Basin, northern Brazil. The goals were to verify the viability of correlation between evaporitic and cyclothem sequences, and to define the applicability of sequence-stratigraphic concepts in an intracratonic evaporitic succession.

The work spanned three phases. The first one consisted of conceptual and theoretic revision of all aspects related to the studied section. It included a study of the Pennsylvanian Subperiod, stratigraphic analysis methods, isotopic stratigraphy techniques, and the characteristics of evaporitic environments and basins.

The second phase was stratigraphic analysis, through the identification of cyclic stacking patterns in gamma-ray profiles, resulting in the definition of nine third-order depositional sequences. The sequential analysis of cores and thin sections of ditch-cutting samples allowed the identification of several key-surfaces, lithofaciologic associations, and system tracts.

The spatial distribution of the allostratigraphic units was illustrated by stratigraphic sections and isopach maps. The temporal distribution was obtained by a combination of the results of spectral analysis, the comparison of obtained ⁸⁷Sr/⁸⁶Sr ratios with global fit curves, and the absolute durations constrained by the fusulinids biostratigraphic zoning.

Analysis of stable isotopes of carbon and oxygen, made from 63 carbonate samples, gave indications about hydrologic behavior, eustatic variations, and palaeoclimatic conditions during the deposition of the succession.

The third phase consisted in analysis and critical discussion of all results, by verifying in which way they contributed to solve the proposed goals. A chronostratigraphic diagram of the entire Permocarboniferous Sequence was made, in order to illustrate the temporal and spatial distribution of the stratigraphic units.

The correlations indicated the occurrence of a marine transgression, represented by Marker 260, could have covered the Purus Arch during Late Morrowan times and invaded the Amazon Basin. Due to the overlap of evaporitic wedges upon the west flank of that arch, there was a superposition of several marine-flooding shales, with little hiatuses and diastems.

An uplift occurred in the Jandiatuba sub-basin, from Late Atokan to Desmoinesian stages, named here as Jandiatuba Tectonic Event. This event was characterized by stratigraphic, biostratigraphic, and petrographic evidences, and by isotopic indications of increasing salinity and temperature. This event could be related to the formation of Ouachita-Marathon Orogenic Front, which followed the intercontinental collision between Gondwana and Laurussia.

A hiatus of about 10.5 My, spanning all the Missourian and Early-Middle Virgilian stages, was identified between sequences 7 and 8, permitting better definition of the boundary between the Carauari and Fonte Boa formations, and of their absolute ages.

The composite stratigraphic character of the sequences was also evidenced. The glacio-eustasy induced by orbital forces, mostly by short eccentricity-precession cycles, was the main allocyclic factor, especially during the Atokan and Late Desmoinesian stages.

The sequences followed asymmetric transgressive-regressive stacking patterns. The lowstand system tracts (halite evaporitic wedges) only occurred when additional depositional space was created by tectonics.

The average duration of fourth-order sequences was estimated between 114.000 and 173.000 years (short eccentricity), and around 456.000 years (long eccentricity). These values seem to be quite compatible with those of contemporaneous cyclic sequences in the North American Midcontinent, as well as those in Europe. The Late Morrowan marine floodings in the Solimões Basin were related to a transgressive eustatic global event.

Benique, M.E.C. 1997. Characterization of the serpentinization products of Vermelho ultramafic rocks, Serra dos Carajás range, PA state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1065 1997 Date of presentation: 10/9/1997

Miguel Elias Calcina Benique Advisor(s): Oliveira, S.M.B.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: PA 1/1,000,000 sheet: SB22 Centroid of the area: ' - 'W

Abstract

Bertei, S.R. 1997. Environmental characterization of the Rio Camaquã drainage basin: Upper portion. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 864 1997 Date of presentation: 26/5/1997

Sandro Roberto Bertei Advisor(s): Gonçalves, A.R.L.

Committee:

Subject of thesis: Earth Sciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Bocalon, V.L.S. 1997. Characterization of Cu-Au primary mineralization in the Igarapé Bahia mine, Carajás, PA. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 874 1997 Date of presentation: 30/7/1997

Vitor Luiz Scartazini Bocalon Advisor(s):

Committee:

Subject of thesis: Earth Sciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Brasilino, R.G. 1997. Petrology and Geochemistry of Conceição das Creoulas Subcrustal Granitic Pluton, Alto Pajeú Terrane (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Granitic pluton, Alto Pajeú (PE), Petrology, Mineral association, Magmatic epidote

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 638 1997 Date of presentation: 25/7/1997

Roberta Galba Brasilino Advisor(s): Sial, A.N.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet: Centroid of the area: 08 16 's - 38 50 'W

Abstract

In spite of insignificant for rock nomenclature and classification, accessory minerals have been used to infer petrogenetic processes. Since the concept of magmatic epidote (mEp) has been accepted, this mineral may be used as an oxygen fugacity index and, together with hornblende, as pressure indicator of granite emplacement. In this thesis, petrographic, lithogeochemical, mineral chemistry and thermobarometric data have been discussed for the Conceição das Creoulas batholith (BCC), in the Alto

Pajeú terrane, State of Pernambuco.

This BCC is located in the SW of Pernambuco between 8°11' and 8°21' S and 38°41' and 39°00' W, with an elliptical form and major axis NW-SW. It is composed of porphyritic biotite granodiorites, porphyritic biotite monzogranites, calc-alkaline, metaluminous to slightly peraluminous, intruded in the Riacho do Forno granitic-migmatitic suite, in the Alto Pajeú Terrane. The central and southern parts of the batholith present a great number of quartz diorite and quartz monzonite enclaves, of irregular morphology and orientation. Shearing is evident in the batholith margins, with a well developed surrounding foliation, suggesting a forced injection.

The mineral assemblage includes quartz, perthitic microcline, plagioclase and biotite, with accessories of hornblende, epidote, sphene, zircon and allanite. Microcline and plagioclase occur as megacrystals as well as in the matrix. Textural relations of subhedral epidote against biotite and corroded contacts with same-sized plagioclase, indicate this phase to have been partly reabsorbed by the magma, suggesting that this migrated rather rapidly towards the surface, thus eviting complete solution of the epidote. Ps content varies according to mEp textures. Rests of hornblende within enehedral epidote suggest that part of it reacted to form epidote and that it has been early fractionated resulting in a peraluminous magma tendency. This became solid at pressures between 7 and 8 kbar.

Calarge, L.M. 1997. Diagenetic evolution and its implication for the characterization of the clayminerals associated to coal beds of Candiota mine - RS, Rio Bonito formation, Paraná basin, Brazil. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 863

1997

Date of presentation: 16/7/1997

Liane Maria Calarge

Advisor(s): Garcia, A.J.V.

Committee:

Subject of thesis: Sedimentary Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Castelo Branco, R.L. 1997. Application of Electrical Resistivity Geophysical Method in the Discovery of Fissure Zones in Crystalline Rocks. MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Electro-resistivity geophysics, Well analysis

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 560

1997

Date of presentation: 25/2/1997

René Lima de Castelo Branco

Advisor(s): Feitosa, E.C.

Committee:

Subject of thesis: Hydrogeology

State: CE

1/1,000,000 sheet:

SA24

Centroid of the area:

' -

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Abstract

The study area of this thesis comprises Jordão village, Sobral municipality (Ceará State), an area of about 20 km² in the Meruoca granite terrain. Besides photogeology, have been made twenty vertical electric logs with maximum AB current emission of 150 m, and 3000 m of lateral resistivity section. As equipment was employed an ER-80 PROEL resistivity meter, with use of a symmetrical linear four-pole of Schlumberger as measuring device. It was possible to characterize an alternation of electric-resistant and conductive zones, with NE-SW trend. The conductive zones show a width between 200 and 500 m, corresponding to more intensive NE-SW fracture zones, seen in outcrop. The resistant zones correspond to areas with a more compact granite. Data analysis of six tubular wells drilled and tested by CAGECE, permitted to conclude the better depths being associated with electric-conductive zones. Additional analysis of 145 vertical electric logs made by NUTEC in crystalline rocks of Ceará since 1988, suggest statistically the occurrence of low resistivities in the regolith layers which cover the fractures, possibly due to a better capillar rise. The obtained results permit the conclusion that the electro-resistivity method may be a valuable instrument for the maximum discharge of wells in crystalline rocks, having to be used however, intimately related with photogeology. For the method to turn economic for the well location procedures, the number of electric measurements in the field has to be restricted, aiming only preferential targets selected by photogeology. Taken into consideration that the producing fissures are generally of small width, it will be important to maximize their detection possibilities. For such systematic measurements, lateral resistivity sections have to be established, with maximum AB of 100 m, MN line of 4 m, and a 4 m spacing between the measure points.

Castro, E.M.O. 1997. Geologic-structural mapping and petrography of the precambrian successions in Lambari area, Minas Gerais state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1147

1997

Date of presentation:

Eduardo Mendes de Oliveira Castro

Advisor(s): Trouw, R.A.J.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Castro, N.A. 1997. Contribution to the geologic-metallogenetic knowledge associated to the intrusives granitoids in the Brusque group (SC state) based on the use of geologic, aerogammaspectrometric and LANDSAT/TM-5 informations. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1766 1997 Date of presentation: 22/8/1997

Neivaldo Araújo de Castro

Advisor(s): Crósta, A.P.

Committee:

Subject of thesis: Metallogenesis

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

This work seeks to contribute for the geologic-metallogenetic knowledge of the intrusive granitoids of the Brusque Group (GIGB), Santa Catarina State. Available geologic information were used in conjunction with petrographic and geochemical information and with aerogeophysical and remote sensing data. Geologic information indicated that the GIGB are polarized between a northern and a southern domains in the study region. In the southern domain, grey/white biotite-muscovite granitoids were generated under crustal influence from reduced magmas. In this domain occurrences of Sn, Mo and W are found. The occurrence of gneisses and migmatites associated to the granitoids of this domain, as well as their characterization as transitional between types I, S and A, indicates their evolved character. The occurrence of K-feldspar hornblende granitoids are characteristic of the northern domain, representing more oxidizing conditions, as well as Au and W occurrences. A possible source for the rocks of the northern domain are the granulitic gneisses of the Luis Alves Craton, located to the north. Aerogammaspectrometry data, transformed into grids and processed as digital images, contributed for detailing the geology of the study region. These data showed a strong pose and it was necessary to apply pre-processing techniques to minimize the problem, making it possible to interpret the data in relation to the known geology. LANDSAT/TM-5 data were used for structural interpretation, providing important information about the structural elements of the area, such as fractures, faults and mineralized veins. Correlation between these structures and the directions obtained from lineament maps showed the importance of using remote sensing imagery in the study region.

Costa Filho, W.D. 1997. Chemical Characterization of Groundwater in the Recife Plain (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Recife plain, Groundwater, Hydrochemistry, Water quality

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 559 1997 Date of presentation: 24/2/1997

Waldir Duarte Costa Filho

Advisor(s): Pinto, F.G.

Committee:

Subject of thesis: Hydrogeology

State: PE 1/1,000,000 sheet: SC25 Centroid of the area: ' - 'W

Abstract

The present study shows the results of the groundwater chemistry of the Recife plain (Pernambuco), making use of physical-chemical analysis of 268 wells and of the aquifer lithology.

In the Recife plain, recent work indicates three interstitial aquifers, the so-called Lower Beberibe, Cabo and Boa Viagem. The Lower Beberibe aquifer, composed of continental quartzose sandstones, is of major yield and of good hydrodynamic conditions, when compared with the Cabo and Boa Viagem aquifers, which are composed of mixtures of clayey sands, silts and muds, of continental origin or marine as in the younger, Boa Viagem aquifer.

The waters are very heterogeneous, being mixed in the Boa Viagem and Lower Beberibe aquifers, and bicarbonatic in the Cabo aquifer. Cations are chiefly sodic, with the presence of a few calcic waters in the Boa Viagem and Lower Beberibe aquifers. Chlorides are well correlated with Ca^{2+} , Mg^{2+} , Na^{+} , and electric conductivity when requiring correlation of bicarbonates with Mg^{2+} and Na^{+} , is good, but observed only in the waters of lower depths.

Costa Jr, C.N. 1997. Mineralogical characterization of the different ore types and flotation concentrates from the Morro do Ouro mine, Paracatu - MG. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M120

DataBase Ref.: 180 1997 Date of presentation: 22/8/1997

Carlos Nogueira da Costa Junior Advisor(s): Gaspar, J.C.Committee: Paulo de Tarso Ferro de Oliveira - IG/UnB
José Vicente Valarelli - IGc/USP

Subject of thesis: Mineralogy and Petrology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

The Morro do Ouro Mine belongs to the Rio Paracatu Mineração S/A and is located in the north side of the Paracatu town, Minas Gerais State. It is part of the center east portion of the Brasília Fold Belt, occurring in the carbonaceous phyllites from the Morro do Ouro facies, Paracatu Formation. It is economically important as it is a giant gold deposit with 300 million tons of ore at about 0.44 g/t. It is the lowest grade economically exploited mine in the world.

The deposit became economically exploitable due to lithologic and structurally controlled supergenic processes which developed a large fine-grained saprolite horizon, the ore itself. The ore was divided in seven types according to a geometalurgical classification (T1 to T7). Geochemical and mineralogical data show that weathering in Morro do Ouro is not mature and is characterized by the transformation of muscovite in illite and low kaolinite formation.

Essential and accessory minerals are similar in all types. They are mainly composed of white mica (muscovite and illite) and quartz, the two adding up to 85wt% of the ore. Accessory minerals are: chlorite, albite, anatase, siderite, and kaolinite. In average each of these is less than 5wt% but they discriminate the ore types. Trace minerals are: rutile, galena, sphalerite, ilmenite, goethite, pyrite, and arsenopyrite. Carbonaceous material reaches up to 1wt%.

T1, T2, and T3 are mineralogically very similar, with almost identical contents white mica and quartz. Accessory minerals diminish from T1 to T3, except anatase. T4 is distinct as it contains the largest fresh rock contribution with higher albite and siderite, and lower chlorite concentrations. T5 does not exist in the present pit. T6 is characterized by a low gold recovery in the plant and its highest illite and kaolinite contents indicate its highest weathering degree, and are characteristic of it. T7 has a restrict occurrence and presents mineralogical and chemical features intermediate to T1 and T4.

Gold concentration increases with weathering and could have evolved as follows: a) T4 is the less weathered ore and presents the lowest gold grade; b) with evolving weathering, siderite, albite, muscovite, and certainly sulfides, are destabilized, forming mainly illite. Gold grade increases and gold recovery is good. T1, T2, and T3 represent this stage; c) in a more evolved weathering profile gold grades continue to increase but clay minerals, mostly from the kaolinite group, are formed and gold recovery decreases. This is represented by T6.

Gold occurs as disseminated 15 (5 to 500) grains mainly associated to the quartz boudins and in the weathered phyllite. Usually, it contains silver (average of 74at%Au and 26at%Ag).

The studies of the different ore types showed the complexity of genetic processes involved in gold deposit formation and is an example of the role of mineralogic characterization of ores as an important tool for the comprehension of ore/gangue association for a better adjustment of geology, planning, mining, and metallurgy in the mineral industry.

Cristalli, P.S. 1997. Tafoflora of the Nova Iorque beds, neogene deposits of the Rio Parnaíba river, municipality of Nova Iorque (MA state), Brazil. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1947 1997 Date of presentation: 22/10/1997

Patrícia de Souza Cristalli Advisor(s): Bernardes-de-Oliveira, M.E.C.

Committee:

Subject of thesis: Palaeoecology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Faria, L.F. 1997. Control and tipology of the flake graphite mineralization of northeastern of Minas Gerais and southern of Bahia: a regional approach. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 26

DataBase Ref.: 2370 1997 Date of presentation: 5/12/1997

Leonardo Figueiredo de Faria Advisor(s): Pedrosa-Soares, A.C.Committee: Lydia Maria Lobato - IGC/UFMG
Ivo Antônio Dussin - IGC/UFMG
Ronald Fleisher -

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE24 Centroid of the area: ' - 'W

BA

Abstract

Filizola Jr, N.P. 1997. Flow of sediments in suspension in the rivers of the Brazilian Amazon basin. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M122

DataBase Ref.: 182

1997

Date of presentation: 14/11/1997

Naziano Pantoja Filizola Junior

Advisor(s): Boaventura, G.R.

Committee: Marcel Auguste Dardenne - IG/UnB
 Carlos Eduardo Morelli Tucci - IG/UFRGS
 Jean Loup Guyot - ORSTON

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

In actual discussions involving Amazon environment, the suspended sediments flux or discharge, as the water flow, are both, basic informations for other scientific assessments, specially concerning geochemical flow. Some experiments were done on suspended sediment budgets in Amazon basin and some estimations of the suspended sediment flux at the mouth of the Amazon river, was also made. As a conclusion scientists have cited the Amazon river as one of the biggest rivers in the world on suspended solids discharge. Concerning this theme, in this text, a study was done with DNAEE sedimentometric network, a Brazilian government agency that operates 60 stations, since 1977 (fig.1).. This agency has done more than 2500 samples for TSS-total suspended solids. These data and network are actually under the management of the Brazilian National Agency for Electric Power – ANEEL and makes possible a good assessment of the TSS transported by rivers on the Amazon basin. A new estimation, of about 600 106 t.ano-1, was done for the mean annual discharge of suspended sediments at the mouth of the Amazon river (fig.2).. These results re-classified, that big river, as the third one in the world, concerning the sediment yield. The Solimões and Madeira, rivers ones that comes from the Andes, are the greatest contributors in terms of suspended solids transport. They represents 95% of all the TSS transported on the Amazon Basin. Also, these results reinforce the importance of the Andes on the Amazon river basin system of suspended sediments transport in Brazil.

Gesicki, A.L.D. 1997. Geology of Aquidauana formation (Neopaleozoic, Paraná Basin) in the center-northern portion of Mato Grosso do Sul state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 126pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1687

1997

Date of presentation: 27/2/1997

Ana Lúcia Desenzi Gesicki

Advisor(s): Riccomini, C.

Committee:

Subject of thesis: Sedimentary Geology

State: MS 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Gioia, S.M.L.C. 1997. Preparation of the Sm-Nd methodology for the dating of geological samples and its application in rocks of the Firminópolis, Fazenda Nova and Americano do Brasil area. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M121

DataBase Ref.: 181

1997

Date of presentation: 19/9/1997

Simone Maria Lima Costa Gioia

Advisor(s): Pimentel, M.M.

Committee: Geraldo Resende Boaventura - IG/UnB
 Candido Augusto Veloso Moura - CG/UFGA

Subject of thesis: Regional Geology

State: GO 1/1,000,000 sheet:

SE22

Centroid of the area: ' - 'W

Abstract

In order to improve the knowledge concerning the real extension of the Neoproterozoic Goiás Magmatic Arc, the Sm-Nd method was used in several geological units exposed in western Goiás. The Sm-Nd analytical method started to be used in routine at the Geochronology Laboratory in the UnB during this work. The analytical procedure used is described in detail. The method installed and tested in international rock standards and in a sample analyzed at the University of Oxford showed good reproducibility. The experimental blank found its comparable with the average obtained by others geochronology laboratories. The methodology of Richard et al. 1976, with some improvements, which resulted in the absence of isobaric interferences on Sm-

Nd isotopic determinations.

The method was then used to investigate orthogneisses and a mafic-ultramafic complex in the Firminópolis, Fazenda Nova e Americano do Brasil regions, in Goiás, central Brasil.

The Firminópolis gneiss showed a Sm-Nd isochron age of c.a. 628 Ma, probably indicating isotopic re-homogenization. Model age and isotopic composition are similar to the juvenile orthogneisses of western Goiás, which constitute the Goiás Magmatic Arc.

An isochron age of 610 Ma was established for the Americano do Brasil Mafic-Ultramafic Complex, interpreted here as the crystallization age. This age is similar for late- and post-tectonic diorites, gabbros and granites exposed in the whole region. The gneissic host to those rocks analyzed presented Nd isotopic compositions and model ages which are similar to the Firminópolis, Arenópolis, Matrixã and Sanclerlândia gneisses, indicating that they are also part of the Magmatic Arc.

The model ages obtained for the Fazenda Nova rocks varied between 0,9 to 3,3 Ga, indicating the presence of older material, south of Fazenda Nova.

According to results the Magmatic Arc of Goiás extends to the east up to the Americano do Brasil Mafic-Ultramafic Complex.

Gonçalves, F.T.T. 1997. Geochemical and palaeoenvironmental characterization of the inferior Cretaceous of Camamu basin, Bahia state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1383

1997

Date of presentation:

Félix Thadeu Teixeira Gonçalves

Advisor(s): Carvalho, I.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: BA

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Heineck, C.A. 1997. Geology and mineralizations of the Rio das Velhas greenstone belt in the Mateus Leme region, State of Minas Gerais.. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 28

DataBase Ref.: 2372

1997

Date of presentation: 17/12/1997

Carlos Alberto Heineck

Advisor(s): Quêmenêneur, J.J.G.

Committee:

Antônio Wilson Romano

- IGC/UFMG

Friedrich Ewald Renger

- IGC/UFMG

Ariplínio Antonio Nilson

- IG/UnB

Subject of thesis: Regional Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

Hellmeister Jr, Z. 1997. Geological aspects and main mineral resources of Franca-Pedregulho region, northeastern of São Paulo state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 162pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1686

1997

Date of presentation: 8/12/1997

Zeno Hellmeister Júnior

Advisor(s): Petri, S.

Committee:

Subject of thesis: Sedimentary Geology

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

Isoppo, M.R. 1997. New evidences of the existence of Gravataí-Guaíba lagoon system based in the diatoms occurrence in a peat deposit in the Rio dos Sinos drainage basin, São Leopoldo-RS. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 859

1997

Date of presentation: 25/11/1997

Margarida Richter Isoppo

Advisor(s): Leipnitz, I.I.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Junqueira,P.A. 1997. Geology of the Mina de Raposos gold deposit, Quadrilátero Ferrífero, with emphasis on the hydrothermal alteration. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 27

DataBase Ref.: 2371 1997 Date of presentation: 16/12/1997

Patrícia Alves Junqueira Advisor(s): Ladeira,E.A.

Committee: Lydia Maria Lobato - IGC/UFMG

Jorge Silva Bittencourt - IGc/USP

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Klein,C. 1997. The Pinzonella sp fauna in São Gabriel municipality, RS: Palaeoecological and palaeobiogeographical implications. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 873 1997 Date of presentation: 9/9/1997

Carla Klein Advisor(s): Leipnitz,I.I.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Leite,E.C. 1997. The tectonic evolution of the Rio das Mortes and São Sebastião da Vitória basins - São João Del Rei, State of MG. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 136 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 23

DataBase Ref.: 2367 1997 Date of presentation: 24/3/1997

Elba Caldeira Leite Advisor(s): Saadi,A.

Committee: Carlos Maurício Noce - IGC/UFMG

Paulo de Tarso Amorim de Castro - DEGEO/UFOP

Subject of thesis: Geodynamics and Crustal Evolution

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Leite,F.P.R. 1997. Neogene palinoflora of the Pirabas formation and Barreiras group, coastal area - northeastern of Pará state, Brasil. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1945 1997 Date of presentation: 16/5/1997

Fátima Praxedes Rabelo Leite Advisor(s): Bernardes-de-Oliveira,M.E.C.

Committee:

Subject of thesis: Palaeontology

State: PA 1/1,000,000 sheet: SA23

Centroid of the area: ' - 'W

Abstract

Leite,R.J. 1997. Geology, petrography and geochemistry of the Piedade region granitoids, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 138 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1064 1997 Date of presentation: 3/9/1997

Renato Jordan Leite Advisor(s): Janasi,V.A.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Lima,T.M. 1997. Geology, stratigraphy and petrology of south portion of Cana brava mafic-ultramafic complex, Goiás state - Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

[cana brava complex, brazil, goias, mafic-ultramafic complex, fractionation, cristalization, platinum group elements, PGE, mineral exploration](#)

Instituto de Geociências - Universidade de Brasília

Reference: M118

DataBase Ref.: 178 1997 Date of presentation:

Thiers Muniz Lima Advisor(s): Nilson,A.A.

Committee: Cesar Fonseca Ferreira Filho - IG/UnB
Vicente Antônio V. Girardi - IGc/USP

Subject of thesis: Prospection and Economic Geology

State: TO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The research area is located near the city of Minaçu, and it comprises one transverse section in the southern end of the Cana Brava Mafic-Ultramafic Complex, in the state of Goiás. This complex is a layered intrusion located in Goiás Massif of the Tocantins Province. The complex is divided into three zones: Lower Mafic Zone, Ultramafic Zone and Upper Mafic Zone, that have been named as Cana Brava Series.

The Lower Mafic Zone starts with the occurrence of olivine melagabbro, which is overlaid by meta-gabbro with minor meta-pyroxenite that forms the border group of the intrusion. The Ultramafic Zone is made up mainly with meta-peridotite-pyroxenite sequences, whereas the Upper Mafic Zone consists of seven subzones each one starting with a lowermost pyroxenite layer and ending up with an uppermost meta-gabbro (or meta-norite) layer.

Stratigraphic relationships between different units, petrography, mineral chemistry and rock geochemistry have given the scientific background for the interpretation on the magmatic differentiation of the complex. A remarkable steady differentiation trend is observed in the Lower Mafic Zone from its bottom throughout its top. In the Ultramafic and Upper Mafic Zone repeated magmatic fractionation trend have been observed, that indicate the presence of cyclic units generated by the replenish of the magma chamber by new incoming magma pulses, characterizing this reservoir as an open system.

Rare earth distribution patterns in the liquids that have given rise the cumulates at the bottom of the Lower Mafic Zone and also the cyclic units from the Upper Mafic Zone show similarities.

The complex exhibits similar characteristics to other tholeiitic affiliated layered intrusions and specially with the Niquelândia Complex, where striking similar fractionation trends of pyroxene pairs.

Extensive ductile deformation fingerprints have observed in the study area with an increasing strength of this deformation towards the base of the complex. Both the contacts of the intrusion with the Palmeirópolis Volcano-Sedimentary Sequence and Granitic-Gnaiss Complex are tectonic. The deformation event is related with the development of metamorphic paragenesis of the granulite facies.

The main PGE exploration target in the Upper Mafic Zone is suggested to be the base of each cyclic unit that starts up with pyroxenite layer.

Lira,A.R.A. 1997. Morphodynamic Characterization of the Coast between Enseadinha and Maria Farinha Beaches (Paulista, State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

[Coastline, Morphodynamics, Environmental problems, Coastal evolution](#)

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 608 1997 Date of presentation: 30/12/1997

Anna Rosa do Amaral Lira Advisor(s): Valença,L.M.M.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Pernambuco State litoral zone presents serious environmental problems caused chiefly by disordered urban occupation. So, various points at the coast are disequibrated, showing moderate to strong progressive marine erosion, still not able to diagnose precisely because of insufficient systematic data necessary for the understanding of local and regional causes. This erosion

process is due to elimination of one of the most important sources of sand reposition by coastal currents, causing a more intense attack of waves and currents on the local beach. Form and constitution of the coastline result from a complex geomorphic system which in the long term, adjust equilibrium in answer to natural physical changes. Whatever obstruction in the coastline or near it, interferes in the natural regime and will, in the short term, cause changes in the erosion and growth model. Thus, there have been made alongside the Paulista municipality coast, topographical leveling (for calculation of material volume variation), photographic investigations, sediment sampling as well as walks for characterization the beach realm and registration of possible occurred changes. The Enseadilha beach shows a strong erosion tendency, between May 1987 and August 1995 with gradual material reposition from that month onwards, however only reconstituting in part its original profile. The sedimentary balance remained, in this way, negative. The sands are generally medium-grained, transported by saltation. The beach was characterized as of intermediate morphodynamic trend. The execution of defense works (spits and dikes) on the Enseadilha beach, controlled only the erosional process near these, leaving the parts in between without protection. The Pau Amarelo beach receives a significant sediment supply and consequently presents a positive balance. It shows an intermediate character, with medium-grained sand grains. At last, the Maria Farinha beach showed in the beginning, an evident progradation. From January 1989 onwards, a growing and constant material removal has been recorded; the sediment balance became negative. The sands show medium- to fine grain size, with a chiefly saltation transport. This beach presented a dissipation trend morphodynamic character.

Lisboa, A.A. 1997. Methodological proposal for the hydrogeological evaluation of the São Miguel compartment karstic aquifer. MSc Thesis, Department of Geology, University Federal of Paraná; pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 840

1997

Date of presentation:

Alvaro Amoretti Lisboa

Advisor(s): Rosa Filho, E.F.

Committee: João Manoel Filho

- DG/UFPE

Riad Salamuni

- DG/UFPR

Subject of thesis: Environmental Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Lopes, R.P. 1997. Petrology of the phonolites of Fernando de Noronha archipelago, PE state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 125 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1062

1997

Date of presentation: 1/7/1997

Rosana Peporine Lopes

Advisor(s): Ulbrich, M.N.C.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Luz, C.F.P. 1997. Palynologic study of the Lagoa de Cima holocene sediments, Campos municipality, northern of the Rio de Janeiro state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1595

1997

Date of presentation:

Cynthia Fernandes Pinto da Luz

Advisor(s):

Committee:

Subject of thesis: Palaeontology

State: RJ 1/1,000,000 sheet: SF23

Centroid of the area: ' - 'W

Abstract

Madeira, C.V. 1997. Depositional modelling for the recent fluvial sediments of Rio do Bananal valley (Paraíba do Sul river medium valley, SP/RJ states). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1382

1997

Date of presentation:

Claudio Valdetaro Madeira

Advisor(s): Moura, J.R.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W
RJ

Abstract

Martinis, E. 1997. Paleocene-Eocene planctonic foraminifera of the Sergipe basin: Taxonomy and biostratigraphy. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1447 1997 Date of presentation:

Elena Martinis

Advisor(s): Koutsoukos, E.A.M.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Martins, M.H.A. 1997. Morphodynamic Characterization of the Itamaracá Island Coast (State of Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Coastline, Morphodynamics, Sediment analysis

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 607 1997 Date of presentation: 29/12/1997

Marcos Henrique de Abreu Martins

Advisor(s): Valença, L.M.M.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Itamaracá island, at about 50 km N of Recife (Pernambuco), suffered from the increase of tourism and new population, from the 70s onward, which together with natural processes and due to the lack of objective legislation with respect to land occupation, caused severe environmental problems for its coast. The present investigation envisages to diagnose the present beach conditions, through a morphological and textural characterization. The occurrence of various channels and sand bars in the foreshore alongside the whole coast of Itamaracá, give to it an intermediate to dissipative character from the morphodynamic point of view based on the classification proposed by Wright and Short in 1984. The investigations were carried out between May and December 1996, aiming at a detailed monitoring, realized at the same time systematically, two monthly topographic levelings (before and after every spring tide), at low tide, at four beaches: São Paulo, Pilar, Jaguaribe and Sossego. The analysis of beach sections indicates that, in the São Paulo beach, a well-marked sedimentation process is in operation, with the presence of sand banks with small channels. Equilibrium is found in the Pilar beach, probably due to submerged reefs which protect it from strong wave action and, due to the retreat of fixed constructions which respect to a strip of about 30 m distance behind the berm line. In the Jaguaribe beach there is a depositional trend originated by the presence of extensive sand banks around the Jaguaribe river mouth, as a result of a "breakwater effect" which this river rouses on the sediments of the coastal current, coming from the northward beaches. The Sossego beach, to the north of this river, presents similar behaviour as the Jaguaribe beach. Samples were also collected in August 1996 (winter) and in March 1997 (summer), from the backshore, beach and foreshore areas at the sites of the studied sections, and in the spits at the north and south of the Santa Cruz Canal mouth. Grain-size analyses of samples from the São Paulo beach indicate that they are very similar to each other, being classified as medium-grained sands. In the Jaguaribe beach however, the foreshore is constituted by a very coarse to coarse deposit, due to the Jaguaribe river mouth influence. The samples are medium-sorted, symmetric toward the coarse side, and platycurtic. The sample collected at the middle of the beach are classified mostly as fine- to medium-grained sands, poorly sorted, very asymmetric to coarse, and leptocurtic. The backshore presents a medium-grained sediment, fairly well sorted, very asymmetric to the fine grained, and mesocurtic to very platycurtic, being the result of wind action, quite competent for saltation transport of sand grains. Sample collected in August 1996, in the Sossego beach, is coarse grained, probably due to the highest yearly spring tide levels which reworked the sediment here. When comparing the median grain-size diameter with the medium beach declivity, a result was obtained that a 00 declivity shows a fine sediment, with increase or decrease of the a median diameter an increase of beach declivity is caused.

Melo, S.C. 1997. Petrology and Geochemistry of the Prata Granitic Complex (State of Paraíba). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Granitic Complex, Petrographic facies, Geochemistry

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 622 1997 Date of presentation: 27/2/1997

Silvana de Carvalho Melo

Advisor(s): Guimarães, I.P.

Committee:

Subject of thesis: Mineralogy and Petrology

State: PB 1/1,000,000 sheet: SB24 Centroid of the area: 07 42 's - 36 57 'W

Abstract

The Prata complex constitutes a 350km² intrusion, cutting through gneisses and migmatites of the Pajeú-Paraíba Belt basement, between 7°34' and 7°50' S and 36°45' and 37°10' W. This Prata Complex is composed of granitic dikes and stocks, locally containing mafic enclave swarms, distributed near the complex's borders, following the trend of the basaltic dike swarms. NNE and E-W trending dacite and basalt dikes have been observed cutting through the surrounding granites and migmatites. Six petrographic facies have been mapped in the Prata Complex: porphyritic biotite syenite-granites (BSGP), porphyritic hornblende syenite and monzo-granites (HBSMGP), biotite syenite-granites (BSG), monzodiorites to quartz monzonites (MQM), diorites and norites. The Prata Complex rocks are metaluminous and subalkaline, showing a wide variation in SiO₂ (49-75.3%), Fe₂O₃ (1.7-14. %), MgO (0.3-9.7%), K₂O (0.7-5.5%) and CaO (0.4-11%). The contents Nb (26-46ppm) and Y (38-61 ppm) are high when compared with the average observed in calc-alkaline and shoshonitic affinities granites of the Borborema Province. Three distinct normalized ERT patterns in relation to chondrite, are observed: the patterns HBSMGP, BSGP and BSG show average LREE/HREE = 13.7 as well as significant negative anomalies of Eu. The diorites and MQW show similar patterns to those observed before, with but less negative Eu anomalies. The norites present horizontal patterns with small negative Eu anomalies. Primitive-mantle normalized spiderdiagrams show three distinct patterns: granite patterns are fractionated with important troughs in Ti and Sr; small ones in Nb, Y and Ba, and peaks in Rb and K; the diorites and MQM are characterized by patterns similar to those of the granites, although with smaller troughs in Ti and Sr; the basalt patterns show small depletions in Nb, Ti and Sr and those of the norites have deep troughs in Y, Ti, Sr and Nb. Petrographic and geochemical data indicate that the Prata Complex was originated by different magmas which mixed partly during their rise. Petrographic, chemical and field relationships lead to the conclusion of a co-genesis between dacites and granites, and between basalts and diorites,, pointing to a bimodal magmatism. Rb-Sr isotopic data for the Prata Complex rocks indicate an age of 512 ± 32 Ma and a, initial 87Sr/86Sr ratio of 0.7132. This high initial Sr ratio suggests a crustal origin for these rocks.

Mesquita, M.P.S. 1997. Structural analysis of the shearing zones of Ouro Fino e Borda da Mata region - MG. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 167 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR042

DataBase Ref.: 940 1997 Date of presentation:

Maria Palmira Soares de Mesquita Advisor(s): Ebert, H.D.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Mihály, P. 1997. Sedimentary dynamic of northern Paraná and far south São Paulo litoral. MSc Thesis, Department of Geology, University Federal of Paraná; pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 841 1997 Date of presentation:

Paola Mihály Advisor(s): Angulo, R.J.

Committee: Lauro Júlio Calliari - FURG
Michel Michaelovitch Mahiques - IGc/USP

Subject of thesis: Environmental Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Monteiro, L.V.S. 1997. Contribution to the genesis of Zn mineralization in Vazante mine, MG state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 159pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1269 1997 Date of presentation: 2/12/1997

Lena Virgínia Soares Monteiro Advisor(s): Bettencourt, J.S.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Moraes, R.P. 1997. Transport of lead and associated metals in the Rio Ribeira de Iguape river, São Paulo

state, Brazil. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1776 1997 Date of presentation: 7/11/1997

Roberto Padula de Moraes

Advisor(s): Figueiredo, B.R.

Committee:

Subject of thesis: Metallogenesis

State: SP 1/1,000,000 sheet: SG23 Centroid of the area: ' - 'W

Abstract

The objective of the present study is to clear some aspects of the transport of Lead and associated metals by suspended particulate matter along the Ribeira de Iguape River, in the southeastern region of the state of São Paulo. Literature data were taken into account, as well as findings gathered from studies of sediments collected in stations at different sectors of the Ribeira river basin. In addition, in the region surrounding the city of Sete Barras, samples of water, suspended solids and sediments of the other tributaries which flow into the Ribeira in the stretch between these two sampling stations. Isotopic ratios of lead were determined in sediments taken at 10 sampling stations distributed from the high valley of the Ribeira down to its mouth in the estuarine lagoons system of Iguape and Cananéia, and were compared to values obtained by other authors in galenas of mines of the Perau and Panelas do deposits types, and of younger ore deposits as well. Results showed similar isotopic rates for sediments and galenas of deposits of the Panelas type, showing that extractive and beneficiation activities of its ores were the ones that most contributed to the contamination by lead verified in sediments of this river. Studies with water samples, sediments and suspended solids taken in the channel of the Ribeira River, and with sediments columns, of the marginal lagoons in Sete Barras, proved that metals are transported mainly by the solids that are suspended in water. Concentrations of metals, especially lead, in samples of the solids suspended in river waters were similar to those found in the middle of the column of sediments taken at Lagoa Nova. Therefore, the mass of this metal transported yearly by the Ribeira River could be estimated as being of 151 tons adsorbed on 840.000 tons of suspended solids. This mass of lead equals 6% of the annual production of metallic lead in the Ribeira River valley in the 80's. Samples of the sediments profile of the lagoons, indicated as background concentrations of lead, zinc and copper respectively 33, 116 and 43 pg/g. These values are two times the values found by other authors. The procedure used for the determination of background levels of metals has proved efficient, fast and by far more economic than the ones traditionally adopted in geochemical prospecting, which count on a great number of determinations in stream sediments samples.

Moreira, L.M. 1997. Crustal evolution of the eastern of Minas Gerais state: A contribution based on geothermobarometric study of metamorphites of the Simonésia-Manhuaçu region (State of MG). MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 22

DataBase Ref.: 2366 1997 Date of presentation: 21/3/1997

Luciano de Melo Moreira

Advisor(s): Costa, A.G.

Committee:

Joel Jean Gabriel Quémeneur - IGC/UFMG

Reinhardt Adolfo Fuck - IG/UnB

Subject of thesis: Geodynamics and Crustal Evolution

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Moura, P.A. 1997. Mineral potentiality of the middle portion of Vale do Ribeira valley (SP state) for auriferous mineralizations, obtained from a geographic information system - GIS. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1767 1997 Date of presentation: 4/4/1997

Paulo Armando de Moura

Advisor(s): Silva, A.B.

Committee:

Subject of thesis: Metallogenesis

State: SP 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

The Ribeira Valley is known as one of the main areas which produces lead in Brazil and its deposits and occurrences are located in metamorphic carbonatic zones. For a long time gold was known to occur in the valley but only at the beginning of the 70s geochemical works were carried out and Cu, Pb, Zn anomalies were found associated to gold and sulfides. There are many academic studies and mineral exploration projects in the area but the integration of geochemical, geophysical and geological data

with the help of a Geographic Information System provides a methodology that should help in a decision making. The decision model used in this work is litho-structural. The decision model is made up from several maps (geological, geochemical, geophysical and structural). From the gamaspectrometry dataset K, Th and U were used and the images were reclassified into four categories. The structural map was obtained using the buffer zones along shear zones. The geochemical map is a result of anomalous sub-basins. The geological map represents the favourable lithologies of Perau formation and the phyllites of Iporanga formation, to host gold mineralization. Each map was weighted by its importance in the determination of submodels. The combination of these submodels represents the mineral potential of the area.

Nogueira Filho, J. 1997. The Curitiba hydrographic basin. MSc Thesis, Department of Geology, University Federal of Paraná; pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 842

1997

Date of presentation:

João Nogueira Filho

Advisor(s): Soares, P.C.

Committee:

Subject of thesis: Environmental Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Nowatzki, C.H. 1997. Stratigraphic revision of the Paraná basin, interval embracing Rio do Rastro and Botucatu formations, São Leopoldo quadrangle, RS, Brazil. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 860

1997

Date of presentation: 16/12/1997

Carlos Henrique Nowatzki

Advisor(s): Medeiros, R.A.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Oga, D.P. 1997. Chemistry, mineralogy and importance of the Sn-In occurrences of the acids meta-volcanic rocks in Paramirim region, Bahia state. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M116

DataBase Ref.: 176

1997

Date of presentation: 30/1/1997

Dulce Patrícia Oga

Advisor(s): Botelho, N.F.

Committee: Jose Carlos Gaspar - IG/UnB

Onildo João Marini - DNPM

Subject of thesis: Mineralogy and Petrology

State: BA 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The Rio dos Remédios Group comprises acid and intermediate meta-volcanic rocks which form the Espinhaço Supergroup base. In the east area of the Paramirim only meta-rhyolites, alkaline meta-rhyolites and meta-riodacites outcrop. The rocks are characteristically porphyritic with phenocrysts of quartz, potassium feldspar and plagioclase. Allanite, zircon, titanite, apatite, haematite and magnetite are the accessory minerals found in the sampled rocks. Large amount of fengite, carbonate and local occurrences of tourmaline and muscovite represent the main secondary minerals.

The metasomatic processes that acted in the area are silicification and fengitisation. Cassiterite occurs associated with both processes, but mostly with fengitisation. The cassiterite crystals occur mainly associated with centimetre-wide bands of fengite (or muscovite). The study of late-magmatic processes is difficult due to the metamorphism associated with the Brasiliano Cycle that affected the whole region.

The chemistry of fengite from meta-rhyolites is characteristic of a metasomatic origin. Large variation of titanium concentration in fengite crystals from the same sample is not compatible with the metamorphic re-equilibrium hypothesis or even due to metamorphic formation of fengite.

The Paramirim meta-rhyolites have a sub-alkaline affiliation with characteristics of intra-plate granites. Even though there is not great difference in the petrographic characteristics, the meta-volcanics are chemically divided into two distinct groups. The most evolved group shows higher negative anomalies in barium and europium.

Metasomatism and metamorphism mostly affected the large chemical elements. The trace elements remained almost unchanged, except for some change in slope associated with the metamorphic/deformational event.

Compared to other meso-Proterozoic volcanic sequences, the Paramirim meta-rhyolites are more evolved than the meta-volcanics of the Araí Group and comparable with the meta-rhyolites of the Boquira region and the Southern Espinhaço. The

Paramirim meta-rhyolites are chemically very similar to the g1-granite series of the Goiás Stanniferous Province. Indium occurs mainly in cassiterite and occasionally in allanite. Zonation between 0,34 and 2,34 wt% In₂O₃ was found in cassiterite crystals. Scanning electron microscope images did not show any evidence from inclusions of indium minerals in the cassiterite. Thermo-differential heating and infra-red analyses determined the presence of CO₃ in cassiterite with high indium concentrations. Besides cassiterite, allanite present in the indium-rich cassiterite sample showed anomalous indium concentration (about 0,16 wt% In₂O₃). The presence of magmatic allanite in the Paramirim meta-rhyolites indicates a crystallisation temperature in the range of 800 to 600°C. According to the fengite formation temperature the metasomatic processes occurred around 400°C. The preliminary studies of fluid inclusions indicate a encapsulation temperature around 200°C. This temperature may be related to a metasomatic or even to a metamorphic late stage event.

Oliveira, S.A.M. 1997. Use and applications of remote sensing in the study of hydrogeologic control of the Caldas Novas thermal aquifer - Goiás state. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1329 1997 Date of presentation: 22/5/1997

Sergio Azevedo Marques de Oliveira

Advisor(s): Anjos, C.E.

Veneziani, P.

Committee:

Subject of thesis: Remote Sensing

State: GO 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

Ordoñez, O. 1997. The Precambrian in The Northern Part of the Central Ridge of Colombian Andes. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M119

DataBase Ref.: 2503 1997 Date of presentation: 8/8/1997

Oswaldo Ordóñez-Carmona

Advisor(s): Pimentel, M.M.

Committee:

Subject of thesis: Prospection and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The studies of the geological evolution of the Colombian Andes have faced great difficulties in producing reliable geotectonic models, due mainly to the lack of geochronological and geochemical data.

This study presents a new set of geochronological and geochemical data using the Rb-Sr, Sm-Nd and zircon evaporation Pb-Pb methods, from three key-areas where allegedly precambrian rocks constitute the sialic basement of the Central Cordillera: (i) the El Vapor Mylonites, (ii) the Puquí Complex, (iii) granitoids and gneiss complex east of Medellín (El Retiro Group and The Las Palmas gneisses).

The El Vapor Mylonites represent a complex association of gneiss, protomylonites, mylonites, associated with amphibolites and marbles. A Rb-Sr isochron for these mylonites yielded the age of 894 ± 36 Ma., with an initial ⁸⁷Sr/⁸⁶Sr ratio of ca. 0.7179. Sm-Nd model ages for these rocks are ca. 1.7 Ga and mono-zircon evaporation age is 1.1 Ga. The data constitute the first set of geochronological evidence demonstrating the presence of precambrian rocks in this part of the Central Cordillera of Colombia. These Rb-Sr data for the El Vapor Mylonites, allowed us to correlate them with the precambrian rocks that crop out in the Garzón Massif, in the Sierra Nevada de Santa Marta, in the Santander Massif and with the rocks of the eastern flank of the Central Cordillera, part of the Garzón-Santa Marta granulitic belt. This belt is related to the Grenville orogeny, as well established in eastern North America.

The Puquí Complex is made up of micaceous gneisses, granulites, amphibolites and migmatites. These metamorphic rocks units are intruded by the Puquí Tonalite. The Rb-Sr isochron for the gneissic rocks of this complex yielded an age of 286 ± 18 Ma and a high initial ⁸⁷Sr/⁸⁶Sr ratio of ca. 0.711. This age is interpreted here as the resetting age, due to the Hercynian metamorphism. Sm-Nd model ages of 1.33 Ga and 1.53 Ga with Nd (T=286 Ma) of -6.41 and -6.81, respectively, were obtained for these rocks. The negative values indicate the older crustal character of their protoliths.

The Rb-Sr isochron for the Puquí Tonalite shows an age of 258 ± 23 Ma, and an initial ⁸⁷Sr/⁸⁶Sr ratio of ca. 0.7074. This age is interpreted as the best, so far, for the crystallization age and the high initial ratio suggests contribution of older sialic material in the original tonalitic magma. This assumption is consistent with the presence of enclaves of banded gneisses into the tonalite and with its peraluminous character. The Sm-Nd model ages of 1.17 and 2.13 Ga. and their correspondent Nd (T=258) values of -4.91 and -6.1 indicate the important participation of the country rocks during magma crystallization and the undoubted presence of precambrian material in the Puquí Complex.

Unfortunately, in the El Retiro area where gneisses, migmatites, amphibolites, granulites and granitoids occur throughout the region, it has not been possible to obtain an Rb-Sr isochron. However, the Pantanillo granitoid rocks provided a model Sm-Nd age of 1.41 Ga.

The Las Palmas gneiss show Sm-Nd model age of 1.6 Ga. and zircon evaporation age of 2.2 Ga. The 2.2 Ga. age is, so far, the oldest geochronological determination from any geological material in the Colombian territory.

The data obtained from the Puquí Complex, the rocks from El Retiro and the Las Palmas gneiss, are of great importance for understanding the geology of the Andes, and clearly reveal the presence of precambrian material also in this part of the Central

Cordillera.

The Antioquian Batholith was included in this study. Rb-Sr analysis yielded an isochron age of 83.4 Ma and initial $^{87}\text{Sr}/^{86}\text{Sr}$ ratio of ca. 0.7047. The TDM model ages obtained from the batholith gives values of 0.69 Ga and of 1.01 Ga and Nd values for $t=83$ Ma of +2.5 and 0.38, respectively. These results reveal that the original magma of the intrusion, is the product of mixing between a depleted mantle-derived material and continental crust components, most probably of precambrian age, as also suggested by the initial $^{87}\text{Sr}/^{86}\text{Sr}$ ratio.

These results presented here from the different studied areas reveal that the overwhelming majority of the metamorphic rocks have precambrian protholiths and that the magma responsible for the generation of the upper Paleozoic and Mesozoic intrusive bodies were contaminated by this precambrian host rocks.

Perdoncini, L.C. 1997. Diamonds from Rio Tibagi: Source in the Itararé group?. MSc Thesis, Department of Geology, University Federal of Paraná; pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 839 1997 Date of presentation:

Leila Cristina Perdoncini Advisor(s): Soares, P.C.

Committee: Nelson Angeli - IGCE/UNESP
 Paulo César Fonseca Giannini - DG/UFPR

Subject of thesis: Exploratory Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Prado, I.D.M. 1997. Detection of hydrothermal alteration zones in the Rio Itapicuru Greenstone Belt, BA state, through GEOSCAN AMSS MK-II images digital processing techniques. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1746 1997 Date of presentation: 29/1/1997

Idemilson Donizete Mariano do Prado Advisor(s): Crósta, A.P.

Committee:

Subject of thesis: Metallogenesis

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

This work presents the results of digital image processing techniques applied to Geoscan AMSS MK-II in the region of the Fazenda Maria Preta Gold Deposit, in the northeast of Bahia State. The main objective was to evaluate the performance of these techniques for characterization of hydrothermal alteration zones associated with gold mineralization. The application of selected techniques to Geoscan AMSS MK-II allowed discrimination of the main lithologic unities, as defined by DOCEGEO, and also the main superficial occurrences of minerals related to hydrothermal alteration. Otherwise, in this region where there are chemistry intemperism, it's necessary a more accurate evaluation of the geology and the mineral source descriminated. The origin of this mineral should have been hydrothermal or weathering. Spectrometry and X-ray diffraction studies in samples collected in the study area allowed of equal patterns for the mineralization and host rocks.

Ramos, M.C.D. 1997. The iron ore of the Mina do Andrade mine: Geological, textural and metalurgical characteristics. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 165pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 21

DataBase Ref.: 2365 1997 Date of presentation: 14/3/1997

Maria Cristina Domingues Ramos Advisor(s): Rosière, C.A.

Committee: Henrique Dayan - DG/UFRJ
 Varadarajam Seshardi - IGC/UFMG

Subject of thesis: Geodynamics and Crustal Evolution

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Reis, C.H. 1997. Relationship between geomorphic terracement and the characteristic physiography of mangroves in the reconvexo region of the Guanabara bay, using Remote sensing techniques and geographic information system. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1328 1997 Date of presentation: 28/2/1997

Cláudio Henrique Reis Advisor(s): Mattos, J.T.

Committee:

Subject of thesis: Remote Sensing

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Sales Neto, P. 1997. Introduction between the Rio Jaguaribe river waters and the underground store waters of low Jaguaribe river area - CE state. MSc Thesis, Department of Geology, University Federal of Ceará; pp

Departamento de Geologia - Universidade Federal do Ceará

Reference:

DataBase Ref.: 1016 1997 Date of presentation: 31/10/1997

Porfírio Sales Neto Advisor(s): Santiago, M.M.F.

Committee: Horst Frischkorn -

Waldir Duarte Costa -

Subject of thesis: Hydrogeology

State: CE 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

Sales, A.O. 1997. Petrography, Metamorphism and Geochemistry of the Proterozoic Pajeú-Paraíba Belt (Afogados de Ingazeira, Pernambuco). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Precambrian metamorphic rocks, Pajeú-Paraíba belt, Petrography, Metamorphism

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 640 1997 Date of presentation: 12/11/1997

Alberto de Oliveira Sales Advisor(s): Lima, E.S.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The present thesis presents a study of the orthogneisses (infrastructure and intrusive in the supracrustal sequence) and of the supracrustal sequence in the Pajeú-Paraíba fold belt. In the studied area, the rocks characterized as basement rocks were divided based on their structural relationships, into two groups: the first characterized by a centimetric metamorphic banding, represented predominantly by hornblende orthogneisses, ranging in composition from granodioritic to tonalitic, and in a lesser extent by banded garnet-biotite-gneisses. The second group includes granitic to granodioritic orthogneisses, presenting a fine to medium equigranular texture and a proeminent foliation. These orthogneisses cut the metamorphic banding observed in the former orthogneisses. The supracrustal sequence is represented by the Irajá (CI) and Sertânia (CS) Complexes, which crop out NNW and SSW of the Afogados da Ingazeira shear zone, respectively. The CI, on a regional scale, corresponds to a metavolcanic-sedimentary sequence, whereas the CS represents a metasedimentary sequence. In the studied area, the CI metavolcanic rocks crop out. The CI whole rock chemistry shows a wide range of composition (greywackes, lithic sandstones and arkoses), whereas the CS whole rock chemistry shows a more restricted distribution (greywackes). The compositions suggest a volcanic island arch depositional environment, with a subordinate active continental margin depositional environment. The structural and thermobarometric data indicate different crustal levels for the metamorphic evolution of both sequences (CI and CS). The P/T metamorphic conditions during the main deformational event (D2), using the garnet-biotite and plagioclase-garnet-Al₂SiO₅-quartz thermobarometers were: 650 °C (± 50 °C) and 3.5 (± 0.5) kbar for CS rocks. The overlap between sequences of metamorphic evolution occurred during the Brazilian orogeny, along the left-lateral Afogados da Ingazeira shear zone, which has a NE stretch lineation. The sin-tangential orthogneisses (associated with the second deformation phase) intrude the CI, and show an antiformal pattern due to the interference with the third deformational phase. They are characterized predominantly, by three facies: the major one is composed by microporphyritic hedenbergitic granodioritic augen-gneisses; the second one comprises fine to medium grained hedenbergitic orthogneisses and the third one is represented by coarse-grained biotite augen-gneisses, with K-feldspar grains up to 5cm. The petrographic and field similarities suggest that the first and the second facies were derived from the same magma, the only difference being the absence of augen in the second facies. The whole chemistry corroborates the similarities and differences between the first two and third one. However, the orthogneisses present a calc-alkaline affinity associated to collision tectonics.

Sales, M.T.B.F. 1997. Characterization of erosional processes in forested and anthropogenized areas in Serra do Baturité range. MSc Thesis, Department of Geology, University Federal of Ceará; pp

Departamento de Geologia - Universidade Federal do Ceará

Reference:

DataBase Ref.: 1015 **1997** Date of presentation: 16/12/1997

Maria Tereza Bezerra Farias Sales Advisor(s): Moraes, J.O.

Committee:

Subject of thesis: Precambrian Geology

State: CE 1/1,000,000 sheet: SA24 Centroid of the area: ' - 'W

Abstract

Senra, M.C.E. 1997. Revision of the classification of the Ostreoidea superfamily (Mollusca-Bivalvia) from the Jandaíra formation - upper Cretaceous of the Potiguar basin (Rio Grande do Norte state, Brazil). MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pp.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1469 **1997** Date of presentation:

Maria Célia Elias Senra Advisor(s): Ferreira, C.S.

Committee:

Subject of thesis: Palaeontology and Stratigraphy

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Silva, M.O. 1997. Distribution of U, Th e K radioactive elements in intrusive cretaceous rocks of the Ilha de São Sebastião island (SP state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 72 pp

Instituto Astronômico e Geofísico - Universidade de São Paulo

Reference:

DataBase Ref.: 1267 **1997** Date of presentation: 21/11/1997

Melquisedec Oliveira da Silva Advisor(s): Marques, L.S.

Committee:

Subject of thesis: Geophysics

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Silva, P.C.F. 1997. Sedimentation environments and tectonics of the São Roque group in the region between Pilar do Sul and Votorantim, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2240 **1997** Date of presentation:

Paulo César Fernandes da Silva Advisor(s): Riccomini, C.

Committee:

Subject of thesis: Sedimentology/Sedimentary Petrology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Silva, R.H.P. 1997. Geochemistry and environmental impact of arsenium in the Vale do Ribeira valley (SP-PR states). MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1777 **1997** Date of presentation: 7/11/1997

Robson Henrique Pinto da Silva Advisor(s): Figueiredo, B.R.

Committee:

Subject of thesis: Metallogenesis

State: SP 1/1,000,000 sheet: SG23 Centroid of the area: ' - 'W
PR

Abstract

The sedimentary and volcanic rocks of the Ribeira Valley, in the Apiaí Fold Belt, host a variety of PbZn deposits, which were formed by syngenetic (Perau-type) and epigenetic (Panelas-type) models. Long-term mining activities originated a toxic contamination by arsenic in the stream sediments of the Ribeira de Iguape river that drains the region. The purpose of this work was to determine the geochemical behavior of arsenic in the genesis ore and subsequent supergenic alteration of the Pb-Zn ore bodies of the Ribeira Valley as well as in the stream sediments and surface water in areas adjacent to mineralized zones. The study of the arsenic-bearing minerals ore was carried out by conventional petrography, X-ray diffractometry and qualitative and quantitative analyses using scanning electron microscopy and electron microprobe. The chemical investigation of stream sediments, sediment columns, surface water and mining wastes was performed by using atomic absorption photo spectrometry. The results indicated the contamination of the stream sediments of the Ribeira de Iguape river for arsenic, mainly in sectors close to mining areas. The arsenic concentrations found in the younger sediments of the sediment columns is related to a probable anthropogenic source. In addition, significant concentrations of arsenic, among other metals, were found in the mining and tailings wastes. The concentrations of arsenic in the Ribeira river water were below the recommended limits. The study of the primary ore revealed the presence of arsenic-bearing minerals such as arsenopyrite and the tennantite-tetrahedrite solid solution, mainly in the Panelas deposit-type. In the supergenic zone comprises pyromorphite and iron oxides as the most probable arsenic phases. The weathered wallrocks are marked by a high correlation between As and P suggesting the existence of chemical restrictions for the liberation of arsenic to the environment. These data indicate that the contamination of the sediments for arsenic in the Ribeira Valley is associated with additional discharge of arsenic rich byproducts derived from the past mining activities in the region.

Siqueira, A.J.B. 1997. Geology of the Filão do Paraíba gold mine, Peixoto de Azevedo region, northern of Mato Grosso state. MSc Thesis, Department of Geology, University Federal of Rio de Janeiro, Brazil, pg.

Departamento de Geologia - Universidade Federal do Rio de Janeiro

Reference:

DataBase Ref.: 1148 1997 Date of presentation:

Auberto José Barros Siqueira Advisor(s): Pires, F.R.M.

Committee:

Subject of thesis: Regional Geology and Economic Geology

State: MT 1/1,000,000 sheet: SC21 Centroid of the area: ' - 'W

Abstract

Souza, J.C.F. 1997. Lithostratigraphy and sedimentology of Vazante formation in Coromandel region - Minas Gerais state. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M123

DataBase Ref.: 183 1997 Date of presentation: 8/12/1997

Julio Coelho Ferreira de Souza Advisor(s): Dardenne, M.A.

Committee: José Eloi Guimarães Campos - IG/UnB

Alexandre Uhlein - IGC/UFGM

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Related to the outward zone of the Brasília Fold and Thrust Belt, the Vazante Formation shows lead, zinc, phosphate and diamond mineralizations, copper occurrences besides dolomitic quarry. Located southward of the Lagamar bioherm, the studied area includes the Rocinha phosphate deposit and the Ponte Caída phosphate occurrences, next to the Coromandel town. The Vazante Formation shows sedimentary rocks, deformed by the regional tectonic system, and low greenschist (chlorite zone) metamorphic grade.

It was identified two sedimentary facies assemblage, related to different depositional system, that show evidence of a regressive sedimentary cycle.

The lower sedimentary sequence (lower psamo pelitic sequence) is related to the sedimentation in deep waters, characterized by a turbiditic sequence which was classified by the Mutti (1992) model. The lower sequence is constituted by metadiamicite lenses, quartzite and sandy conglomerate, in a clay metasiltstone succession. Inside this sequence there are the Ponte Caída phosphate, that seem to be a prolongation of the Rocinha deposit.

The upper sedimentary sequence (pelitic carbonated sequence), related to shallower waters sedimentation is characterized by the occurrence of carbonated slates and metassiltstone associated to dolomitic lenses. Some of the dolomite show stromatolitic bioherm, built up by columnar stromatolite of shallow environment (above the wave base).

During the Neoproterozoic the region was affected by a glaciation. In this context the turbiditic currents are related to the glacio-marine environment, responsible for the transport, dispersion, reworking and reconcentration of the diamonds.

During the collisional process, in the Neoproterozoic, a mountain range was raised to Westward. Part of the sediment may have come from this region. The most part of sediments came from the São Francisco Craton, including the diamondiferous glaciogenic ones.

The evolution of the knowledge of the Brasília fold and thrust belt and its evolution, allows to infer that the complete opening and closing cycle of the basin occurred during the Neoproterozoic. In this way the metasedimentary rocks of the Brasília belt observed in the region may be coeval.

Tagliani, C.R.A. 1997. Proposal for an integrated management of sand exploitation in the coast municipality of Rio Grande - RS, according to a systemic focus. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 865 1997 Date of presentation: 7/1/1997

Carlos Roney Armanini Tagliani

Advisor(s): Gonçalves, A.R.L.

Committee:

Subject of thesis: Earth Sciences and Environment

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Toledo, C.L.B. 1997. Structural control of the auriferous mineralization in the Mina de Cuiabá mine, Northwestern sector of the Rio das Velhas Greenstone Belt, Quadrilátero Ferrífero, MG state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1726 1997 Date of presentation: 7/8/1997

Catarina Laboure Benfica Toledo

Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SE23

Centroid of the area: ' - 'W

Abstract

The Cuiabá Mine is located in the northern portion of the Quadrilátero Ferrífero, within a sequence of Archean rocks forming the base of the Rio das Velhas greenstone belt. This research focused on geological mapping at a scale of 1:100 and detailed studies of the tectonic structures observed in the Cuiabá Mine. Its main objective is to present the results of a qualitative structural analysis and its relationship to the ore bodies. The lithological sequence exposed at the mine is characterized by two distinct groups: (i) a basal group comprising sub-aquatic basaltic flows with carbonaceous phyllites and one intercalated layer of banded iron formation and; (ii) an essentially sedimentary group of rocks at the top, characterized by the alternation of carbonaceous pelites and graywackes, composing a typical turbiditic sequence. The deformation has a heterogeneous, non-coaxial and progressive character and occurred at different crustal levels, during three phases of successive deformation. The structures belonging to the D1 and D2 phases have developed in a ductile to ductile-brittle crustal regime, under compressive stress oriented in the SE-NW direction. Both phases show a coaxial and progressive evolution with tectonic transport from SE to the NW. D3 structures were formed in a predominantly brittle-ductile regime and reflect the action of compressive stresses oriented in a E-W direction. The structural framework of the deposit is controlled by a large anticline (F2), with an overturned northern limb, outlined by the folding of the primary bedding. This folding presents a tubular geometry with the apex closure pointing to the northwest direction and axis inclined about 300° to the southeast. The gold mineralization is hosted by the sulphidic zones in the banded iron formation layer. The gold is included in the pyrite crystals, which constitutes the most abundant sulphide in the ore bodies. These bodies are concordant to the primary bedding and their geometry is controlled by thrust and strike-slip faults developed during late stages of the D2 phase. The orientation of the sulphidic bodies is parallel to the stretching lineation Le2 and to the axis of the tubular fold which control the structural framework of the deposit. Observation of the ore textures and structures revealed that the gold mineralization is mainly related to epigenetic processes, which include sulphidation of the banded iron formation around fractures and/or quartz-carbonate veins. In this context, two generations of sulphides are recognized: (i) the first generation, pre- to early-D1, is related to hydraulic fracturing systems, which created permeability to the access of the fluid, reaction with the banded iron formation, and deposition of gold and sulphides; (ii) the second generation, sin-D2, is related to local remobilization of the mineralization, promoting sulphide concentrations in hinge zones of mesoscopic folds (F2).

Vieira, M.A.M. 1997. Tapira alkaline complex, State of Minas Gerais: Mineralogy and geochemistry of rare earth distribution. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 95 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference:

DataBase Ref.: 2369 1997 Date of presentation: 4/12/1997

Maria Auxiliadora de Melo Vieira

Advisor(s): Neves, J.M.C.

Committee:

Kazuo Fuzikawa - CNEN
Tânia Mara Dussin - IGC/UFMG
Abrahão Issa Filho - CBMM

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE23

Centroid of the area: ' - 'W

Abstract

Vieira, V.S. 1997. Geochemistry of the Lagoa Preta suite, states of MG/ES: Plutonism in the domain of the Rio Doce magmatic arc. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 87 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference:

DataBase Ref.: 2368 1997 Date of presentation: 2/12/1997

Válter Salino Vieira Advisor(s): Dussin, T.M.

Committee: Adolf Heinrich Horn - IGC/UFMG
Antônio Carlos Pedrosa Soares - IGC/UFMG
Cristina Maria Wiedemann - IG/UnB

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SE24 Centroid of the area: ' - 'W
ES

Abstract

Villa Orduña, F.A.A. 1997. Tracing of seismic rays and "gaussian bean" approximation in the generation of rayleigh waves synthetic seismograms. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M117

DataBase Ref.: 177 1997 Date of presentation: 28/2/1997

Fredy Alex Villa Orduña Artola Advisor(s): Rosa, J.W.C.

Committee: Junio Márcio Rosa - FIS/UnB
Marcelo Sousa de Assumpção - IAG/USP

Subject of thesis: Prospection and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The goal of this thesis is to present a consise description and analise of the general Ray Tracing Method and calculation of synthetic seismogram of surface Rayleigh waves with the Gaussian Beam aproach, for laterally heterogeneous structure of the earth.

The first step is to solve, using phase velocity maps of Rosa (1986), the kinematic ray tracing system, like this, the ray paths is determined. Here, we must understand that the rays are extremal of Fermat's integral of the phase function.

The second step is to solve assintotically, the wave equation (elastodynamic equation) for Rayleigh wave in "ray centered" curvilinear coordinates for each ray using the parabolic aproximation under the assumption the considered media have a strong vertical variation with a weak lateral heterogeneity. It is related to a particular ray trajectory.

These local solutions is expressed in terms og Gaussiam beams. The final solution is result of superposing local solutions along individual rays to give an approximate global solution for a give source condition.

Zanon, C. 1997. Petrology and Lithochemistry of the Serra Grande and Serra do Arapuá Granitoids, Alto Pajeú Terrane (State of Pernambuco). MSc Thesis, Departament of Geology, University Federal of Pernambuco, pp.

Granitoid plutons, Alto Pajeú terrane, Petrological aspects, Lithogeochemistry

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 639 1997 Date of presentation: 17/9/1997

Celi Zanon Advisor(s): Sial, A.N.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Serra Grande and Arapuá granitoid hills are intrusive into metasediments of the Alto Pajeú Terrane, Borborema Province, NW of the Floresta municipality, Pernambuco State, with outcrop area of 481 km². These plutons are elongated in the NE-SW direction and associated with shear zones which have the same direction, and show dips varying from 65° to 80° SE, and are cut by E-W fractures. The plutons are composed of mesocratic to leucocratic rocks with porphyritic to coarse-grained texture, with monzogranite to granodiorite compositions. The leucocratic dikes are classified as monzogranites to granites, while the mesocratic are quartz alkali feldspar syenites, with aplitic texture. These dikes cut the main plutons. The mineralogical composition of the granitic rocks is as follows: orthoclase, albite, oligoclase, magnetite, sphene, biotite, epidote, amphiboles and pyroxenes. The amphiboles vary in composition from Mg-hornblende in the core to Fe-tschermakite towards the border. The pyroxenes vary in composition from augite to hedenbergite with the final member composition as follows: Wo₂₉₋₄₆. The epidote sometimes has an allanite core, with a Fe⁺³ Fe⁺²+Al ratio in magmatic pistacite (23-25%). In the mesocratic dikes the pyroxene has aegirine-augite composition with end members as follows: Wo₄₆₋₅₄ En₄₆₋₅₄ Fs₁₉₋₃₄. The alkali feldspars have

compositions varying from Ab98-99 Or0-1 to Ab0-11 Or89-97 An0,2. Chemical data show SiO₂ from 65 to 77%. P₂O₅, TiO₂, Fe₂O₃ MnO e CaO have negative correlations with SiO₂, characterizing the occurrence of fractional crystallization process. The granitic rocks of the Serra Grande and Arapuá hills and the leucocratic dikes are metaluminous to slightly peraluminous, rich in potassium (average 5%). The porphyritic granite in magmatic series variation diagrams plot in the field of the high-K calc-alkalic rocks, while the phaneritic rocks bear shoshonitic affinities. The mesocratic dikes are peralkaline. Tectonic discrimination diagrams using Nb, Y, Rb e Zr e REE patterns normalized to chondrite are enriched in LREE in relation to HREE and a small anomaly, evidencing a subduction zone tectonic environment for these rocks. Magnetic susceptibility data, 5.75×10^{-3} SI for the granites na 21×10^{-3} SI for the peralkaline dikes strongly suggest that these rocks represent I-type granites.

Almeida, H.L. 1998. Structural control and characterization of hydrothermal alteration zone in the gold veins host rocks, Cachoeira de Minas region, Princesa Isabel (PB). MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 197 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR046

DataBase Ref.: 936 1998 Date of presentation: 1/3/1998

Harrizon Lima de Almeida Advisor(s): Legrand, J.M.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Alves, V.P. 1998. Geochemical characterization of water and sediments from the amazonic basin in the region between Manaus and Santarém. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Geochemistry of waters, Amazon Basin, minor elements, Rare Earth elements

Instituto de Geociências - Universidade de Brasília

Reference: M125

DataBase Ref.: 185 1998 Date of presentation: 6/3/1998

Viviane Pineli Alves Advisor(s): Boaventura, G.R.

Committee: Patrick Seyler - ORSTON

Reynaldo Luiz Victória - IGc/USP

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Amazon river and its tributaries represent the largest river system in the world. Because of this, much research has been carried out in this region mainly with respect to environmental issues. This study aims to geochemically characterize the waters and sediments of this river system and, on addition, to relate these results to their geological sources and physical-chemical conditions of the environment. The area studied is the Amazon river in the region between Manaus and Santarém and also includes a few tributaries at the mouth.

This work involved: the study of dissolved and particulate fractions. Trace elements from the dissolved fraction and suspension material were determined using Inductively Coupled Plasma-Mass Spectrometry (ICP/MS) and the major constituents by Atomic Absorption (AAS). Bottom sediments were analyzed by Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP/AES) and AAS.

The results show differentiated behavior for the elements depending on the studied phase. The particulate fraction reflects the rock type of the regions from where the rivers drain. The largest element concentrations are found in suspended material and the dissolved fraction depends on environmental conditions.

The Rare Earth Elements (REE) shows a distinct behavior at the Negro river when compared to the others, indicating the great importance of water pH in keeping these elements in the dissolved fraction. In the particulate phase, the REE are concentrated in clay minerals.

The calculated mass balance shows that the Madeira river has greatest responsibility for major element flux in the dissolved form to the Solimões/Amazonas system. Trace elements contents from Shield rivers show the same pattern as the Madeira river.

Compared to Andean rivers and the main course of the Amazon River, bottom sediment flux is very small in the Negro, Trombetas, and Tapajós rivers.

Araújo, M.G.S. 1998. Metallogenic characterization of the Pedras Pretas chromitiferous deposit, Santa Luz - BA state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1758 1998 Date of presentation: 22/5/1998

Marcelus Glaucus de Souza Araújo Advisor(s): Oliveira, E.P.

Committee:

Subject of thesis: Metallogenesis

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The chromitiferous mineralization of Pedras Pretas Intrusive Suite, Bahia, Brazil, is hosted in serpentinites intrusive into meta-sedimentary and meta-igneous rocks comparable to the 2.2-2.0 Ga old Itapicuru River Greenstone Belt.

Field relationships and petrographic data indicate that the study area has undergone four major deformation phases with metamorphic grade reaching upper amphibolite facies conditions during the second to the third ductile deformation episodes. The fourth deformation phase was mostly brittle with mineral assemblages typical of greenschist facies metamorphic grade.

Petrographic observations combined with mineral chemical data show that the Pedras Pretas chromites can be grouped into two types, viz, disseminated and massive chromites. Whereas the first one had its primary chemistry modified by sub-solidus

metamorphic and/or hydrothermal processes, the second has preserved most of its magmatic characteristics, thus rendering comparisons with its Phanerozoic counterparts for which the tectonic settings are relatively well known. As such, the massive-type chromites are Ti-poor, Cr-rich, show $\text{Cr}/(\text{Cr}+\text{Al}) > 0.6$ and fall in the ophiolite field on Cr-Al-Fe and $\text{Cr}/(\text{Cr}+\text{Al})\text{-Mg}/(\text{Mg}+\text{Fe})$ tectonic settings discriminating diagrams. Since the Pedras Pretas Intrusive Suite is host in rocks comparable to the Itapicuru River greenstone belt, which contains juvenile back-arc basalts, it is suggested that its origin may be linked to a geologic scenario similar to present-day island arc.

Artur, P.C. 1998. Paleolinements in Paraná basin: Favourability to oil accumulation. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 285

1998

Date of presentation: 1/8/1998

Paulo César Artur

Advisor(s):

Committee:

Subject of thesis: Regional Geology

State: PR

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

In intracratonic basins the importance of regional structures for petroleum accumulation-retention in structural traps has been emphasized by several authors. Structural features and their spatial relationships with oil fields in productive basins are very well documented. In the Paraná Basin strategies so far used for the exploration programs have not considered decisively the major structures. In the present study, a methodological procedure was applied in order to identify and to evaluate the history and the role of regional structures. Trend surface and geostatistical analysis of layer thickness data are applied to identify controlling structural directions in the sedimentation and erosion-preservation of the tectonic-sedimentary sequences. It were selected rock packages limited by unconformities or by maximum flood surfaces, which represent the lower and upper parts of the Devonian, Pennsylvanian-Permian and lower part of Triassic ages. Forming and modifier tectonics were investigated for the lower and upper parts independently. The sequence boundaries were slightly modified from conventional usage, based on well logs and also from the formations top and base list, both supplied by Petrobrás. The trend surface analysis of the thickness values allowed to recognize regional trends in the basin, and the residuals values were worked out through variographic analysis. In that way, the sequence thickness variations not related to the regional trends were studied. For each sequence residuals, directional semivariograms were built up for identification of the directions of maximum and minimum spatial continuity. With that procedure, the active structural directions were revealed for each interval of geological time. The variographic parameters obtained from semivariograms modeling were adopted in kriging estimates of the thickness residuals, and so morphologic features were contoured in the maps generated. These features, such as anomalous gradients, strike discontinuities and alignment of noses and depressions were interpreted as tectonic structures. They were traced manually and interpreted as active paleostructures and paleolineaments, either in periods of sedimentation for those packages lying over the unconformity or of erosion of those under unconformity. Similar procedures were adopted to investigate the distribution of the concordant intrusive bodies which occur in the sedimentary units. They could be associated with deep faults systems during the magmatic event and, therefore, with hotter zones at the time of petroleum generation and migration. The paleolineaments so defined in this study were compared with structures revealed by similar treatment and analysis of gravimetric data in order to associate with basement structures. They were further compared with structures identified by other authors working with remote sensing and other different techniques. The petroleum accumulation favorability, based on the conditional probability analysis, was used for evaluation of these structures as indicative of feeding zones of petroleum systems. The results suggest that : 1) the most favorable areas of the Ponta Grossa-Itararé Petroleum System are those associated with northeast paleolineaments, identified in Devonian sequence and reactivated until the recent and; 2) the most favorable areas of the Irati-Rio Bonito/Tietê Petroleum System are related to northeast faults active during the Triassic and Juro-Cretaceous periods, additionally to areas that suffered anomalous heating, due to the intrusion of large intrusive bodies

Ayub, S. 1998. Application of the tracer fluorescent rhodamine - WT in the hydrologic and hydrogeologic study of the Pérolas-Santana, Grilo and Zezo karstic systems, Iporanga municipality, São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1834

1998

Date of presentation: 8/4/1998

Soraya Ayub

Advisor(s): Karmann, I.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Borba, R.P. 1998. The acid magmatism and its relation to the Bico de Pedra auriferous mineralization, Rio das Velhas Greenstone Belt, Quadrilátero Ferrífero, Minas Gerais, Brazil. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1775 1998 Date of presentation: 6/2/1998

Ricardo Perobelli Borba

Advisor(s): Figueiredo, B.R.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The Bico de Pedra gold deposit is located in the southern part of the Quadrilátero Ferrífero. The deposit is located near the contact between Grupo Itacolomi's metasediments (GI) and metaigneous rocks of the Grupo Nova Lima (GNL). This contact is marked by a reverse shear zone where the GI overthrusts the GNL. The Cu-Pb-Zn-Au mineralization possesses indications that is genetically associated to acid magmatism, which probably occurred in a tectonic collisional setting, in the Transamazonian Event. This magma, of trondhjemitic composition, is represented by the Bico de Pedra Aplite (BPA). This magmatic rock was syntectonically emplaced, probably in normal shear zones which were developed during the Itacolomi Basin formation. In the Transamazonian Event, the development of the deformation with ductile nature, after the intrusion of the BPA in the rocks of GNL, led to the formation of shear zones through which there occurred the percolation of hydrothermal fluids. The hydrothermal fluids promoted reactions of mineralogical substitutions that provided the necessary space for the deposition of the mineralization. The hydrothermalism modified the chemical composition of the rocks through the addition of chemical elements, indicating a high fluid/rock ratio. The hydrothermal fluids of supposed magmatic origin, by virtue of the high contents of Se present in pyrite, promoted the alteration and mineralization of the rocks. The source of the metals (Au, Ag, Cu, Bi, Pb, Zn, Se) would be also related to the crystallization of the trondhjemites in deeper zones, and their concentration in the fluids would be related with the magma devolatilization. The polymetallic nature of the mineralization indicates that chlorine complexes were the main transport agents of the metals, what implies in saline and acid fluids, of which the temperature was among 325-450°C. Au is associated mainly with Zn and Pb. The mineralization was hosted mainly in BPA in bands with the same orientation of the milonitic foliation. Rarely, small ore bodies are found in rocks of GNL, when these rocks are in contact with the BPA. The precipitation of the sulfides is due to the hydrothermal alteration of the BPA, where the substitution of the albite by sericite created physical space and chemical conditions for the deposition of the sulfides, as well as to the temperature fall. The hydrothermal activity presents, at least, two phases. In the Initial Phase, occurred under lower temperatures, there was the potassification (through growth of the sericite), the carbonatization and the sulphidation (by crystallization of the pyrite and possibly another sulfides) of the rocks. In the Late Phase, when the hydrothermal system reached the peak of the temperature, there was the recrystallization of pyrite deposited in the previous phase, and the remobilization/crystallization of pyrrhotite, chalcopyrite, bismuth, galena, and later the sphalerite. In this Late Phase the potassification was represented by the growth of biotite. The temperature remained high even after the quiescence of the deformation, as it can be observed through the growth of biotite and ankerite over the foliation of the rocks. The polymetallic mineralization, and the possible influence of the acid magmatism in its genesis, make the Bico de Pedra gold deposit unique in the Quadrilátero Ferrífero context.

Braghin, M.A. 1998. Utilization of Boolean and Fuzzy logics aiming the metallogenetic analysis in the Folha Pilar do Sul (SP) quadrangle via geographic information system. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1754 1998 Date of presentation: 27/2/1998

Marcelo Antonio Braghin

Advisor(s): Silva, A.B.

Committee:

Subject of thesis: Metallogenesis

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

This work aims to describe methodological procedures to implement the use of Boolean and fuzzy logic applied to metallogenetic analysis. The study area is located in São Paulo state (Pilar do Sul quadrangle) and focus to identify target areas for Cu and Pb. The use of Geographical Information Systems (GIS) is essential to achieve good results and sophisticated logical operations produces maps and reports which no longer necessarily represent a single integration. The main difference between the Boolean and fuzzy logics is the possibility to handle uncertainties, the former shows sharp contrasts, the later shows diffuse limits. The use of GIS and non-cumulative algebra on geological data set, with inherent uncertainties, provided the definition of target areas. Target areas defined by the fuzzy logic are better spatially distributed than those defined by the Boolean logic.

Branco, F.C. 1998. Filtros de convolução passa baixas no realce tonal de imagens. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1893 1998 Date of presentation: 19/11/1998

Fábio Cardinale Branco

Advisor(s): Almeida, T.I.R.

Committee:

Subject of thesis: Remote Sensing

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Câmara Filho, L.M. 1998. Stratigraphy of sequences in the Guatá group at the sub-outcropping belt of southeastern São Paulo state. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 221 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR052

DataBase Ref.: 932 1998 Date of presentation: 1/7/1998

Ladislau Meireles Câmara Filho Advisor(s): Castro, J.C.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Castro, M.R. 1998. Facies and stratigraphic evolution of the Rio do Sul and Rio Bonito (Triunfo member) formations in the Hercílio river valley, SC state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 284 1998 Date of presentation: 1/7/1998

Marília Rodrigues de Castro Advisor(s):

Committee:

Subject of thesis: Regional Geology

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

This research has focused on the study of Rio do Sul (upper third of Itararé Group) and Rio Bonito (Triunfo Member) formations, Paraná Basin, in the Hercílio river valley (SC), southern Brazil. The main objectives were to understand the temporal and spatial evolution of Rio do Sul marine and glacio-marine and Triunfo postglacial deltaic depositional systems, through sequential facies analyses of surface and subsurface (cores and logs) sections, and chronocorrelation of these sections, using T-R cycles (transgressive-regressive) concepts. In the studied area were recognized and described twenty one facies for those stratigraphic intervals, which could be grouped into eight successions: glacial, deglacial, deltaic, fluvial, deep marine, marine offshore, marine shoreface and marine marker. Three scarps were mapped with good continuity, separated by gentle hill topographies, which can be connected with three major sedimentation cycles T-R. The first cycle registers a "deep", outer shelf marine sedimentation (deep marine succession). The second cycle is characterized mainly by glacial and glacio-marine sedimentation. The third cycle is characterized by glacial, deglacial and marine deposits (shelf and shoreface), which are succeeded by fluvial-deltaic deposits of the Triunfo Member; these fluvial-deltaic deposits are locally interrupted by glacial and marine events. The marine marker succession caps the first Triunfo delta in the south of the area. The gradational contact between the Rio do Sul and Rio Bonito formations is found in the third cycle. Toward the north it is observed an interfingering between deltaic and glacial elements. The palynological content suggests a shallow marine to coastal depositional environment with strong continental influence, during the Sakmarian and Artinskian stages of the Early Permian.

Cavalcanti, V.M.M. 1998. Quality of marine sands in the use of house construction, metropolitan area of Fortaleza, Ceará state, Brazil. MSc Thesis, Department of Geology, University Federal of Ceará; pp

Departamento de Geologia - Universidade Federal do Ceará

Reference:

DataBase Ref.: 1013 1998 Date of presentation: 14/8/1998

Vanessa Maria Mamede Cavalcanti Advisor(s): Freire, G.S.S.

Committee: Cassiano Monteiro Neto -

Subject of thesis: Precambrian Geology

State: CE 1/1,000,000 sheet: SA24 Centroid of the area: ' - 'W

Abstract

Costa Neto, M.C. 1998. Study of the fluid-rock interaction in the Lavrinha deposits, Auriferous District of Pontes and Lacerda-MT state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1753 1998 Date of presentation: 6/3/1998

Manoel Corrêa da Costa Neto Advisor(s): Xavier, R.P.

Committee:

Subject of thesis: Metallogenesis

State: MT 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Gold deposits of Lavrinha region, Mato Grosso State, are associated to quartz veins in shear zones formed by low angle tangencial compressive tectonics in a ductilruptil regim. As a result, the Proterozoic metasediments of the Aguapei group were thrust above an igneous basement, represented by metagabros, basalts, tonalites and granites. These processes evolved to dextral transcurrances related a ruptile-ductile regim. The gold can be founded in two structural domains: the lower domain: is represented by deformed igneous rocks, sheared in the contact area with lithotipes of the Aguapei group (metarenites and metaconglomerates); the upper is composed of quartz-sericite xists, magnetite-quartz-sericite xists and sericite xists and has intermediate position in the sediment strata of the Fortuna Formation (Aguapei group). The ore paragenesis is composed by pyrite and hematite where gold is closely related. The alteration mineral assemblage include rutile, epidote, chlorite, and carbonates which occur in a restrict way. Sericitization is the most pervasive hydrothermal alteration. Fluids involved in the hydrothermal processes were identified as aquo-carbonic and low salinity aqueous fluid inclusions (approximately 5% of weight correspondent to NaCl), trapped in inclusions of quartz veins. It is proposed that the gold was transported as a [Au(HS)₂] complex. Its precipitation could be related to imiscibility processes of warmer aquo-carbonic fluids with metamorphic origin followed by an interaction with colder aqueous fluids possible from meteoric nature. Temperature conditions of hydrothermal processes were estimated by the chlorite geothermometer and ranges between 303-335°C.

Cruz Jr, F.W. 1998. Geomorphologic and geospeleologic aspects of the Iraquara region karst, center-northern of the Chapada Diamantina, Bahia state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1835 1998 Date of presentation: 17/12/1998

Francisco William da Cruz Júnior

Advisor(s): Karmann, I.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: BA 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Morphological and speleological investigations of Neoproterozoics carbonate rocks of the Una Group, led to the description of Karstic features near to Santo Antonio River, between Iraquara and Seabra, center-northern Chapada Diamantina, State of Bahia, Brazil. Local relief is characterized by a karstic plateau between 600 and 800m in altitude surrounded by terrigenous hills, some higher than 1000m, without a continuous and organized network of fluvial channels in most of the area. Geomorphologic mapping based on aerial photographs (1:25.000) revealed closed depressions, poljes, surgences, dry valleys and sink streams as the main features of the landscapes. Morphometric analysis of closed depressions utilizingsuch parameters as density, preferred main-axis orientation, width/length ratio, planimetric area and perimeter, index of pitting and index of circularity showed a considerable degree of influence of conduits and geologic in the distribution, form and size of the features in different parts of area. Mixed injection with important contents of alogenic in realltion to autogenic recharge is inferred to initiation phase of the Lapa Doce and Lapa da Torrinha cave systems based on the lowering of the surface of the carbonate with respect to non-carbonate rocks and on geometry of the karstic valley and their continuity in the non-carbonate rocks. Morphological, geospeleological and paleoflow mapping in six sections of Lapa Doce and three sections of the Lapa da Torrinha system, using planimetric maps, longitudinal profiles and cross-sections resulted in the identification of the main cave patterns. The morphology in plan views associated with paleoflow routes indicates a distributary pattern for both caves having a prevalence of NW-SE conduits and paleoflow towards the SE. Recharge was concentrated mainly in trunk galleries, from which lateral branches with distributary, bypass, network and anastomosed patterns developed. In cross-section where incision processes are not too effective conduits prevail with elliptical and canyon morphology. The hypothesis of conduits developing along geologic structures was verified by comparison of trends between the cave segments and fractures, which are concentrated mainly in the N10-20W, N50-60W, N70-80W e N60-70E sectors in Lapa Doce system and in the N10-20W, N40-50W e N70-90 sectors in the Torrinha system. Based on histograms and Kolmogorov-Smirnov tests the correlation among these parameters was obtained in just two cave sections. In general, the systems accompany bedding-plane partings and the inferred direction of the hydraulic gradient and are also locally controlled by fractures. Morphologic analysis of the conduits and clastic sediments that filled the conduits in almost the entire extension of the caves suggests evolution of the cave system in four phases: opening, enlargement, infilling and sediment erosion. The opening phase included phreatic initiation and development of conduits; the enlargement phase consisted of normal entrenchment of conduits; the infilling phase was characterized by sedimentary clogging of the conduits up to cave roofs and morphologic modifications by paragenesis; the sediment removal phase involve partial erosion of sediment and conduits and opening of new passages

Duarte, C.R. 1998. Radiometric and isotopic ratios in the Rio Preto project area (GO). MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 114 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR048

DataBase Ref.: 935 1998 Date of presentation: 1/4/1998

Cynthia Romariz Duarte

Advisor(s): Bonotto, D.M.

*Committee:**Subject of thesis:* Regional Geology

State: TO 1/1,000,000 sheet: SD22 Centroid of the area: 13 56 's - 47 57 'W
TO SD23

Abstract

Duarte, M.I.M. 1998. Integrated data analysis applied to the geology of the Rio das Velhas supergroup (NE of Quadrilátero Ferrífero). MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

*Reference:**DataBase Ref.:* 1762 **1998** *Date of presentation:* 3/4/1998**Maria Irian de Mascena Duarte** *Advisor(s):* Amaral, G.*Committee:**Subject of thesis:* Metallogenesis

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

The analysis of the geology of the Archean Rio das Velhas Supergroup, in the northeastern portion of the Quadrilátero Ferrífero, and its gold mineralizations, using remote sensing, aerogeophysical and geological data integration was the main objective of this work. Digital image processing and georeferenced information systems (GIS) techniques were applied to Landsat-TM and aerogeophysical data (magnetics and gamma-spectrometry), in order to obtain additional lithological and structural information and its relationship with known gold deposits in the area. For lithology, the best results were obtained with gamma-spectrometric data which presented a good correlation with the known mapped units. Magnetic data were useful for mapping iron formations as well as the main structural trends. Landsat-TM image analysis presented poor results for lithology due to the presence of intense weathering and vegetation cover. However, its infra-red bands were useful for extraction of fracture traces whose digital processing allowed the identification of zones with different brittle behavior, potentially linked to hydrothermal processes. GIS data integration, using gamma-spectrometry, fracture trace data and location of mineral occurrences, resulted in the definition of areas potentially favourable for mineral exploration, even in areas with thick soil and vegetation covers.

Fambrini, G.L. 1998. The Camaquã group (Proterozoic-Fanerozoic transition) in the Minas do Camaquã mine region, RS state : Stratigraphic analysis of facies, provenience and paleocurrents. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

*Reference:**DataBase Ref.:* 2248 **1998** *Date of presentation:***Gélson Luís Fambrini** *Advisor(s):* Fragozo César, A.R.S.*Committee:**Subject of thesis:* Geochemistry and Geotectonics

State: RS 1/1,000,000 sheet: SH21 Centroid of the area: ' - 'W

Abstract

Fernandes, N.H. 1998. Petrographic and chemical characterization of the banded iron formations of the Fortaleza de Minas deposit in Fortaleza de Minas (MG). MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 162 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR044*DataBase Ref.:* 938 **1998** *Date of presentation:* 1/2/1998**Nedson Humberto Fernandes** *Advisor(s):* Carvalho, S.G.*Committee:**Subject of thesis:* Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Fernandes, T.M.G. 1998. Geological and geochronological complementary studies of the southern part of the Caldas Brandão massif - PB. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 106 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR051*DataBase Ref.:* 934 **1998** *Date of presentation:* 1/5/1998

Tania Maria Gomes Fernandes

Advisor(s): Brito Neves,B.B.

Committee:

Subject of thesis: Regional Geology

State: PB 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract**Ferreira,A.C.M. 1998. Mineralogic and geomologic characterization of the alto Quixaba tourmalines, PB state. MSc Thesis, Departamento de Geologia, Universidade Federal de Pernambuco, pg.**

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 287 1998 Date of presentation: 1/11/1998

Ana Cláudia M. Ferreira

Advisor(s):

Committee:

Subject of thesis: Mineralogy and Petrology

State: PB 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract**Ferreira,S.M. 1998. Varvic rithmites of the Itararé subgroup - The example of the Varvitos quarry - Itú. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 159 pg.**

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR043

DataBase Ref.: 939 1998 Date of presentation: 1/1/1998

Silvia Maria Ferreira

Advisor(s): Chang,M.R.C.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract**Ferreti,E.R. 1998. Physical-conservacionistic diagnosis - DFC of the Rio Marrecas basin - southwestern of Paraná state. MSc Thesis, Departament of Geology, University Federal of Paraná, pp**

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 764 1998 Date of presentation:

Eliane Regina Ferreti

Advisor(s): Canali,N.E.

Committee:

Angela Beltrame -

Nilza Aparecida Freres Stipp -

Subject of thesis: Environmental Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract**Filardi,M.C.L. 1998. Contribution to the geology of the Alto Rio Negro region, using digital processing of aerogeophysycal and radar images data (Radambrasil, JERS 1 - SAR). MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp**

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1755 1998 Date of presentation: 3/4/1998

Márcia Cristina Lohmann Filardi

Advisor(s): Pascholati,E.M.

Committee:

Subject of thesis: Metallogenesis

State: AM 1/1,000,000 sheet: SA19 Centroid of the area: ' - 'W

Abstract

Brazil's northwest upper Rio Negro valley is the geologically least known area of the country. This is mainly due to intense weathering and tropical rain forest cover besides limited access. This work was carried out in order to obtain additional information from available remote sensing and aerogeophysical data. Orbital (JERS-1) and airborne (RADAMBRASIL) SAR data and aerogeophysical (magnetics and gamma-spectrometry) data were processed for obtaining lithological and estructural data.

Speckle imposes a severe limit to the use of JERS-1 SAR data. RADAMBRASIL imagery is strongly affected by electronic noise and differential shadowing. Due to that radar imagery was used mainly for extraction of lineaments (fracture traces). Magnetic data yielded deep structural information and regional lithological zoning. Most of lithological information was obtained from gamma-spectrometry data which allowed the separation of different granitic units.

Fischel, D.P. 1998. Geology and Sm-Nd isotopic data of the Mantiqueira complex and Ribeira belt in the Abre Campo region, Minas Gerais state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Abre Campo Discontinuity, Mantiqueira Complex, Santo Antônio do Gramma Amphibolite, Ribeira Belt, tangencial tectonic deformation, transcurrent tectonic deformation, Sm-Nd isotopic dates, model-age, mineral isochron

Instituto de Geociências - Universidade de Brasília

Reference: M126

DataBase Ref.: 186 1998 Date of presentation: 11/3/1998

Danielle Piuzeana Fischel Advisor(s): Fuck, R.A.

Committee: Antônio Gilberto Costa - IGC/UFMG
 Márcio Martins Pimentel - IG/UnB
 Hans Dirk Ebert - IGCE/UNESP

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

In the eastern part of Minas Gerais State, the limit between the Mantiqueira Complex and the Ribeira belt is marked by the Abre Campo structural discontinuity. This discontinuity is well defined by gravimetric and aeromagnetic anomalies. To the west of this discontinuity, the amphibolite facies banded gneisses of the Mantiqueira Complex are exposed together with metamorphosed mafic intrusions known as the Santo Antônio da Gramma amphibolite. To the east, are the dominantly granulite facies garnet gneiss and enderbitic gneiss belonging to the Juiz de Fora Complex of the Ribeira Belt. Three deformational events were identified. The earlier structures (Dn-1), best preserved in the Mantiqueira Complex, are represented by intrafolial folds and an older transposed foliation. The second deformational event (Dn) is the result of the tangencial tectonics, when Cinturão Ribeira lithologic units were thrust over the Complexo Mantiqueira. The third event (Dn+1) is related to a transcurrent tectonic deformation.

Sm-Nd model ages distinguish two crustal domains. The Mantiqueira Complex has Archaean model ages, while the Ribeira belt ages are Paleoproterozoic and younger (ca 1,5 Ga). The intrusive Santo Antônio da Gramma amphibolite has a Neoproterozoic model age (890 Ma).

Metamorphic ages obtained from Sm-Nd mineral isochrons indicate that within the Ribeira Belt the best metamorphism is younger, being 528 ± 29 Ma in the eastern part and 604 ± 27 Ma in the west, whereas metamorphism of the Mantiqueira rocks was dated at 781 ± 29 Ma. The gap between the oldest and youngest events is greater than 200 Ma and this may be consistent with repeated events of accretion of smaller continental blocks to the eastern margin of the São Francisco continent.

Gomes, A.S.R. 1998. Pb/Zn (Ag) sulfide mineralizations of Nova Redenção region - Bahia state. MSc Thesis, Institute of Geosciences, University of Bahia, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 281 1998 Date of presentation: 29/1/1998

Adriana Sanches Rocha Gomes Advisor(s): Misi, A.

Committee: Carlos Eduardo da Silva Coelho - IG/UFBA
 Augusto José de Cerqueira Lima -

Subject of thesis:

State: BA 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Sulfide mineralization of Pb - Zn (Ag) in Nova Redenção, State of Bahia, was discovered by Companhia de Pesquisa de Recursos Minerais (CPRM), which calculated reserves of 2,531,470 t with 6.1% Pb, 0.50% Zn, 32 ppm Ag and 10 ppm Cd.

Host rocks are silicified dolomites with evaporitic sedimentary structures, such as nodules of microcrystalline lenth-slow quartz and quartz crystal aggregates as gypsum pseudomorphs. There is a remarkable structural control of the mineralization: the mineralized bodies are NW-SE oriented, probably representing old basement faults that were reactivated during and after basin sedimentation. Sulfide minerals are galena, with minor sphalerite and pyrite. They form massive, stratabound lenses and veins in the dolomitic host rocks, replacing the matrix of breccias and of ooidal-peloidal dolarenite.

Pb-Pb isotopic determinations in eight galena samples of Nova Redenção indicated model ages between 400 and 600 Ma, which are partially concordant with the ages of the Una and Bambuí groups. When plotted on the Plumbotectonic Evolution Curves these data fall above the upper crustal curve, suggesting multiple sources for the lead, from the basement rocks or from the sediments.

Sulfur isotopic data of four barite samples, show high positive (34S values, around +40‰ CDT, which are compatible with the expected values for the seawater variation during the Neoproterozoic. Sulfide minerals, analysed for their (34S variation, yielded

values in the range of -0,1 to +20‰ CDT, suggesting a fractionation from the seawater sulfur.

Fluid inclusion studies of primary inclusions in sphalerite indicated relatively high saline composition (24.3 wt% NaCl). Homogenization temperatures of these inclusions remain in the range of 140°- 220°C, with modal value of 185°C. This temperature interval was confirmed by the geothermometric calculation of two cogenetic sulfur isotopic pairs of galena - sphalerite. The above temperatures suggest a process of thermochemical reduction of the seawater sulfur. The presence of CH₄, although not confirmed, is indicated by the observation of monophase inclusions in sphalerite with no phase transition.

Hydrothermal, high saline fluids, scavenged metals from the basement rocks and/or from the sediments through NW-SE trending fractures and faults during the diagenetic evolution of the basin. Formation and accumulation of sulfide minerals were controlled by the presence of sulfate-rich evaporite facies in the sedimentary pile, where the sulfur was reduced by thermochemical action, during the early diagenesis of the sediments.

Hashizume, B.K. 1998. Texturas e microestruturas do minério de ferro da Mina de Brucutu, NE do Sinclinal de Gandarela.. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 133 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 31

DataBase Ref.: 2374 1998 Date of presentation: 30/3/1998

Belônio Kenji Hashizume Advisor(s): Rosière, C.A.

Committee: Farid Chemale Jr - IG/UFRGS
 Antônio Wilson Romano - IGC/UFMG

Subject of thesis: Geodynamics and Crustal Evolution

State: MG 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Junges, S.L. 1998. Isotopic and geochemical characterization of the western belt of the Mara Rosa volcano-sedimentary sequence. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Island arc; Geochronology; Vulcanosedimentary sequence; Mara Rosa; Metamorphism

Instituto de Geociências - Universidade de Brasília

Reference: M133

DataBase Ref.: 193 1998 Date of presentation: 27/11/1998

Sérgio Luiz Junges Advisor(s): Pimentel, M.M.

Committee: Raul Minas Kuyumjian - IG/UnB
 Colombo Celso Gaeta Tassinari - IGc/USP

Subject of thesis: Regional Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The Mara Rosa volcano-sedimentary sequence, in northern Goiás, is part of the Goiás magmatic arc. It consists mainly of mafic metavolcanic rocks (amphibolites) and metasedimentary rocks of detritic origin (metagraywackes) and is exposed in three NE belts: the eastern, the central and the western belts. The belts are separated by orthogneissic rocks (meta-tonalites) and intruded by granites, quartz diorites and gabros. In this work, the petrology, geochemical and isotopic characteristics of the granites and metasediments of the western belt are investigated as well as the age of metamorphism and metamorphic conditions that affected the region.

The granitic rocks were separated in two groups; (1) deformed granites and (2) granites with little deformation. The first group (1) is characterized by elongated bodies, with strong strain hosted in metasediments and amphibolites. These granites are peraluminous in character and its REE patterns are similar to the metasediment patterns. A model age of ca. 1.6 Ga and a negative value (-3.8) of $\epsilon_{\text{Nd}}(600\text{Ma})$ was obtained for one granitic sample, which enforces the idea that the metasediments had a important contribution on its generation. The second granite group (2) is characterized by a deformation restricted to the borders of the intrusions. They have variable size and are granitic to quartz-rich diorite in composition. Similarly to the first group, they are also peraluminous, but its REE fraction patterns show larger enrichment in light REE. Model ages (TDM) for the larger bodies vary from 0.97 to 1.05Ga and the $\epsilon_{\text{Nd}}(T=600\text{Ma})$ values are positives, from +0.8 to +1.3, yet the smaller undeformed bodies have higher model ages of 1.21 to 1.32Ga and the $\epsilon_{\text{Nd}}(T=600\text{Ma})$ values are negative, from -1.9 to -2.3.

The metasediments are mainly feldspathic garnet micaschists which staurolite and kyanite. The mineral compositions and textures suggest a proximal source for the protolith which were most likely graywackes, arkoses and feldspathic sandstone. The geochemical characteristics point to a granitic (rhyolite) to dioritic (andesite) composition for the sediment source. The isotopic data are similar to the tonalitic gneisses, with positive values of $\epsilon_{\text{Nd}}(T=860\text{Ma})$, from +1.8 to +4.5, and model ages varying from 1.00 to 1.20Ga, suggesting that rocks which are isotopically similar to the tonalites were the source of the sediments. Mineral isochrons indicate two metamorphic events; one at ca. 750Ma, and another at ca. 610Ma. Temperature and pressure calculations showed the existence of two metamorphic peaks, both of upper amphibolite facies, kyanite/sillimanite zone coincident with metamorphic ages. The earlier event shows pressure of ca. 7Kbar and temperature of ca. 600 to 650°C, and the later shows a lower pressure of ca. 5 to 6Kbar and higher temperatures of 700 to 750°C. The older metamorphic age is interpreted as the age of the collision of the arc with the Goiás Massif to the east, and the younger is a typically Brasileiro age, interpreted as the collision between the Amazon craton and the west side of the arc.

Junqueira-Brod, T.C. 1998. Cretaceous Alkaline Igneous Rocks from the Águas Emendadas Region, Goiás, Central Brazil. MSc Thesis - University of Durham - Department of Geological Sciences; pp

University of Durham - Department of Geological Sciences

Reference:

DataBase Ref.: 1543

1998

Date of presentation:

Tereza Cristina Junqueira Brod

Advisor(s): Thompson, R.N.

Gibson, S.A.

Committee:

Subject of thesis: Petrology

State: GO

1/1,000,000 sheet:

SE22

Centroid of the area:

' -

'W

Abstract

The area of study is located in central Brazil, in the southern portion of Goiás state. The alkaline igneous rocks from Águas Emendadas Region comprise volcanic and pyroclastic varieties, emplaced in Phanerozoic sediments of the Paraná Basin and in Precambrian basement rocks. They were formed during a magmatic event which took place during Upper Cretaceous and belong to the Rio Verde - Iporá Igneous Province.

□□ The pyroclastic rocks were formed by processes involving fluidization and phreatomagmatic events. Exsolution of volatiles and magma mixing are also involved in their genesis. The most common pyroclastic products are breccias with fragmental, lapilli-size "matrices" and fragments of various origins (e.g. accessory, cognate, juvenile) reaching up to metric dimensions. Armoured lapilli, "spinning droplets" and "frozen droplets" of magma occur in the breccia matrix and represent different stages of explosiveness.

□□ Lavas, erupted in non-explosive intervals, are ultramafic to mafic (melaleucitites, melanephelinites, leucitites, basalts and basanites). They are usually porphyritic, with phenocrysts characteristically of olivine and/or clinopyroxene. Other common mineral phases include leucite (pseudo-leucite), nepheline, kalsilite, perovskite, phlogopite, Fe-Ti oxides and, in basalts and basanites only, plagioclase.

□□ The rocks were variably altered by a combination of hydrothermal processes and weathering. Minerals resulting from these alterations include carbonate, zeolites, serpentine and hydroxides.

□□ The chemical composition of several mineral phases is reported and discussed in terms of its effect on the magmatic processes. Fractionation of olivine, clinopyroxene, spinel-group minerals and perovskite controlled the chemical composition of magmas during evolution.

□□ The whole-rock chemical data show that these rocks are divided into two groups one Mg-rich and the other Mg-poor. The Mg-rich rocks are SiO₂-poor, with high contents of CaO, TiO₂ and incompatible elements, and have chemical affinity with kamafugites (Ti-rich diopside phenocrysts and groundmass kalsilite are consistent with this). The occurrence of magma mixing is supported by the chemical data.

Kitajima, L.F.W. 1998. Mineralogy and economic potential of monazite and allanite from the Peixe alkaline complex, Tocantins state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.*Monazite, allanite, alkaline complexes, economic geology*

Instituto de Geociências - Universidade de Brasília

Reference: M127

DataBase Ref.: 187

1998

Date of presentation: 12/3/1998

Luiz Fernando Whitaker Kitajima

Advisor(s): Gaspar, J.C.

Committee:

Nilson Francisquini Botelho - IG/UnB

Sílvia Roberto Farias Vlach - IGc/USP

Subject of thesis: Prospection and Economic Geology

State: TO

1/1,000,000 sheet:

SD22

Centroid of the area:

' -

'W

Abstract

The Peixe Alkaline Complex is a Mesoproterozoic (aprox. 1.5 Gy) intrusive body intruded in Serra da Mesa Group metasediments, which is composed by garnet and sillimanite micaschists. It is located at the northern part of Brasília Fold Belt.

The complex has an elongated shape (aprox. 30x7 Km.) with his longest axis oriented N-S and is constituted by nepheline syenites mantled by a narrow strip of syenites, granites and quartz syenites. Syenitic and granitic pegmatites occur inside and outside the complex.

Several mineralizations (zircon, monazite, allanite, corundum, ilmenite, beryl) occur in complex.

Monazite occurs in pegmatitic syenites and in the weathering horizon, together with quartz, feldspar, and biotite fragments.

Monazite is crosscut by veins and crystals of allanite, fluor-apatite, and possibly, Fe- and Al-hydroxides. Monazite is chemically divided into two populations, one with high-light rare earth elements (high-La monazites) with a small REE and P substitution at the octahedral and tetrahedral sites, and another population with lower light rare earth elements contents (low-La monazites) with larger cationic substitution on its crystalline sites.

The monazite chemical characteristics, in special the Th and REE contents, are similar to alkaline rocks (specially carbonatites), but the low-La monazites resemble granite monazites. Both types were possibly formed by direct crystallization in an alkaline magma, with progressive REE fractioning, or in different magmas, one being alkaline and other being possibly contaminated by silica-rich rocks.

Allanite is found as veins in monazite, coarse to fine-grained syenites, and in granitic pegmatites. They can be found also in the weathering horizon as detritic mineral. Allanites have distinctive chemical characteristics for each paragenesis: allanite in monazite is richer in light rare-earth elements; granitic pegmatite allanite is poorer in light rare earth elements; syenitic allanites have light rare earth elements concentrations intermediary to both, nearer to allanite in monazite.

Monazitic and syenitic allanites have chemical characters similar to alkaline-rock allanites, while the granitic pegmatite allanites

are similar to granite allanites from many procedences.

The association of monazitic and syenitic allanites with fluorite, calcite, and biotite, and their occurrence in veins crosscutting the monazite, suggest that those allanites were crystallized from hydrothermal fluids that percolated monazites and formed soluble REE complexes with fluorides, carbonates, etc.

The chemical differences among the monazitic and syenitic allanites is attributed to a REE-fractioning process on those hydrothermal fluids. The characteristics of those monazite and its substituting allanite is similar to described examples around the world.

Monazites and allanites from the Peixe Alkaline Complex were mined until recently, as a source for rare-earth elements metals, and because monazite is also a source for Th and P. Both are still potential resource (the mining activity was somewhat restrict) but the presence of thorium in them can be an environment and legal problem (thorium, according to Brazilian laws, is a State property, a strategic material). Also the local infrastructure (energy and roads) are very poor and distant from the consuming centers.

Kwitko-Ribeiro, R. 1998. Mineralogy, geochemistry and genesis of gold deposits of the Mariana anticline northern flank, Quadrilátero Ferrífero: A new tipology of ore named Bugre. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Iron Quadrangle; Minas Supergroup; Antônio Pereira; Ouro Preto; Mariana Anticline; Bugre; Hydrothermal Alteration; Fluid Inclusions; Geothermometry

Instituto de Geociências - Universidade de Brasília

Reference: M130

DataBase Ref.: 190 1998 Date of presentation: 31/7/1998

Rogério Kwitko Ribeiro Advisor(s): Oliveira, C.G.

Committee: Paulo de Tarso Ferro de Oliveira - IG/UnB
 Lydia Maria Lobato - IGC/UFMG

Subject of thesis: Prospection and Economic Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The auriferous district of Antônio Pereira is located in the northeastern flank of Mariana Anticline. The abandoned garimpo of Antônio Pereira was a huge gold producer for more than 200 years with the Bugre exploitation (name given by local diggers). Its host rocks consists of dolomites and iron-silicon-manganese-bearing dolomites interbedded with silicon-carbonate-manganese-bearing itabirites.

In the gold garimpo, a deep weathering process (>150m) caused the complete substitution of carbonates by a network of Fe± Mn oxi-hydroxides and kaolinite, giving to the rock ("coffee dregs") extreme friability, porosity and low density, with partial preservation of textures and structures. The garimpo is limited eastward by unweathered rocks of Gandarela Formation, exposed in a dolomite quarry. They are represented by dolomites, with subordinated quartzites and Fe-dolomites, hosting quartz-dolomite-sulfide gold veins. The veins are located on P and T non-coaxial deformation fractures, with important contribution of interstratal slip and boudinage, configuring a sin-kinematic emplacement to a distentional deformation.

The Bugre consists of friable fine-grain mass levels, subparallel to the weathered dolomites ("coffee dregs") foliation, in the garimpo area. It exhibits several brownish tints, with the typical dark red color, used as a prospecting guide by the local diggers, carrying the highest Au grades. The Bugre has thickness around 40cm, with irregular distribution and structure, conditioned by high-angle brittle faults. The main mineral compounds are quartz, goethite and limonite, in alternating proportions. This aspect controls the variation between yellow, red and black tints, due to the quartz, Fe-hydroxides and Mn-oxides influences, respectively.

The Bugre gold occurs mainly associated to limonite after arsenopyrite, with an average of 2,6% Hg and 1,6% Ag in the alloy, and traces of Cu and Sb. The quartz-dolomite-sulfide vein gold occurs as veinlets, inclusions and interstitial spaces in arsenopyrite, showing an alloy locally with over 5% Hg and Ag (averages around 1,5%) and traces of Sb e Cu, with no other metal contribution. A hydrothermal alteration is restrict to the vein vicinity, and is responsible to introduction of chlorite, quartz, sulfides and tourmaline in the host rocks. Ore-vein chlorites and carbonates was used as geothermometers, showing an average value of 319± 45°C, interpreted as the hydrothermal paragenesis stabilization temperature, and consequently, the fluid precipitation temperature.

Fluid inclusion microthermometric studies revealed an inhomogeneous aquo-carbonic low to moderate salinity fluid, with XCO₂ between 0,44 e 0,99 and contributions of N₂ and H₂S traces in the gas phase. Isochores calculated for the hydrothermal system provided pressure values compatible to a crustal depth shallower than 10km. A low fluid/rock ratio is attested for the hydrothermal alteration by its restrict occurrence, corroborated by d¹⁸O and 87Sr/86Sr similarity between veins and host rocks, and also by the tourmaline mineral chemistry.

The heterogeneity of fluid inclusion degree of fill suggests that gold precipitation was induced by boiling or fluid mixture. The ore vein preliminary isotopic values and the fluid inclusion characteristics point toward the second hypothesis, where high XCO₂ and low salinity metamorphic fluids interacted with subordinated lower XCO₂ and moderate salinity magmatic fluids, carrying elements like As, Hg, Ba and Sb dissolved.

Similarities in mineralogy, gold / gangue mineral chemistry and ore vein geometry permit a genetic correlation between the Antônio Pereira auriferous occurrences and Passagem de Mariana deposit.

Laureano, F.V. 1998. The clastic sedimentary record associated to the Lapa Doce and Torrinha cave systems, Iraquara municipality, Chapada Diamantina (BA state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1840

1998

Date of presentation: 21/12/1998

Fernando Verassani Laureano

Advisor(s): Karmann, I.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: BA

1/1,000,000 sheet:

SC24

Centroid of the area:

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Abstract

Neoproterozoic carbonate rocks of the Salitre Formation (Una Group), form an elevated plain in the Iraquara region, southern portion of the Irecê Basin. Several kilometeric caves are known in this area, most of which exhibit a sedimentary infilling which usually reaches the top of the conduits. This dissertation applied facies analysis to the sediments, along the two longest cave systems of this region (Lapa Doce and Torrinhã) in order to understand the sedimentology and stratigraphy of the caves, as well to relate sedimentation with cave development and geomorphological evolution. Thirteen facies have been described, based on textural parameters and internal structures. These facies fall into three groups: breccias, sands and muds. Vertical successions of these facies allowed the distinction of three facies associations, relate to suspension, traction, and gravity deposits. Three successive stages of sedimentation are proposed: (i) by subterranean rivers; (ii) by the action of ephemeral streams and (iii) by the gradual injection of mud flows through flooded conduits. Available chronological data indicate that this last stage was active until the end of Late Pleistocene. Climatic changes are invoked as responsible for these different sedimentary environments. The two first stages of sedimentation, of necessity, require the presence of air in the conduits, so that, deposition did not take place within water-filled cavities. The third stage is compatible with hydraulic paragenetic conditions leading to the upward expansion of the cave systems. Vadose exposure of these conduits and their silting-up were part of a continuous event, that occurred between the start of erosion of the Sul-Americana Surface and the installation of a younger surface, developed upon the carbonate rocks. Partial erosion of the cave sediments is linked to the lowering of the local base level, associated with the connection of the underlying terrigenous rocks (Espinhaço Supergroup), that crop out along the eastern border of the Iraquara synform.

Leal e Sá, L.T. 1998. Geology and Geomorphology of the Pernambuco-Paraíba Basin between Recife (State of Pernambuco) and João Pessoa State of Paraíba). MSc Thesis, Department of Geology, University Federal of Pernambuco, pp.

Pernambuco-Paraíba sedimentary basin, Geomorphologic development, Tabuleiros surface

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 609

1998

Date of presentation: 26/2/1998

Luilson Tarcísio Leal e Sá

Advisor(s): Mabeoone, J.M.

Committee:

Subject of thesis: Sedimentary Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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Abstract

Considered as to be the last Brazilian marginal basin formed and affected by the drift of the South American Platform, the Pernambuco-Paraíba basin is characterized by a sequence of clastic and carbonate sediments whose layers present a slow dip towards E, as a homoclinal structure. The basal sequence is composed of clastic sediment of the Beberibe Formation, characterized by an association of coarse- to fine-sandy clasts, which gradually pass at the top into carbonate sandstones, especially towards the coast. The carbonate sequence is represented by limestones comprising the Gramame and Maria Farinha Formations, whose stratigraphic subdivision is more related to fossil content, rather than to lithic differences. Covering these sedimentary units one finds the sandy-clayey sediments of the Barreiras Formation, deposited by fluvial systems, and finally the Quaternary deposits related to Pleistocene and Holocene river and marine terraces, mangrove swamps and alluvial plains. There is a relationship between the drainage system and the network of faults and fractures. It is believed that those structures play an important role controlling the degree of erosion and degradation of the geomorphic processes. In the south of the study area, these structures become more often, and combined with a moister climate they exert a distinct influence upon the geomorphic responses. This results in a more dissected areas as can be observed in the low plateaus (Tabuleiros Surface) near Recife. Besides the Tabuleiros Surface which comprises the major part of this work, other geomorphologic units have been observed within the study area between Recife and João Pessoa, being: hilly relief, irregular steep relief, and low-lying areas and terraces. The hilly relief unit was only identified at the southernmost limits of the study area and is related to lithologies referred to the crystalline basement. This geomorphic unit takes the shape of isolated hills and ridges and is somehow similar to the irregular steep relief unit, though its landforms show more rounded tops. The Tabuleiros Surface finds its origin and evolution closely related to the deposits of the Barreiras Formation. This surface is shaped in a number of compartments according to distinct topographic levels, named "Patamares (Pt)" and distributed as follows: Pt1, plateaus situated above the isoline of 100m; Pt2, plateaus situated between the isolines of 80 and 100m; Pt3, plateaus situated between the isolines of 60 and 80m; and Pt4, comprising the plateaus situated between the isolines of 30 and 60m. The irregular steep relief unit is represented by the slopes that link the top of the Tabuleiros Surface with the lower areas and terraces, as well as by the isolated hills and irregular elevations, mainly shaped on the sediments of the Barreiras Formation and, to a lesser degree, on the limestones of the Gramame and Maria Farinha Formations. The low-lying areas and terraces, on their turn, are related to the karstic processes that occur in the Gramame and Maria Farinha limestones, as well as to the continental and Quaternary deposits. Due to the enormous diversity of sedimentary units associated to this geomorphologic unit, it was subdivided into the following subunits: river terraces shaped on the fluvial sediments of the Beberibe Formation and modern alluvial deposits; marine terrace comprising both Pleistocene and Holocene terraces; and at last the tidal areas and mangrove swamps.

Leal, J.M. 1998. Fluid inclusions study in esmerald and quartz associated in the Capoeirana prospect, Nova Era, State of Minas Gerais. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 96 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 34

DataBase Ref.: 2377 1998 Date of presentation: 17/7/1998

José Maria Leal Advisor(s): Fuzikawa, K.

Committee: José Marques Correia Neves - IGC/UFMG
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- CNEN

Subject of thesis: Geodynamics and Crustal Evolution

State: MG 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Lima, L. 1998. The Uruguai mine and Santa Maria deposit - Camaquã district: A petrologic, geochemical and geothermometric study. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 858 1998 Date of presentation: 3/7/1998

Larissa de Lima Advisor(s): Almeida, D.P.M.

Committee:

Subject of thesis: Earth Sciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Medeiros, J.A. 1998. Sedimentary facies, sequence stratigraphy and palaeogeography of carbonaceous deposits of Iruí-Central mine, Cachoeira do Sul municipality - RS. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 872 1998 Date of presentation: 20/4/1998

Jorge Ademir Medeiros Advisor(s): Lavina, E.L.C.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Mellito, K.M. 1998. Application of Rb-Sr, Pb-Pb e Sm-Nd systems at the Salobo 3A polymetallic deposit, Carajás mineral province, Pará state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 113 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1140 1998 Date of presentation: 18/6/1998

Kátia Maria Mellito Advisor(s): Tassinari, C.C.G.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: PA 1/1,000,000 sheet: SB22 Centroid of the area: ' - 'W

Abstract

Mello Jr, R.F. 1998. Geochemistry of the soil and subsoil industrial contamination by heavy metals in the Suzano region - SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 113 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1270 1998 Date of presentation: 29/4/1998

Rivaldo França de Mello Jr Advisor(s): Sigolo, J.B.

Committee:

Subject of thesis:

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Mendes, M.P. 1998. Evolution, stratigraphic analysis and turbiditic depositional systems in submarine paleocanyons: Examples of Regência (ES state) and Almada (BA state). MSc Thesis, Institute of Geosciences, University of Rio Grande do Sul, pg.

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 283

1998

Date of presentation: 1/5/1998

Marcos Pimentel Mendes

Advisor(s):

Committee:

Subject of thesis: Marine Geology

State: ES 1/1,000,000 sheet: Centroid of the area: ' - 'W
BA**Abstract**

The evolution of Regência and Almada submarine paleocanyons, located at the continental and proximal shallow marine portions of Espírito Santo and Bahia Sul basins, is discussed in this research under the optic of the modern stratigraphy. Through tectono-stratigraphic analysis, the main mechanisms responsible for origin of these features and genesis of the depositional sequences and their respective discontinuities were identified. The associated channelized turbidite deposits were characterized with respect to the geometry and faciology based on the methodology of architectural elements analysis, of recent application on outcrops of ancient deposits. The application of this methodology is also proposed to core and log data, discussing its adequacy to the elaborated sequence stratigraphic framework. The GPR (Ground-Penetrating Radar), a surface-geophysical method that produce continuous high resolution profiles, was used looking for a better characterization of the Almada channelized outcrops.

Regência and Almada canyons were controlled and positioned by combination of structural factors, such as the adiasprophic tectonism and the halocynesis. The interrelation of different tectono-eustatic phenomena happened along the Late Cretaceous and Early Tertiary would have determined unconformities, shift of coarse facies basinward, formation of incised valleys and submarine canyons and the sedimentation of 3rd order depositional sequences. These sequences filled the canyons with associated channelized turbidite bodies, exemplified in the outcrops of Almada Paleocanyon lying on the Maastrichtian-Campanian sequence lower boundary.

The Regência Canyon was formed by a multistory evolution since the Middle Albian up to its complete filling during Middle Eocene. The main infilling sequence of this canyon is made by the Early-Middle Eocene supersequence, limited by type 1 unconformities. The genesis of these bounding unconformities and resulting ressedimented deep-water deposits, are linked to the intense tectono-magmatic events.

The interaction of different events, with regional dimensions, like intraplate compressional efforts, continental uplift, continental magmatism, the Abrolhos vulcanism, basin subsidence and global tectonic, induced abrupt relative sea-level falls. The stabilization and beginning of the relative sea-level rise, due to positive tectono-eustatic factors provided conditions to the final filling of the canyon with the deposition of the system tracts that compose the Early-Middle Eocene supersequence. The initial lowstand wedge (one of the elements of the lowstand system tract) is constituted of a thick aggradational/retrogradational succession from the Lower Eocene. The successive piling up of these channels (nominated as channel-levee complex) was controlled by the higher frequency eustatic variations (4th and 5th orders).

According the defined stratigraphic framework, the channels of Almada would belong to the nominated residual turbidity system, formed during the relative sea level fall, as a relicts of basinward basin floor fans.

A hierarchical schemes of classification of the geometric elements and their respective bounding surfaces was implemented based on the architectural element analysis applied to outcrops, cores and log data. The channel-levee complex of Regência, classified as 6th order architectural element, is composed by 4 channels systems (5th order element). A channel system is formed by the channels stage (4th order). Under autocyclic control, were developed the sub-stages channels (3rd order or channel infilling unit), the major faciological flow-units (2nd order) and the internal subdivisions of the layers deposited by high and low-density turbidity flows (1st order). The outcrops of Almada showed a architectural disposition with descriptive elements of 4th to 1st orders.

In relation to the external and internal geometries of both channelized systems, it was verified the greater heterogeneity, the more erosional character, and the greater lateral discontinuity of the Almada channels in relation to the Regência channels. Looking for a better characterization of these aspects, it was used very high resolution image (Ground-Penetrating Radar) on the outcrops of Almada, identifying the bounding surfaces and the possible faciological characteristics.

The elaboration of predictive models of deep-water deposition is appropriate, since it is well supported by integration of different tools of geologic analysis and of research methodology that prioritize the deductive aspects of the interpretative analysis. It was demonstrated in this research the complementarity and the importance of the tectono-stratigraphic (sequence stratigraphy), architectural (geometry) and sedimentary (facies) analysis in a multidisciplinary study.

Mesquita, M.V. 1998. Environmental Characterization of the Água Azul District, Guarulhos-SP, for Planning and Urban Occupation. MSc Thesis, University of Guarulhos, SP, Brazil, pp*Environmental Characterization; Água Azul District; Guarulhos; Planning and Urban Occupation*

Universidade Guarulhos

Reference:

DataBase Ref.: 1695 1998 Date of presentation: 19/3/1998

Marisa Vianna Mesquita Advisor(s): Saad, A.R.Committee: Vicente José Fulfaro - IGCE/UNESP
Paulo Roberto dos Santos -

Subject of thesis: Geosciences and Environment

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: 23 19 's - 46 23 'W

Abstract

This dissertation deals with mapping in 1:10.00 scales for land use planning in the Água Azul District. This District with an area of the Municipality of Guarulhos, State of São Paulo. The used methodology was based on many thematic maps (geological-lithological, declivity, land use and occupation) that associated with geomorphological, geological and climatic data had turn possible to reach the intended goals.

In this District, Proterozoic metamorphic and igneous rocks of the Morro da Terra Preta and Nhanguçu Formations (Serra do Itaberaba Group), are predominant. The Tertiary Resende Formation sediments and the Quaternary alluvial-colluvial deposits are present only in minor areas. The relief forms presents high and medium declivities mountain and hills and low declivities alluvial plains. A low thickness saprolite weathered zone in the predominant soil.

The result of the integration of these several maps and the environment / antropic actions analysis is represented by the indication of hazardous areas within the Água Azul District. This fact demands that special care should be applied to land parcel projects in this area characterized by a strong irregular topography.

The environmental synthesis map, final product of this research, is herein presented, for the community and municipality authorities, to be used as an important tool for a better territorial planning aiming a sustainable urban occupation.

Morais, M.C. 1998. Discrimination of iron mineralized laterites in the N1 deposit (Carajás-PA state) by imager Radar: An evaluation using textural classification. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1326 1998 Date of presentation: 4/9/1998

Maria Carolina de Moraes Advisor(s): Paradella, W.R.

Committee:

Subject of thesis: Remote Sensing

State: PA 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract**Moura, C. L. 1998. Geologic, petrographic and technologic studies of ornamental rocks from "Jazida Formoso" deposit, Formiga municipality - MG. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, pg.**

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR057

DataBase Ref.: 933 1998 Date of presentation:

Claudia Lopes de Moura Advisor(s): Artur, A.C.

Committee:

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract**Oda, G.H. 1998. Contribuição a hidrogeologia da região entre Salto de Pirapora e Itu (SP) : análise da produtividade, ocorrência e circulação das águas subterrâneas dos sistemas aquíferos Tubarão e Cristalino. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp**

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2245 1998 Date of presentation:

Geraldo Hideo Oda Advisor(s): Mendes, J.M.B.

Committee:

Subject of thesis: Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Oliveira, A.A. 1998. Cariri laminated limestones, study for reduction of ore losses and utilization of the waste. MSc Thesis, Department of Geology, University Federal of Ceará; pp

Departamento de Geologia - Universidade Federal do Ceará

Reference:

DataBase Ref.: 1014 1998 Date of presentation: 16/7/1998

Alvimir Alves de Oliveira

Advisor(s): Souza, J.V.

Committee: Ely Borges Frazão -
José Batista Siqueira -

Subject of thesis: Precambrian Geology

State: CE 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

Oliveira, F.R. 1998. Contribution to the structural geology and genesis study of the Passagem de Mariana auriferous deposit, SW sector, Passagem de Mariana-MG state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1737 1998 Date of presentation: 16/3/1998

Fernando Roberto de Oliveira

Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Passagem de Mariana mine of gold represent one of the oldest mines of gold in Brazil, having produced until the beginning of the eighties about 60 t. of gold. In this research were investigated the genesis of auriferous mineralizations and its structural controls as well as the metamorphic conditions. The structural framework of the Passagem de Mariana area was build up by two orogenic episodes related to Transamazonian (2,2-1,8 Ga) and Brasiliano (0,6-0,5 Ga) cycle. During the Transamazonian cycle were developed ductile to brittle structures in extensional and compressional events. The extensional D₁ event comprise the development of the quartz veins (Vn₁) parallel to oblique to the main S(17) tectonic foliation under low amphibolite metamorphic conditions. The second tectonic event D₂ comprise a NW vergent compressional structures represented by bedding parallel thrusting, tight to isoclinal F₂ folds and quartz veins developed under middle/high greenschist metamorphism. The late transamazonian event comprehends structures of extensional character including quartz-carbonate tension gashes (Vn₁+), pull-apart structures, boudins and normal shear bands with southeastern vergence. The main gold mineralization phase are associated to this event. The D₄ tectonic event associated to the Brasiliano orogenic cycle comprehends brittle 'til structures including N-S crenulation cleavage, quartz veins (Vn₂+2 and Vn₃) and vein fracturing. The metamorphism associated to this event reached low greenschist facies. The auriferous mineralization is epigenetic commonly associated to the arsenopirite in Vn₁+, quartz veins and in tourmalinite layer and in minor degree represented by free gold hosted in quartz vein. The tourmalinite of the Passagem de Mariana mine are classified in three different types: (1) rich massive bodies in auriferous arsenopirite, close to the quartz veins; (2) thin layers of the non-sulphide embedded in marbles; (3) tourmalinized phyllite.

Oliveira, R.G. 1998. Geotectonic framework of Riacho do Pontal belt region, northeastern of Brazil: Aeromagnetic and gravimetric data. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 157 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1218 1998 Date of presentation: 14/4/1998

Roberto Gusmão de Oliveira

Advisor(s): Brito Neves, B.B.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: BA 1/1,000,000 sheet: SC23 Centroid of the area: ' - 'W

PE SC24

PI

Abstract

Oliveira, S. F. 1998. Petrographic, structural and physical characterization of materials applied on the ornamental stones sector. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 123 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 32

DataBase Ref.: 2375 1998 Date of presentation: 31/3/1998

Sirley Fátima de Oliveira Advisor(s): Costa, A.G.

Committee: Cláudio Margueron - DG/UFRJ
Adriano Caranassios -

Subject of thesis: Geodynamics and Crustal Evolution

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Parro, P.S. 1998. Geologic-structural interpretation of the Juruena and Teles Pires rivers region, Mato Grosso state, using aero magnetometry and aero-gammaspectrometry data. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Magnetometry, gamma-ray spectrometry, data integration, Juruena - Teles Pires structural high, gold-bearing province in the north of Mato Grosso State.

Instituto de Geociências - Universidade de Brasília

Reference: M129

DataBase Ref.: 189 1998 Date of presentation: 24/4/1998

Paulo Sérgio Parro Advisor(s): Pires, A.C.B.

Committee: Roberto Alexandre Vitória de - IG/UnB
Fernando S. de Moraes - UENF

Subject of thesis: Prospection and Economic Geology

State: MT 1/1,000,000 sheet: SC21

Centroid of the area: ' - 'W

Abstract

The gold-bearing province in the north of the Mato Grosso State is contained within the Juruena - Teles Pires structural high, which is limited north by the Cachimbo graben and south, by the Caiabis graben. The central and eastern parts of this structure was covered by airborne magnetic and gamma-ray spectrometric data. This geophysics project was carried out in an area geologically poorly known. This dissertation aim to describe processing on this data that led to its qualitative interpretation and its integration to the known local geology at the 1 : 500.000 th scale. Flight line data was interpolated into regular grids by using heterogeneous linear kriging algorithm. The generated grids were further microlevelled to reduce noise due to mislevelling stile present in the data. The magnetic data processing yielded anomalous magnetic field information, presented as shadow relief (illumination at N, NE and SE). Its transformation into upward continued data (to 6,5 km, 10 km and 50 km), low-pass and bandpass filtering products, analytical signal, terrain slope, horizontal gradients (E-W direction), first and second vertical derivatives was further used in the magnetic qualitative interpretation process. The gamma-ray spectrometric data produced shaded relief maps (sun at NE) for potassium, uranium, thorium and total count channels. False colors composites were also generated (CMY and inverted CMY). The interpretation of these data product maps of the magnetic structures, and of the magnetic and gamma-spectrometric domains. Magnetic data showed some structures not mapped before. It clearly show E-W structures which was interpreted as magnetic signatures of transcurrent ductile shear zones. Its generating process may also allowed the development of many secondary structures R (N75W), R' (N15W), P (N75W), T (N35W), X (N15E) and D(E-W). All these discontinuities might be associated with an En event. A second deformational event (E n + 1) was also interpreted associated with N35-45E magnetic lineaments. The importance that the E-W structures might have was never recognized before. When seen in context of Central Brazil Shield, this E-W orientation seems to control most of the grabens already mapped in the central and western parts of the shield. If this is right it suggested that this structures are active since the Archean and can be correlated to the greenstone belts within the Carajás region. The integration maps shows groups of signatures that might represent rocks of the Uatumã Group, many intrusions with different compositions and areas interpreted as due to sedimentary rocks. It is important to note that many of these interpreted units were not mapped before in the existing geological maps of this area. The interpretation brought thirty four (34) different units within an area where only eleven (11) units were recognized geologically. Within what was mapped as Uatumã Group it probably exists a differentiate series were less differentiated members are more magnetic and are less active in gamma-ray emitters. Conversely more differentiated members have a opposed geophysical behavior. The gold-bearing primary mineralizations seem to be controlled regionally by R, P and D structures, related to En event. However, it biggest concentration are probably related the cratonic border located at northeast and eastern portions at Juruena -Teles Pires structural high. Within this regions there are contacts of rocks from the Xingu Complex with what seems to be more differentiated member of the Uatumã Group.

Pedroso, E.C. 1998. The use of JERS-1 / SAR e LANDSAT images in the spatial characterization of " placer" type mineralizations of the Tapajós Mineral Province. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1736 1998 Date of presentation: 6/4/1998

Enrico Campos Pedrosa

Advisor(s): Crósta, A.P.

Committee:

Subject of thesis: Metallogenesis

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This work presents the results of semi-automated approaches for the geological mapping of a significant metallogenic province of Brazil, the Tapajós gold province. The geology of the Tapajós region comprises Archaean to Phanerozoic rock assemblages. The main gold accumulations occur as placer deposits associated with Quaternary alluvium sediments. The Tapajós Province is located in the Brazilian Amazon, in an area covered by a dense tropical rain forest. As optical remote sensing data is severely constrained by almost permanent cloud coverage, we have selected JERS-1 SAR data, together with a 1:250,000 scale geological map as the basis for this work. In tropical regions such as the Amazon, radar imagery is an important source of textural information. The main goal of this research was therefore to evaluate image processing techniques that allow to recognise textural domains that could be correlated to the underlying geology. Geostatistic-based semivariogram textural classifiers and the grey-level co-occurrence matrices methods were employed for the semi-automated textural recognition task. Both are based on the spatial distribution of pixel values within an image. A set of textural channels is produced by either method that can be displayed as a pseudocolor image. The technique based on the semivariogram analysis yielded the best results. This technique first calculates the value of the semivariogram function for given training areas of different textural features. After a detailed interpretation of the curves, the best lags are selected interactively by the user, i.e. the lags that best distinguish the textural units. Next in the process, a bayesian unsupervised classification is performed in the entire image, using a moving window of predefined dimensions, based on the function values previously established. A comparison of the results derived from the textural classifiers, additional information extracted by digital image processing of Landsat TM data and ground truth data showed a good correlation in the spatial distribution of the main geologic units. Furthermore, it allowed distinguishing the alluvium that host gold-mineralized placers, based on their distinctive geomorphic texture. The semivariogram classifier is a powerful mapping technique that can be successfully applied for regional geologic mapping and mineral exploration in tropical regions and in particular to the vast geologically unknown terranes of the Amazon. The integration of SAR and optical data such as JERS1 /SAR and Landsat TM imagery is a very useful procedure to enhance textural and spectral information provided by these sensors.

Peraro, A.A. 1998. Genesis of antiforms observed on seismic profiles of the Tucano-Jatoba Rift (Northeastern Brazil). PhD Thesis, Departamento de Geologia, Universidade Federal de Ouro Preto, MG, pp.

Structural Geology; Tucano and Jatobá Basins; Analogue modeling; seismic modeling; balanced geological cross section

Departamento de Geologia - Universidade Federal de Ouro Preto

Reference:

DataBase Ref.: 336 1998 Date of presentation: 31/7/1998

Antonio Admilson Peraro

Advisor(s): Gomes, C.J.S.

Committee: Luciano Portugal Magnavita -
Hung Kiang Chang -
Marcelo A. Martins-Neto -

Subject of thesis: Tectonic and Structural Geology

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: 11 00 's - 38 54 'W

Abstract

Antiforms observed on seismic profiles of the Tucano-Jatoba Rift located in northeastern Brazil were formed essentially by six distinct mechanisms: rollovers, faults related to the basement, compaction, variations in fault displacement along major faults, local compression associated to transtension and forced folds.

Folds associated to rollovers are predominant and may be divided into the following categories: simple rollovers (a single folded structure), double rollovers (where sinthetic and antithetic conjugate faults are present); and ramp-flat-ramp rollovers.

Folds originated by variations on both fault displacement and differential compaction are the most common feature observed next to the Inhambupe Fault (South Tucano border fault). Forced folds appear close to the Adustina Fault (Central Tucano border fault). Transtension played an important role in the rift Northern Domain (North Tucano and Jatobá).

As a result, there is a concentration of folded structures in that region. Folds caused by basement-related faults widespread along the Tucano-Jatoba Rift, affecting both the pre-rift and synrift sections. All these interpretations were constrained by seismic modeling.

Analogue models were successful in generating the structures as interpreted in the seismic profiles. Fault geometry, the main contour constrain for the analogues, was provided by an interpreted seismic profile and its correspondent balanced geological section. The interpretation shows evidence that transtension was late in North Tucano. From the experiments it was possible to conclude that preexistent weak zones in the basement played a fundamental role in the generation and the geometry of the structures. Their influence on those structures are apparently more important than the stress orientation.

Pereira, R.G.F.A. 1998. Geomorphologic and geospeleologic characterization of the Rio Una Karst, Eastern border of the Chapada Diamantina (Município de Itaetê), Bahia state. MSc Thesis; Institute of Earth

Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1836 **1998** Date of presentation: 24/6/1998**Ricardo Galeno Fraga de Araújo Pereira** Advisor(s): Karmann, I.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract**Perillo, M. 1998. Geology, petrography and geochemistry of the Florestal granitoid massif. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 127 pp**

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 33

DataBase Ref.: 2376 **1998** Date of presentation: 22/4/1998**Moisés Perillo** Advisor(s): Romano, A.W.

Committee:

Maurício Antônio Carneiro - DEGEO/UFOP

Joel Jean Gabriel Quêmenêur - IGC/UFMG

José Marques Correia Neves - IGC/UFMG

Subject of thesis: Geodynamics and Crustal Evolution

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract**Petersen Jr, K.J. 1998. Alexandrite in the Minaçu municipality, Goiás state : mineralogy, geology and geological considerations. MSc Thesis; Department of Geology, University Federal of Ouro Preto, Minas Gerais, pp**

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1871 **1998** Date of presentation: 11/11/1998**Klaus Juergen Petersen Júnior** Advisor(s): Schultz-Güttler, R.A.

Committee:

Subject of thesis: Mineralogy and Petrology

State: GO 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract**Pontara, R.C.P. 1998. Analysis of the spectral signature of carbonaceous phyllite for image interpretation. MSc Thesis, Institute of Geosciences, University of Brasília, pg.***reflectance spectroscopy, rock spectral behavior, carbonaceous phyllite, Brasília Belt, remote sensing, spectroradiometry*

Instituto de Geociências - Universidade de Brasília

Reference: M132

DataBase Ref.: 192 **1998** Date of presentation: 4/9/1998**Rosângela Cezar Pimentel Pontara** Advisor(s): Meneses, P.R.

Committee:

José Wilson Correia Rosa - IG/UnB

José da Silva Madeira Neto - CPAC

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

The understanding of materials spectral properties through reflectance spectroscopy based on laboratory data is a fundamental condition for a good interpretation of multispectral and hyperspectral images that have been taken by remote sensors. In the special case of rocks the reflectance measurements are macroscopically controlled by surface texture, minerals structure, size and shape. Microscopically it depends on the mineralogical compositions.

The interaction mechanism of matter and electromagnetic radiation is based on the dual behavior of energy, which is propagated under the wave form. Scattering is the process that makes reflectance spectroscopy possible and while some photons are absorbed, others are dispersed on the surface and those that returns to the sensor can be measured. Absorption features of some ions and molecules have proven particularly diagnostic of specific mineral assemblages and they are useful to define spectral features of minerals and rocks, be the data presented as reflectance curves or as images.

Carbonaceous phyllites occur as gold host at the southern portion of the Brasília Belt in Morro do Ouro mine (Paracatu – MG) and

adjacent areas. They are fine grained, present a strong foliation, and are formed by the intercalation of muscovite and quartz-carbonate bands. These rocks were studied using reflectance spectroscopy in the interval from visible to short wavelength infrared (400 to 2500 nanometers). 29 reflectance spectra referring to 3 drill core samples, 22 rock samples, and 6 particulate (5 microns) samples were analyzed.

The ions and molecules found in the carbonaceous phyllites that present diagnostic absorption bands are: 1) cations Fe+2 and Fe+3 (between 400 and 1100 nm); 2) hydroxyl (near 1400 nm) or bonded to Al (2200 nm); 3) water (interstitial or inside clay minerals), when also occurs the absorption band at 1900 nm; 4) CO3 (between 2000 and 2500 nm) from dolomite in clorite shist of sequence.

It was possible to note on samples from different weathering horizons that the absorption bands suffer less interference from opaque material as weathering increases because it occurs a reduction of carbon in the rock resulting in a progressive increase of reflectance and sharpening of spectral features.

The spectral reflectance of samples also depends on the grain size or roughness of surface and varies with the chosen eletromagnetic energy interation plane, if parallel or transversal to rock banding.

The reflectance data for the rock samples were analyzed using a statistical technique of Principal Components, with the weight CP1 and CP2 describing 93% and 6% of variability, respectively, that showed the spectral differences between weathered and not weathered carbonaceous phyllites.

The images data analysis was done by a conversion of pixel digital numbers (ND) for apparent reflectance, resulting in spectral curves that agree with absolute reflectance and albedo standards of measurements taken in the laboratory by spectroradiometry.

Pontelli, M.E. 1998. Cartography of the alterations in the alluvial fans as a base for a relative stratigraphy, basins of Amola Faca and Rocinha rivers, Timbé do Sul - SC state. MSc Thesis, University Federal of Santa Catarina, Brazil, pp.

Universidade Federal de Santa Catarina

Reference:

DataBase Ref.: 1714 1998 Date of presentation: 11/10/1998

Marga Eliz Pontelli

Advisor(s):

Committee:

Subject of thesis: Coastal and Sedimentary Geology

State: SC 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Ribeiro, A.F. 1998. The Rio Salitre (Bahia) granite-greenstone terrane and the associated massive sulfide mineralization: Petrology, lithogeochemistry and metallogenetic potential. MSc Thesis, Institute of Geosciences, University of Bahia, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 278 1998 Date of presentation: 11/12/1998

Adalberto de Figueiredo Ribeiro

Advisor(s): Silva, M.G.

Committee: José Haroldo da Silva Sá -

Carlos Eduardo da Silva Coelho - IG/UFBA

Subject of thesis: Metallogenesis and Mineral Exploration

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

At the end of the seventies, government companies of mineral research carried out geological surveys and several exploration and prospective programs in the northern region of São Francisco Craton, in the State of Bahia, now known as Sobradinho Geotectonic Domain.

Among the results that were obtained, it was delineated Rio Salitre Volcano-Sedimentary Sequence (SVRS) according to the denomination proposed by this research. Associated to this SVRS it was revealed, by exploratory works, geochemical and geophysical anomalies related to the presence of base metals, with associated gold, and still a deposit of iron sulphide (pyrite - pyrrhotite), with massive levels, whose reserves were inferred at about 9,5 million tons.

Old exploratory works were abandoned in the middle of the eighties. This research proposes an interpretation both, of the available data and of the data that has been now produced, using a modern scientific methodology in the expectation of generating an incentive for the retaking of the exploratory and scientific investigations of SVRS, in particular, and in the Domain of Sobradinho, in general.

In this sense, the investigations accomplished by this research demonstrate that SVRS is constituted of a fursow filled with metabasaltic rocks, tholeiitic, of ocean floor (OFB) with pillow lavas, komatiitic basalts and felsics meta-volcanics associated with pelitic meta-sediments - arkose/and chemical - exhalative. It still shows that SVRS has been intruded by granitic bodies of types I and S, possibly related to the transamazonian orogeny. Shear zones, probably related to the Brazilian tectonic cycle, cross over the section of the group and they created conditions for the remobilization of the mineralizations according to the example of the sulphide area situated in the northwest edge.

From the geodynamic point of view, the data here described display the compatibility of the environment of SVRS with those collisional of continental crust-oceanic crust. As discussed in the context of this work, the package of metabasaltic rocks presents close similarity with the basalts of the modern back-arc basins while the granites shows compatibility with those of the volcanic arches (VAG).

Considering that, according to Sangster (1998), the identification of submarine volcanic layers associated to the pillows, chemical-exhalative sediments and the lack of features of sub aerial volcanism are, possibly, the most important criteria in order to establish any exploratory program aimed at Volcanogenic Massive Sulphides (VMS). From the results presented and analyzed, we may come to a conclusion that SVRS has a high level of metallogenetic potentiality for this type of mineral deposit. Finally, it is recommended in view of the considerations above mentioned, the continuation of the exploratory activities in SVRS and the continuation of the researches and studies of the other supracrustal sequences of the Sobradinho Domain.

Rodrigues, L.M.R. 1998. Geoprocessing for the evaluation of environmental impact in the Córrego do Lamarão micro-basin. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Agricultural Aptitude, Watershed, Remote Sensing, Geographical Information Systems, Land Cover

Instituto de Geociências - Universidade de Brasília

Reference: M131

DataBase Ref.: 191 **1998** Date of presentation: 28/8/1998

Lucimar Moreira Ribeiro Rodrigues Advisor(s): Assad, E.D.

Committee: Paulo Roberto Meneses - IG/UnB
José Wilson Correia Rosa - IG/UnB

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The long term exploration of the natural resources (particularly soil and water resources) in the Brazilian Cerrados region has provoked significant environmental degradation, especially where the agricultural capability is not considered. The primary objectives of this study were: a) to evaluate the changes in land use and occupation in the Lamarão Watershed (DF), over past 33 years; and b) to compare the actual land use and occupation in the watershed with the ideal agricultural practice, described in the agricultural aptitude map. The most important materials of the study were the soil and the agricultural capability maps; 1964 and 1975 aerial photographs; and 1987 and 1997 Landsat/TM images. These satellite images were enhanced by color composites and processed by segmentation technique and supervised classification by using the SPRING Geographical Information System (GIS), developed by the National Space Research Institute (INPE). The use of GIS was essential in the identification of subareas in the watershed where the land use type was in disagreement with the agricultural aptitude map. The TM images also showed a promising discrimination of different degradation levels in the pasture fields.

Romeiro, J.C.P. 1998. Control of the lithium mineralization in pegmatites of the Cachoeira mine, Companhia Brasileira de Lítio company, Araçuaí, State of MG. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 29

DataBase Ref.: 2373 **1998** Date of presentation: 27/3/1998

Júlio Cezar Pimenta Romeiro Advisor(s): Pedrosa-Soares, A.C.

Committee: Vitória Régia Peres da Rocha - IGC/UFMG
Joel Jean Gabriel Quémèneur - IGC/UFMG
Décio Casadei -

Subject of thesis: Geodynamics and Crustal Evolution

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Sá Rego, F.M. 1998. Trace elements isotopic geochemistry of carbonates from Morro da Pedreira (Sobradinho-DF) quarry: A palaeoclimatic approach. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M124

DataBase Ref.: 184 **1998** Date of presentation: 4/3/1998

Fernando Marcelo de Sá Rego Advisor(s): Santos, R.V.

Committee: Maria Léa Salgado-Labouriau - IG/UnB
Ivo Karmann - IGC/USP

Subject of thesis: Regional Geology

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

This dissertation aims to recover the paleoclimatic record from the Distrito Federal region, Central Brazil, based on oxygen and carbon isotope geochemistry. We have studied two stalagmites (CS1-12,5cm e CS2-40cm) from the Cortina Sagrada cave, located at the Morro da Pedreira, northeast from Sobradinho town.

of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1743 1998 Date of presentation: 27/3/1998

Giorgio Benedito Sartorato Advisor(s): Amaral, G.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Lineament extraction from remote sensing products is an important technique that can help the preliminar regional characterization of potential mineralized areas. Besides its own basic control, the lineament statistical analysis allows the establishment of a correlation between the parameters gathered and different mineralized areas in similar geologic environments. The area taken as a model for the analysis proposed lies on the northern portion of the Quadrilátero Ferrífero region and comprises the granitic-gneiss Archaean basement and the Proterozoic rocks of the Supergrupo Rio das Velhas, Minas and Espinhaco lithoestratigraphical units which have expressive iron and gold deposits. The lineaments attained by digital treatment of the Landsat image were extracted independently of its ductile or brittle behaviour. The results obtained by statistical analysis procedures were correlated to the main geological features and mineral deposits of the region. The geologic-structural map utilized was made by compiling the main geological mapping projects developed in the Quadrilátero Ferrífero region (see map attached). Three main structural directions were evidenced by lineament interpretation. The first one, with NESW direction have ductile properties (regional bedding). The second one (NW-SE) is intensively observed in the area and the event which generated this linear features is probably associated with the same event that generated the structural control of the mines which have ductile characteristics. Finally, the third group with E-W direction is very well enhanced in the map attached but not in the Landsat image. They are probably related to the Brasileiro geotectonic event.

Siedlecki, K.N. 1998. Answers from a residual soil of the Guabirotuba formation (PR) at the interaction with contaminant solutions. MSc Thesis, Department of Geology, University Federal of Paraná, pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 765 1998 Date of presentation:

Kátia Norma Siedlecki Advisor(s): Bittencourt, A.V.L.

Committee: Alberto Pio Fiori - DG/UFPR
 Antenor Paraguassú -
 Osni José Pejon -

Subject of thesis: Environmental Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract**Silva Filho, W.F. 1998. The Guaritas formation in the center-southeast portion of the Camaquã basin - RS state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 120 pp**

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1239 1998 Date of presentation: 12/2/1998

Wellington Ferreira Silva Filho Advisor(s): Machado, R.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract**Silva, C.L. 1998. Neotectonic aspects of the medium Rio Moji-Guaçu valley: Piraçununga region. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 169 pg.**

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR045

DataBase Ref.: 937 1998 Date of presentation: 1/2/1998

Clauzionor Lima da Silva Advisor(s): Rueda, J.R.J.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Silva, E. L. 1998. Geology of the Serra da Alegria region, Amazonian Kraton far south, Porto Murtinho municipality - MS state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 147 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1689 1998 Date of presentation: 22/4/1998

Eduard Lopes da Silva

Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis: Mineralogy and Petrology

State: MS 1/1,000,000 sheet: SE21 Centroid of the area: ' - 'W

Abstract

Silva, G.L.P. 1998. The gold-carbonaceous substance and implications on the genesis of vein-like auriferous mineralizations. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1741 1998 Date of presentation: 16/6/1998

Gilberto de Lima Pereira Silva

Advisor(s): Xavier, R.P.

Committee:

Subject of thesis: Metallogenesis

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

Carbonaceous units commonly host or occur closely related to the lode-gold mineralization in the mesothermal Fazenda Canto (FC) and Fazenda Maria Preta (FMP) deposits of the Paleoproterozoic Rio Itapicuru Greenstone Belt, northeast Brazil. In these deposits, the carbonaceous matter (CM) occurs mainly as: (i) straight to anastomosing seams (Type I); (ii) single grains composed of an agglomerate of highly anisotropic subgrains (Type II); or (iii) single grains with a homogeneous internal texture (Type III). Raman spectral characteristics indicated that these types of CM correspond to some form of microcrystalline disordered graphitic material and define a graphitization trend from the FMP to the FC deposit, which is interpreted as being the result of different degrees of thermal maturation of the CM that was attained during the regional greenschist metamorphism and granite intrusions of the Rio Itapicuru Greenstone Belt. Fluid inclusion studies revealed that the mineralized quartz veins are dominated by populations of CO₂-rich inclusions (Type 1), whereas primary groups of low salinity (< 5 wt% eq. NaCl) H₂O-CO₂ (± CH₄ ± N₂) inclusions (type 2) comprise the dominant inclusion type in only a few veins. Both types of mineralizing fluids may be interpreted as part of a deep metamorphic - magmatic hydrothermal system. In the FC deposit, chlorite (ripidolite variety a lower limit) geothermometer and sulfide assemblage (arsenopyrite-pyrite-pyrrhotite → upper limit) indicated a temperature of gold deposition between 390 °C to 491 °C with estimated pressures of 2.4 to 4.6 kbars, respectively. The CM of the FMP deposit is isotopically lighter (δ¹⁸C = -23.3 ‰ to -30.8 ‰) than the CM of the FC (δ¹⁸C = -18.5 ‰ to -21.0 ‰). These δ¹⁸C values, together with the geologic evidence, point towards a primarily biogenic organic origin for the CM. The calculated δ¹³C compositions of CO₂ derived by the oxidation or hydrolysis of the CM, applying the equilibrium calcite - graphite fractionation, yield δ¹³C values in the range -9.3 ‰ to -12.8 ‰, at 390 °C - 491 °C. These calculated δ¹³C values are lower than those obtained from carbonates of the FC deposit (-4.8 ‰ to -8.9 ‰). On the other hand, the calculated δ¹³C compositions of CO₂ from paleofluids responsible for carbonate (calcite-ankerite) formation, applying the equilibrium calcite - CO₂ fractionation, yield δ¹³C values in the range -2.3 ‰ to -6.6 ‰ at 390 °C - 491 °C. These calculated δ¹³C values are compatible with the range obtained from fluid inclusions of the FC deposit (-2.8 ‰ to -4.9 ‰) and insure that carbonate alteration minerals were formed by action of fluids from a magmatic or deep metamorphic source. The thermal maturation process of the CM contributed little to changes in the chemistry and isotopic composition of the mineralizing fluid. Regarding gold deposition, the CM is likely to have acted as: (1) a chemical trap, reducing the fO₂ of the mineralizing paleo-fluids or enhancing fluid immiscibility by adding small quantities of CH₄ and N₂ to the fluid phase; and/or (2) a physical barrier, adsorbing gold on its surface as activated carbon. Additionally, the CM may be used as an indirect guide in surveys for gold mineralization.

Soares, D.S. 1998. Mineralogic and geomologic study of the tourmalines of Quintos pegmatite - Parelhas, RN state. MSc Thesis, Departamento de Geologia, Universidade Federal de Pernambuco, pg.

Departamento de Geologia - Universidade Federal de Pernambuco

Reference:

DataBase Ref.: 288 1998 Date of presentation: 1/12/1998

Dwight Rodrigues Soares

Advisor(s):

Committee:

Subject of thesis: Mineralogy and Petrology

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

Souza Jr, M.A. 1998. Remote sensing applied to the study of geological structures with mineral deposit

occurrences in the Paraíba state central-north region. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1325 1998 Date of presentation: 17/3/1998

Manoel de Araújo Souza Júnior

Advisor(s): Gopinath,T.R.

Chiang,L.C.

Committee:

Subject of thesis: Remote Sensing

State: PB 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

Souza,J.L. 1998. Aerogammaspectrometric anomalies (K, U e TH) of the Araras quadrangle (SP) and their relationships with pedogenetic processes and phosphatic fertilizers. MSc Thesis, Departament of Geology, University Federal of Paraná, pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 767 1998 Date of presentation:

Jocelyn Lopes de Souza

Advisor(s): Ferreira,F.J.F.

Committee:

Luiz Cláudio de Paula Souza -

Leila Soares Marques -

Subject of thesis: Environmental Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Sparrenberger,I. 1998. The cassiterite of the Rio Paranã subprovince (GO state) : U-Pb and Pb-Pb datations and mineral characterization. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1845 1998 Date of presentation: 19/3/1998

Irena Sparrenberger

Advisor(s): Tassinari,C.C.G.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

Stevanato,R. 1998. Exploratory model for the lead and zinc deposits in the Itaiacoca belt - PR-SP. MSc Thesis, Departament of Geology, University Federal of Paraná, pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 766 1998 Date of presentation:

Rodoilton Stevanato

Advisor(s): Ferreira,F.J.F.

Committee:

Jorge Silva Bettencourt -

Elias Carneiro Daitx -

Subject of thesis: Exploratory Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Teixeira,L.M. 1998. Minerals with rare earth in granites from the Paranã tin sub-province in Goiás state-Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Rare earth elements (REE), light rare earth elements (LREE), heavy rare earth elements (HREE), zircon, xenotime, thorite, apatite, monazite, allanite, fluocerite

Instituto de Geociências - Universidade de Brasília

Reference: M128

DataBase Ref.: 188 1998 Date of presentation: 13/3/1998

Luciana Miyahara Teixeira

Advisor(s): Botelho,N.F.

Committee: Jose Carlos Gaspar - IG/UnB
 Silvio Roberto Farias Vlach - IGc/USP

Subject of thesis: Mineralogy and Petrology

State: GO 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The granitic massifs of Pedra Branca, Mocambo, Serra do Mendes and Soledade, from the Goiás Tin Province, have facies with rare earth elements (REE) concentration higher than 103 times chondritic values. Their REE-bearing minerals are zircon, xenotime, thorite, apatite, monazite, allanite, fluorite, fluorocrite, fluorcarbonates and a non-identified REE fase. Granitic rocks from these massifs were recently divided in two groups, named g1 and g2. The g1 granites have alkaline to subalkaline affinities and the g2 group presents aluminous to peraluminous composition. The g1 granites are richer in REE in relation to g2 group. This high REE content reflects the high concentration of REE-bearing minerals in the g1 group.

Allanite, apatite, and zircon are the main magmatic REE-bearing minerals in the less evolved facies of both granitic groups. As magmatic evolution progresses, zircon becomes enriched in U, Th, Y and HREE and apatite in Y and LREE. In the most evolved facies, apatite and allanite disappear and monazite becomes the dominant LREE-bearing phase together with zircon, thorite, and xenotime which are the main HREE-bearing minerals.

All REE-bearing minerals, except zircon and thorite, break down during greisenization. In the early phase of this process, allanite breaks down and apatite partially reequilibrates after a secondary enrichment in Y and LREE. The breakdown of primary REE minerals and the increase of the metasomatic alteration give rise to a secondary REE-bearing assemblage composed of monazite, xenotime, fluorite, fluorcarbonates, oxyfluorides, and fluorocrite. Although zircon remains in the greisens after greisenization, this mineral is not completely stable during hydrothermal alteration and becomes enriched in Y, REE, and probably H₂O. The observed decreasing in Zr and Si contents in zircons from granites and greisens is caused by greisenization and late metamictization.

The REE content decreases from fresh granite to greisen. The REE pattern remains unchanged from granite to greisen in g1 facies but there is an increase in the (La/Yb)_N ratio in g2 granites. The decreasing in REE content between granite and greisen may be explained by the depletion of REE content during greisenization or by an increase in the rock volume during granite alteration.

LREE patterns are influenced mainly by fluorcarbonates and monazite in greisenized granite and greisen from both g1 and g2 groups. Nevertheless the observed difference in (La/Sm)_N ratio of minerals and rocks indicates that zircon, xenotime, thorite, and fluorite also play a role in LREE content of the rocks. The same is observed in the HREE patterns that are also influenced by zircon, thorite, xenotime, and fluorite. The increase in the (Gd/Yb)_N ratio of the rocks when compared to the mean ratio observed in HREE-bearing minerals is caused by monazite and xenotime.

Toledo, F.H. 1998. The Cabaçal gold deposit, Mato Grosso state: Isotopic, minning hydrothermal alteration studies. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1738 1998 Date of presentation: 2/4/1998

Flávio Henrique de Toledo

Advisor(s): Figueiredo, B.R.

Committee:

Subject of thesis: Metallogenesis

State: MT 1/1,000,000 sheet: SD21 Centroid of the area: ' - 'W

Abstract

The Cabaçal gold deposit is located at the southwestern portion of the Amazon Craton, State of Mato Grosso, Brazil, along the Cabaçal tract of the Alto Jaru greenstone belt. This deposit is structurally-controlled by a WSW dipping, N20-40W ductile shear zone formed during a regional event of NE-directed tectonic overthrusting. The Alto Jaru greenstone belt is intruded by a multitude of rocks, such as the Indiavaí noritic gabbro, the Cabaçal tonalite and the Alvorada granite, which yielded Sm-Nd, U-Pb and Rb-Sr ages around 1688 ± 45 Ma, 1636 Ma, 1523 ± 278 Ma, respectively. These indicate an age of greenstone belt emplacement framed within the Early Proterozoic. The Cabaçal mineralization is hosted in felsic volcanic and volcanoclastic rock and occurs as (i) flat bands concordant to the mylonitic foliation, (ii) breccias, as well as (iii) quartz-carbonate veins. The ore is polymetallic and consists of chalcopyrite, pyrite, marcasite, pyrrhotite, sphalerite, galena, gold, bismuth and minor selenides and tellurides. These are commonly associated with quartz, chlorite, carbonate, sericite and minor biotite. The mineralization is related to hydrothermal alteration processes. Whole-rock Rb-Sr and single mineral (sericite) K-Ar radiometric determinations provide ages of 1638 ± 48 Ma and 1645 ± 78 - 1615 ± 65 Ma, respectively, for the hydrothermal episode. Pb-Pb radiometric dating of galena yields an age around 1700 Ma for ore emplacement. These ages are similar to those obtained for the syn- to late-tectonic Cabaçal tonalite. Initial 87 Sr/86 Sr ratios in carbonates from mineralized veins range from 0.7029 to 0.7144. The lower ratios are found in veins parallel to the mylonitic foliation. These ratios were interpreted as associated to fluids evolved from deep sources such as the gneissic basement and tonalitic magma chambers. Higher 87 Sr/86 Sr ratios are usually akin to carbonates from late, discordant and brecciated mineralized veins, suggesting that these precipitated from the reaction between late hydrothermal fluids and the supracrustal rocks. The Pb/Pb ratios in galena from the polymetallic ore also indicate fluids and metal contributions from primitive reservoirs both in the lower and Upper Crust. Mineralogical, chemical and isotopic data support an epigenetic origin for the Cabaçal deposit, which is depicted here as a shear zone-hosted, mesothermal base-metal gold mineralization developed contemporaneously to surrounding tonalitic plutonism. This study reveals evidence that the Alto Jaru greenstone belt underwent an important tectonic event at around 1.7 Ga, comprising a complex assembly of metamorphism, plutonism, deformation and hydrothermalism processes, which led to the formation of the Cabaçal gold deposit.

Tomazoni, J.C. 1998. The erosional process and the hydro=transported material in the Rio Pinhal hydrographic basin -SW of Paraná state. MSc Thesis, Department of Geology, University Federal of Paraná; pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 837

1998

Date of presentation:

Julio Caetano Tomazoni

Advisor(s): Bittencourt, A.V.L.

Committee: Cláudio Limeira Mello -
José Candido Steveaux -

Subject of thesis: Environmental Geology

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Torres, R.B. 1998. Contribution to the study of the structural framework of Rio Tapajós area, Amazonas basin, through integrated analysis of topographt, geology, magnetometry, gravimetry and remote sensing data. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1321

1998

Date of presentation: 17/8/1998

Rosangela Buzanelli Torres

Advisor(s): Chiang, L.C.

Committee:

Subject of thesis: Remote Sensing

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Vieira, A.F.G. 1998. Gully erosion in urban areas: The case of Manaus (AM state). MSc Thesis, University Federal of Santa Catarina, Brazil, pp.

Universidade Federal de Santa Catarina

Reference:

DataBase Ref.: 1713

1998

Date of presentation: 7/10/1998

Antonio Fábio Guimarães Vieira

Advisor(s):

Committee:

Subject of thesis:

State: AM 1/1,000,000 sheet: SA20 Centroid of the area: ' - 'W

Abstract

Weber, W. 1998. Geology and geochronology of Ilha do Cardoso island, southeast of São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 86pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1252

1998

Date of presentation: 18/12/1998

Werner Weber

Advisor(s): Basei, M.A.S.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: SG23 Centroid of the area: ' - 'W

Abstract

The aim of this work is the geological and geochronological study of rocks cropping out on Cardoso Island, on the southeastern coast of São Paulo, close to the boundary with Paraná State. The island with an area of about '151 km²' is a protected area administered by the Forest Institute of Environment Secretariat of the State of São Paulo. It is mountainous, with a peak at 814 m, and is covered by dense "Mata Atlântica" vegetation. The terrains which compose the island are mainly an igneous complex with light grey leucocratic, inequigranular, medium - to coarse-grained syenites. The predominant Três Irmãos Syenite (STI), composed of pyroxen, hornblende, and perthitic to mesoperthitic microcline, has an a magmatic flow structure and is cut by the Cambriú alkali-feldspar Granites (GC), which is a pinkish grey, leucocratic and medium-grained. Geochemical analysis of STI and GC demonstrate their metaluminous alkaline nature and late-orogenic to anorogenic character. The geochronological results suggest that the bodies were formed between 620 and 570 My according to the U-Pb method in zircons, with cooling between 597 and 531 My (K-Ar amphiboles). Whole rock Sm-Nd analyses yield 'T_{IND}.DM' ages in the Meso and Paleoproterozoic (1.200 - 2.200 My). A belt of low grade metasedimentary rocks occurs in the northern part of the island. Quartz schist, quartz-mica schist and mica-quartz schist, often containing anadaluzeite and cordierite, predominate. The geochemical and geochronological data

suggest that the sources of the metasediments were andesites of continental arc whose protoliths separated from the mantle during the Paleoproterozoic, between 1.800 and 2.200My. These metasediments probably continue on the continent in the Taquari region and extend southwards in narrow strips between the granitoids of the Paranaguá Domain. Although quaternary deposits are expressive, they were not studied in details since they were not the objectives of this study.

Zucchetti, M. 1998. Geochemistry of Nova Lima group metabasalts, Rio das Velhas greenstone belt, Quadrilátero Ferrífero, MG state. MSc Thesis, Institute of Geosciences, University of Minas Gerais, 97 pg.

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 30

DataBase Ref.: 282 1998 Date of presentation: 1/3/1998

Márcia Zucchetti Advisor(s): Lobato, L.M.

Committee: Zara Gerhardt Lindenmayer - DG/UNISINOS
 Carlos Maurício Noce - IGC/UFMG

Subject of thesis: Geology and Mineral Resources

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The petrographic and geochemical study of metabasalts of the Nova Lima Group, Rio das Velhas Greenstone Belt, from the interior of the Quadrilátero Ferrífero, Minas Gerais State, contemplates specimens not significantly affected by alteration processes, sampled across a wide area. Various rocks preserve primary features such as pillow lavas, amygdaloids and varioles. The petrographic studies and the mineral chemical analyses classify the better part of the study population as actinolite schists. Rare samples are chlorite schists. On the basis of major and trace element analysis, the actinolite schists are divided into tholeiites and magnesian tholeiites. By way of the rare earth element patterns, the rocks are subdivided into five geochemical populations (I-V). The chemical variations demonstrated on binary variation diagrams, using major and trace elements, proves this division. Population I is comprised of magnesian tholeiites and represents the most primitive terms of the sample population, with high MgO, Ni and Cr. Populations II, III, IV and V are differentiated terms evolved from compositions like those of population I, with low compatible element contents and proportionally greater incompatible elements contents. The geochemical behaviour, represented principally by the trace elements, shows that population I may have formed by partial fusion of plume type mantle source. The other populations are differentiated by fractional crystallization from a melt of composition similar to that of population I. Populations IV and V present geochemical patterns reflecting mixing processes that may have been caused by fractional crystallization together with assimilation and/or crustal contamination. The Nova Lima Group metabasalts are derived from an ocean floor environment, as evidenced by structures (pillow lavas) and lithological associations (banded iron formations and metacherts). The geochemical characteristics indicate that at least some of the metabasalts were formed by a mantle plume (P-MORB), with subsequent differentiation by fractional crystallization. These characteristics permit the identification of a submarine plateau. The geochemical study of mainly incompatible trace elements is shown to be efficient for the petrochemical characterization and the inference of geotectonic environments of the metabasalts of the Nova Lima Group.

Achtschin, A.B. 1999. Geologic, mineralogic and geochemical characterization of the pegmatites of the Padre Paraíso pegmatitic district, State Minas Gerais, and their varieties of beryl. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 45

DataBase Ref.: 2388 1999 Date of presentation: 20/12/1999

Adriana Borrelli Achtschin Advisor(s): Pedrosa-Soares, A.C.

Committee: Joel Jean Gabriel Quêmenêur - IGC/UFMG
Vitória Régia Peres da Rocha - IGC/UFMG
Leonardo Evangelista Lagoeiro - DEGEO/UFOP

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Aguiar, R.B. 1999. Impacts on the groundwater quality in the coastal area due to urban occupation in Caucaia municipality – Ceará state. MSc Thesis, Department of Geology, University Federal of Ceará; pp
[groundwater; quality; isotopic; Caucaia; Ceará](#)

Departamento de Geologia - Universidade Federal do Ceará

Reference:

DataBase Ref.: 1865 1999 Date of presentation: 27/10/1999

Robério Bôto de Aguiar Advisor(s):

Committee:

Subject of thesis: Hydrogeology

State: CE 1/1,000,000 sheet: SA24 Centroid of the area: 03 41 's - 38 54 'W

Abstract

Was made a hydrochemical, isotopic and bacteriological characterization of groundwater resources in Caucaia coast district that composes Metropolitan Area of Fortaleza - Ceará, to identify the effect of urban, occupation. In July/98 a hundred points were registered with CE, pH, Eh and temperature measurements and selected forty wells for three collections in September/99, February/99 and June/99, totaling 80 physical - chemistries analyses, 71 bacteriological analyses and 36 isotopic analyses, being 26 for oxygen-18 and 10 for deuterium. The results show waters predominantly mixed bicarbonate calcic ones and sodic chlorates, independent of climatic period. The Na⁺, Cl⁻, Ca⁺⁺ and HCO₃⁻ origin is associated to natural processes as deposition of sea aerosols and carbonates dissolution. They were identified, with isotopic measurements: water from indirect recharges through rivers and ponds; waters from fast infiltration and water increasing salinity by dissolution and not for evaporation processes. Bacteriological analyses of the 71 samples identified microorganisms of fecal contamination in 52 samples, prevailing bacteria type *Escherichia coli* and *Klebsiella*, what evidences the absence of basic sanitation. The components nitrogenados, ammonia, nitrite and nitrate, were found in all samples and, in large part of them, above permissible maximum values, with nitrate concentration always larger the existence of source of moved away contamination of sampling place.

Altafini, M. 1999. The origin of foldings in ferruginous crusts at Pirapora do Bom Jesus - SP state and São Paulo tertiary basin. MSc Thesis, Institute of Geosciences, University of São Paulo, pg.

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 294 1999 Date of presentation: 1/9/1999

Marcelo Altafini Advisor(s): Sigolo, J.B.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Folds in iron crusts are described and characterized in this work, for three different study areas. Two inserted in the Tertiary São Paulo Basin, the first located in the Highway President Dutra, near the municipal district of Santa Isabel-SP; the second in Vila Madalena, São Paulo-SP; and the third located in Pirapora do Bom Jesus-SP, in the geologic setting of the São Roque Group.

The objective of this study was to verify the folded iron crust genesis, checking the hypotheses of origin by tectonic or geochemistry process. The following analysis were done: 50 samples of tin sections; 46 whole rock chemical analysis; 10 tin sections were used for punctual analysis in Scanning Electronic Microscopy (SEM-EDS); 7 samples in X-Ray Diffractometry (XRD) of clay fractions; and heavy minerals separation in 10 samples in the fractions 16, 35 100 and 200 mesh. The samples were collected from 11 profiles located in the outcrops of the different studied areas.

In parallel to the analysis above mentioned, it was made comparative structural analysis between regional structural and the folded iron crusts patterns. Through the application of Schmidt-Lambert diagrams, the geometric, morphologic parameters and

the preferential orientations of the folds and fractures were defined.

The iron crusts outcrops of Dutra, Vila Madalena and Pirapora do Bom Jesus, present textural organization, similar chemical and mineral composition, although they are located in different rocks and in different geologic setting. They are constituted basically by iron oxides and hydroxides (goethite) and quartz. It was possible to recognize the origin and the secondary development of these materials as nodules and pore and fissures filling features, mainly by iron hydroxides and secondarily by aluminum hydroxides and clays.

The sedimentary host-rocks in Dutra and Vila Madalena outcrops are comprised by altered material, clay and sand + clay, respectively. The mineralogical analyses in XRD and separation of heavy minerals, indicated the sedimentary rocks of Vila Madalena outcrop is constituted predominantly by quartz and caolinita. Biotite, ilmenite, turmaline, zircon and rutile occur secondarily.

The lithology in Pirapora outcrop is characterized by red and yellow clays hosted by sedimentary rocks. The mineralogical analyses in XRD indicated the sedimentary host-rocks are constituted mainly by iron clays, caolinite group clays, and secondarily quartz, biotite, gibbsite and ilmenite. They also occur constituted by lithorelics fragments rocks from São Roque Group. In the heavy minerals separation were identified turmaline, zircon, rutile and goethite.

The iron crusts have geochemical origin, checked by the geochemistry diagrams which show trends of geochemical evolution linking sedimentary host-rocks and iron crusts. These iron crusts were formed from remobilization and concentration processes of iron oxides and hydroxides, originated by the descending meteoric water and groundwater level oscillation, related to seasonal climatic variations and relief ascending movements (in Pirapora case).

The mineral constitution, the textural organization and the total and punctual chemical iron crusts composition in the three studied areas, indicated they originated from the iron oxides and hydroxides precipitation from sedimentary host-rocks. The difference between both material is only result of depletion in Fe₂O₃ and enhance in SiO₂, Al₂O₃ and alkaline elements in the sedimentary rocks, contrarily to the observed in the iron crusts.

The origin of iron crusts pseudo-folded is not directly related to tectonic processes. It was not possible to establish correlation between the studied areas structural data with tectonic fold or regional deformation patterns.

Fractures in Pirapora outcrop are due regional lineaments tectonic reactivation (Quaternary), which were conditioned by water flow, allowing iron oxides and hydroxides precipitation inside the fractures. Grievess-type structures were formed by iron oxides and hydroxides precipitation oblique to the fractures. The group formed by the juxtaposition of those grieves-type structures delineates the pattern and feature of folded iron crusts observed in this outcrop.

Andrade, C.M. 1999. Mineralogic, geologic and economic aspects of Chapada Diamantina diamonds and carbonados, Bahia state. MSc Thesis, Institute of Geosciences, University of São Paulo, pg.

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 293 1999 Date of presentation: 1/8/1999

Cláudio Meira de Andrade Advisor(s): Svisero, D.P.

Committee:

Subject of thesis:

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

Diamond was discovered in the Chapada Diamantina area in 1842 on the banks of the Mucugê river, located in the central-eastern region of the Bahia State. The development of the diggings originated several villages which on its turn originated the towns of Lencóis, Andaraí, Palmeiras, Mucugê, Morro do Chapéu, Igatu, Xique-Xique, Piranhas. However, the trademark of the region became the discovery of carbonado and ballas, two polycrystalline varieties of diamond. Both are constituted of microcrystals of diamond. Carbonado is made up of alleatory tiny micrometric crystallites constituting aggregates with ceramic-like texture. Carbonado varies in size as well as in colour being usually dark, gray or brown. Ballas, on the other hand, displays an espherical habit being made up of cristallites with an radial arrangement. As carbonado, ballas are usually dark, gray or brown in colour. Diamond has an almost constant density of 3,51 while in carbonado it is variable between 3,0 and 3,45.

Roughly the diggings of Chapada Diamantina are similar to the others throughout Brazil where the garimpeiro works alone using only sieve and pan. Several tentatives in order to mechanize the washings failed in the area. Concerning the geology, diamond and carbonado are associated with metaconglomerates of the Tombador Formation of the Chapada Diamantina Group, part of the middle proterozoic Espinhaço Supergroup. The Tombador Formation is made up of eolian and fluvio-eolic metasediments constituting aluvial fans that were metamorphosed during the middle proterozoic orogenesis. Diamond and carbonado have been prospected from quaternary sediments made up of sands and gravels as a result of the erosion of the Tombador Formation rocks. The heavy minerals associated with diamond and carbonado in the region is comprised of magnetite, ilmenite, hematite, tourmaline, rutile, zircon, hornblende, epidote, kyanite, andalusite, almandine garnet, corindon, crysoberil, staurolite and gold. The former minerals are all typical metamorphic phases being derived from the crystalline basement rocks. Kimberlite indicators such as pyrope garnet, Mg-ilmenite, Cr-spinel, Cr-diopside and zircon are absent in the area.

The study of representative parcels of diamond recovered in the region showed that the majority of diamonds have a rhombododecahedral crystalline habit. The remaining crystallographical types include irregular crystals, fragments, crystalline

aggregates, macles, cubic and octahedral crystals as well as combinations among the late forms. Regarding the macroscopic colour most of the crystals are colourless, although yellow, brown, gray and black are common too. Fancy colours such as pink, blue and red have been observed in the area. As to the size diamonds range around some milimeters; crystals bigger than 5 ct are rare.

Carbonado is the main polycrystalline variety in the region occurring as porous granular aggregates with a ceramic-type texture. The colour is usually dark ranging from gray to brown and black. Concerning the size carbonado range from milimetric up to centimetric samples. The Sérgio Carbonado found near the town of Lençóis in 1905 and weighing 3.167 ct is still the biggest diamond ever found. The amount of carbonado produced reached its peak around 1880 declining in the beginning of this century. The use of synthetic diamond after the 60's followed by the establishment of the National Park of Chapada Diamantina ended the washing of gravels in the area.

The origin of diamond is still a controversial subject due to the lack of systematic surveys in the area. The absence of kimberlite indicators such as pyrope garnet, Mg-ilmenite, Cr-spinel, Cr-diopside and zircon as well suggests that the primary source rocks may have been eroded or are covered now by sediments of the platform. As to the carbonado some observations made during this work suggest that the origin of the polycrystalline varieties is related to the formation of the monocrystalline diamond itself. The intimate association between diamond and carbonado confirmed in several localities in Brazil and elsewhere as well as the crystalline intergrowth between diamond and carbonado suggests a kimberlitic origin for the polycrystalline varieties.

Andrade, F.S. 1999. Geographic information system applied to the identification of potential areas for waste landfill in the Distrito Federal region, Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Geographic Information Systems, Brazilian Environmental Legislation, Sanitary Landfills

Instituto de Geociências - Universidade de Brasília

Reference: M145

DataBase Ref.: 205 1999 Date of presentation: 13/12/1999

Flávio Simas de Andrade Advisor(s): Rosa, J.W.C.

Committee: José Eloi Guimarães Campos - IG/UnB
Eduardo Delgado Assad - EMBRAPA

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

Solid waste production is directly associated with population growth and the excessive consumption of industrialized products, due to the current industrial development model of the world. Inadequate waste disposal is an important environmental, social, and public health issue in major metropolitan areas of the Earth that needs to be seriously addressed.

Surveys carried out by the Brazilian Institute of Geography and Statistics (IBGE), and the United Nation's Childhood Fund (UNICEF) have confirmed the bankruptcy of the basic sanitation system at all government levels in Brazil. At the end of the twentieth century, Brazil does not have a National Solid Waste Policy that defines clearly the roles of States, Municipalities and the private sector in the solution of treatment and final destination of urban wastes.

According to SLU/DF, the company responsible for urban cleaning of the Federal District, Brasília's Jockey Club landfill receives on a daily basis 1,200 tons of trash. The landfill site is expected to close within twenty years if the current trend is maintained.

The objective of this Dissertation was to identify potentially suitable areas for the installation of sanitary landfills that could be used as alternative sites for the disposal of the Federal District's solid waste. This is a complex task that requires advanced knowledge of Remote Sensing and Geographic Information Systems.

The diagnosis effected considered the characteristics of the physical environment, and social and economic aspects of the region, besides Federal and the Federal District's environmental legislation, and technical norms. The procedures used involved the editing and manipulation of basic cartographic and thematic data, the definition of exclusionary criteria, as well as network and topological overlay. Data processing was carried out in the ambience of a Geographic Information System.

An analysis of Brasília's Jockey Club landfill site was also undertaken considering the technical and environmental criteria used in this Dissertation. In 8 out of 14 opportunities the landfill site infringed the Brazilian Environmental Legislation.

Technical and environmental criteria extracted from Brazilian legislation proved to be trustworthy. As a final result, thirty eight potential sites for the installation of sanitary landfill were identified. This is a practical demonstration that GIS technology can be applied to solve environmental problems.

Arapa, D.T.Q. 1999. Geology and Metallogenesis of the Pb/Zn Ulcumayo Deposit, Central Perú. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Mina Ulcumayo, Lower Jurassic, fluid inclusions

Instituto de Geociências - Universidade de Brasília

Reference: M143

DataBase Ref.: 2505 1999 Date of presentation: 29/10/1999

Dennin Tomáz Quispe Arapa Advisor(s): Dardenne, M.A.

Committee: Paulo de Tarso Ferro de Oliveira - IG/UnB
Job Jesus Batista - IG/UNICAMP

Subject of thesis: Prospection and Economic Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The main objective of this dissertation is to present the study of the Pb-Zn Ulcumayo ore deposit, located in the District of Ulcumayo, Junin place. This mineralization is hosted in dolomitic levels that form part of a carbonatic sequence from Pucará basin.

In Peru, mineral deposits from Andes are associated to the Andean cycle and distributed into four segments: North, Central, Central-South and South. Deposits from central segment are associated to the sedimentation from Triassic-Lias; Lower Jurassic Lower Cretaceous and to the magmatism of Middle to Upper Miocene. There is an association between these mineral deposits and the regional faults, which is an important element that allows to guide the location of the main mineral deposits. At Pucará basin, these deposits are controlled by fault systems (NNE-SSW) transverse to the Andean faulting system of Andean faulting (NNW-SSE).

The Pb-Zn deposit of Ulcumayo are strongly affected by the longitudinal and transversal systems of faults, the transversal faulting NN-E-SSW guiding hydrothermal fluids, dolomitization and sulphide precipitation.

Microthermometric studies of fluid inclusions characterize an aquo-saline system with salinity values varies among 2.565 to 30.200/o in weight NaCl eq. with medium values between 18 and 26% in weight NaCl eq. type H₂O-NaCl-MgCl₂ and CaCl₂. Most of the melting temperatures values from -40 to -55 suggest a greater contents in Ca in relation to Mg. The homogenization temperatures varies from 510C to 3780C with mode between 150' and 1800C.

C and O isotope analyses indicate values contained between 0.32 and 3.37‰ for 313C PDB, and value that vary of -15.75 to -5.06‰ and 14.64 to 25.700‰ for 318O PDB, and 3180 SMOW respectively. These values indicate an isotopic composition marine water (connate waters).

The Pb isotopic signatures indicate that this element was derived from two reservoirs: crustal and orogene, showing less radiogenic Pb for the deposit of Ulcumayo in relation to San Vicente's deposit.

All these dates allow to define the Pb-Zn Ulcumayo mine in the group of the Mississippi Valley type deposits (MVT).

Araújo, C.C. 1999. Application of geoprocessing in the favorability analysis of lead, zinc and copper mineralizations in the Cerro Azul and Apiaí quadrangles, Vale do Ribeira valley, (SP and PR states). MSc Thesis; Instituto de Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1917 1999 Date of presentation: 10/9/1999

Carlos César de Araújo Advisor(s): Macedo, A.B.

Committee:

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: SP 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W
PR

Abstract

Bendelack, M.R. 1999. Integration of geologic, LANDSAT and aerogeophysics data on the study of the auriferous mineralizations of the Lavras da Mangabeira region, Ceará state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1757 1999 Date of presentation: 31/5/1999

Marcelo Russo Bendelack Advisor(s): Crósta, A.P.

Committee:

Subject of thesis: Metallogenesis

State: CE 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

Gold mineralization is known to occur associated with shear zones cutting Early Proterozoic rocks in Ceará State, Northern Brazil. The regional geologic setting of these occurrences is not well established and the only available geologic mapping is generally at a scale of 1:250,000 to 1:100,000. This project focus on the region of Lavras da Mangabeira, where two of these gold occurrences are known, at places named Fortuna and Outeiros, both in milonitic zones. The Fortuna occurrence is associated with quartz veins with pyrite, hosted by sericite-quartz schists. The Outeiros occurrence is associated with quartz veins in paragneiss, along a strike-slip fault. Available regional geological data for this area include 1:100,000 geologic maps and 1:250,000 metallogenetic map produced by CPRM, airborne geophysics of the Iguatu Project, including gamma spectrometry and magnetometry, and Landsat Thematic Mapper multispectral remote sensing data (path/row 216/65 and 217/65). The objective of this project was to carry out an integrated analysis of these data for gold exploration, looking for evidences of potential areas. To pursue this objective, textural and lithologic information was extracted from Landsat/TM, as well as spectral information related to the occurrence of hydrothermal alteration affecting the rocks. Gamma-ray data provided information on the compositional variation of the rocks, thus defining the main lithological and tectonic units. Magnetic data was used to define the main structural features of the region, through the analysis of magnetic lineaments.

The information obtained from this dataset was then integrated using digital methods, allowing an assesment of their combined use and characterizing areas of greater potential in the Lavras da Mangabeira region, presented as an integrated digital map.

Berretta, A.L.O. 1999. Hydraulic conductivity obtained by the instantaneous profile method using the retention curve and neutrons probe and by the Genuchten method. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2263

1999

Date of presentation:

Ana Lúcia Olmedo Berretta

Advisor(s): Taioli, F.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP

1/1,000,000 sheet:

Centroid of the area:

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Abstract

Bezerra, F.N.M. 1999. Ornamental marbles from Minas Gerais, new techniques of characterization and prospection. Cumbi Quarry - Cachoeira do Campo. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 151 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 37

DataBase Ref.: 2380

1999

Date of presentation: 20/4/1999

Frederico Nascimento M. Bezerra

Advisor(s): Costa, A.G.

Committee:

José Ildelfonso Gusmão Dutra -

Antonio Carlos Artur -

Subject of thesis: Economic and Applied Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

Blanc Lorenzi, M.L. 1999. Mineralogical characterization of the rare earth elements deposit in the Barra do Itapirapuã alkaline carbonatitic complex (SP/PR) : Área de Detalhe I. MSc Thesis; Escola Politécnica, University of São Paulo, pp

Escola Politécnica - Universidade de São Paulo

Reference:

DataBase Ref.: 1957

1999

Date of presentation: 7/4/1999

Maria de Lourdes Blanc Lorenzi

Advisor(s): Kahn, H.

Committee:

Subject of thesis:

State: SP

1/1,000,000 sheet:

SG22

Centroid of the area:

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PR

Abstract

Campos, M.S. 1999. Geoprocessing as a tool in the administration of mineral resources. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 234

1999

Date of presentation: 19/2/1999

Marcos de Sousa Campos

Advisor(s): Macedo, A.B.

Committee:

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: SP

1/1,000,000 sheet:

SG22

Centroid of the area:

'

-

'W

Abstract

Cardenas, F.P.A. 1999. Geo-Environmental Zoning of Part of Rio Nechí Basin-Colômbia Using Geoprocessing Techniques. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

[Zoning, Geoenviromental, landscape, erosion, GIS, images, vulnerability, Nechí](#)

Instituto de Geociências - Universidade de Brasília

Reference: M137

DataBase Ref.: 2504

1999

Date of presentation: 19/4/1999

Flor Patrícia Angel Cardenas

Advisor(s): Meneses, P.R.

Committee: Nabil Joseph Eid - ENC/UnB
Sérgio dos Anjos Ferreira Pinto -

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Geoenvironmental zoning, as a fundamental in the integrated diagnosis of landscape, characterises, describes, classifies, summarises, and spaces the different units of natural landscape, identifies its potential and restrictions of use, where the physiographical analysis creates a base for the initial knowledge of the landscape. According to the methodology approach of the Ecological- Economic Zoning (ZEE) of IBGE (1994) and that of INPE (1996) developed in Brazil they are derived from the study of the dynamics of the landscape, qualify the units of natural landscape in the last stage, in terms of natural vulnerability to erosion. With the help of the integration of physical parameters like geology, relief, climate, soils and botany and attributing levels of vulnerability to them, the application of methodologies express the values of stability of sites in relation to the performance of morphogenesis/pedogenesis of Tricart (1997), the objective being to show the present behaviour of the ecosystems for an adequate arrangement and management of the natural landscape.

Focusing on this, a segment of the intermediate base of the river Nechí and a small portion of the river Cauca, in the Colombian Andes were analysed, integrating the methods and concepts expressed in the two methodologies adopted and introducing the use of geoprocessing analyses and techniques related to the use of LANDSAT-TM/5 images and the management of data using geographical information systems. The introduction of these digital methodologies, makes the operation of manipulation of data bases more versatile and quicker, the cost of the equipment being compensated by the benefits of the ease of manipulation and trustworthiness of the results.

The results obtained from the integration methodology are considered good quality, and significantly reflect the current state of the landscape as well as the dynamic behaviour of the ecosystems, which was confirmed in the field work. This behaviour is observed especially with the predominance of areas classified as moderately vulnerable to natural erosive processes, followed closely by areas moderately stable/vulnerable. With 38% and 30%, respectively of the total area corresponding to 46.195 hectares. These sites are located in areas of the highest slopes at the rising of the streams Valdivia and Rosario and in the centre of the river Nechí. They are very delicate areas, since the intervention of man in the ecosystems may be converted into increasing agents thereby the areas of moderate vulnerability or in balance may rise to be classified as areas of high natural vulnerability to erosion.

Carvalho, M.T.N. 1999. Integration of geological, geophysical and geochemical data applied to gold prospecting in Pilar de Goiás and Guarinos greenstone belts, Goiás state. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

[Data Integration, Geology, Geophysics, Geochemistry, Gold, Greenstone Belts](#)

Instituto de Geociências - Universidade de Brasília

Reference: M136

DataBase Ref.: 196 1999 Date of presentation: 26/3/1999

Marco Tulio Naves de Carvalho

Advisor(s): Oliveira, C.G.

Committee: Hardy Jost - IG/UnB
Francisco José Fonseca Ferreira - DG/UFPR

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

Numerous targets were selected for gold exploration in the Pilar de Goiás - Guarinos region, northern Goiás State, through the application of data integration techniques. Main data sets comprised geology, airborne geophysics and stream sediment geochemistry. Last two datasets were obtained from Projeto Geofísico Brasil-Canadá, carried out in the late 1970's.

Imagery derived from airborne geophysical data (gamma-ray spectrometry and magnetics) proved to be important tools for mapping geology and structure and for the identification of areas with anomalous concentration of potassium, which may be associated with hydrothermally altered zones.

Application of the "anomalous potash" technique indicates the presence of numerous anomalous zones which are not directly related with variations in rock composition. This method appears to be more dependable in cases where the thorium-potassium relationship is linear, as is the case for units of the Guarinos Group. However, at the Pilar de Goiás belt, the existence of a greater variability of lithotypes results in a significant data dispersion rendering the application of this technique less efficient.

Most of the mineral occurrences of the Pilar de Goiás - Guarinos region is distributed along N30°W lineaments, which are parallel to the main trend of supracrustal rocks. However, interpretation of magnetic imagery and ratios of gamma-spectrometric data indicate that, in some cases, mineralization is controlled by long N50°E lineaments, which are parallel to the Rio dos Bois system. Au-Cu-Bu occurrences at Alto Horizonte region are located at the intersection of such structures with secondary north-south oriented lineaments.

Geochemical signature of gold mineralization occurring in the two greenstone belt sequences indicates that, in the Pilar de Goiás greenstone belt, gold occurs associated with silver, bismuth, molybdenum, lead, antimony and tungsten, while at Guarinos greenstone belt (Maria Lázara occurrences) gold is associated with silver, antimony, tellurium and bismuth. Main pathfinders for gold exploration comprise bismuth, molybdenum, lead, silver, boron (to test the presence of hydrothermal alteration halos with tourmaline), and copper, which appears to be an associated element in some mesothermal gold deposits.

The construction of an exploration model for the study region resulted in the identification of several important exploration criteria for gold target selection. These exploration criteria were extracted from geophysical and geochemical imagery, geological map,

and field data.

Spatial analysis of the identified exploration criteria resulted in the selection of eighteen targets for gold exploration. Of the thirty seven gold occurrences known in the Pilar de Goiás and Guarinos greenstone belts, thirty four are located within the eighteen selected targets. The high correlation between known mineralization and selected targets (91.9%) demonstrates the efficacy of the applied methodology.

Casartelli, M.R.O. 1999. Study of heavy metals flow in the Rio dos Sinos - RS hydrographic basin. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 869 1999 Date of presentation: 2/7/1999

Maria Regina de Oliveira Casartelli Advisor(s): Baisch, P.

Committee:

Subject of thesis: Earth Sciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Cavalcanti, J.A.D. 1999. Auriferous mineralizations of Lages Antônio Dias, Ouro Preto - MG state: Lithostratigraphic and structural controls. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1747 1999 Date of presentation: 26/2/1999

Jose Adilson Dias Cavalcanti Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The Lages-Antônio Dias area is comprised within the Ouro Preto mountain range, Minas Gerais. The area hosts a number of ancient, abandoned gold mines; Chico Rei, Scliar and Duas Bocas being among the largest deposits. Detailed geological mapping of both the Lages-Antônio Dias area (1:2000) and these mines (1:250 scale) showed that gold is associated with tourmaline- and -sulphide-rich quartz veins. Such veins occur dominantly along lithologic contacts and structural discontinuities. The gold-bearing tourmalinites are associated with quartz veins hosted within several litho-stratigraphic units that compose the Ouro Preto mountain range. Their formation probably results from the interaction between hydrothermal fluids and the host rocks. It is demonstrable that these fluids pervaded through fracture systems regardless the local stratigraphy. The tourmalinites are found in four different circumstances. They occur between the lithological contacts of (i) Nova Lima Group and Moeda Formation assemblages; (ii) Moeda Formation and Batatal Formation rocks; (iii) Batatal Formation and Cauê Formation rocks and, (iv) as cross-cutting veins within Moeda and Batatal Formations. The sulphide-rich veins are akin to brittle structures to which later, ductile strains were superimposed. These quartz veins were emplaced along vertical and/or conjugated extensional fractures and are composed of (i) arsenopyrite, (ii) pyrite/calcopryrite and, (iii) pyrrhotite, besides minor tourmaline. The arsenopyrite-rich quartz veins occur in two different styles: (i) as discordant veins within the Batatal Formation, where massive knots of arsenopyrite are found; (ii) as banded veins, enveloped by Moeda Formation quartzites, associated with conjugated normal faults that are part of an ubiquitous system of normal shear zones. The pyrrhotite-rich veins are also banded and occur along a normal shear zone, showing sense of movement to the south. They are mainly found emplaced in the lower portions of the Cauê Formation. The pyrite-calcopryrite-rich veins are discordant and cut only the Cauê Formation. Although the mechanisms of emplacement are yet poorly constrained, the data gathered in this study suggests that the gold-mineralization was formed at least in two different stages, prior to regional deformation. The first stage was responsible for the emplacement of tourmalinites and quartz-sulphidic veins, which are associated to fractures cutting the Moeda quartzites, the Batatal carbonaceous-phyllites and schists and the Cauê itabirites. The tourmalinites assembled mainly between the intersection of fractures and sedimentary bedding. The second stage was marked only by the emplacement of sulphidic veins formed along conjugated fractures that were developed within major normal-shear zones and faults. Field evidences indicate that these two main stages of mineralization occurred prior to the formation of the Mariana anticline. The veins, formed along these two stages, were also later geometrically modified by the anticline uplift.

Cavalcanti, S.S. 1999. Underground hydrology in the Salvador city waste landfill using electric geophysical methods. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1554 1999 Date of presentation: 10/9/1999

Susana Silva Cavalcanti Advisor(s): Sato, H.K.

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

Electrical sounding measurements of resistivity and induced polarization parameters, combined with a self-potential survey, were used for mapping the subsurface geology and hidrology around the new sanitary landfill of Salvador city. This landfill is located within the Rio Joanes basin, close to a surface reservoir used for water supply of the Salvador city. The main aquifer zone is represented by sandstones of Barreiras Formation and the wheathered basement. The geophysical results are presented as structural sections and maps showing the geometry and the lithologic variability of this aquifer. The combined interpretation of the methods eliminated the ambiguity in the geoelectric models. Moreover, this analysis indicated that the flow direction of the groundwater occurs mainly from the West to the Southeast of the area. The results are a geophysical reference pattern for future monitoring of eventual groundwater changes caused by the landfill operation.

Christofoletti, S.R. 1999. Mineralogical, chemical and textural study of sedimentary rocks from the Corumbataí formation "Jazida Cruzeiro" deposit and its implications in the ceramics processes and products. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 120pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR062

DataBase Ref.: 929 1999 Date of presentation: 11/2/1999

Sérgio Ricardo Christofoletti Advisor(s): Valarelli, J.V.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Coelho, R.F. 1999. Mineralogical ore characterization of the Mina III and Mina Nova gold deposit, Crixás greenstone belt. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

applied mineralogy, gold, Crixás

Instituto de Geociências - Universidade de Brasília

Reference: M135

DataBase Ref.: 195 1999 Date of presentation: 19/3/1999

Roque Fernandes Coelho Advisor(s): Fortes, P.T.F.O.

Committee: Jose Carlos Gaspar - IG/UnB
Luiz Cláudio Ribeiro Rodrigues - DEGEO/UFOP

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The Mina III and Mina Nova gold deposits, located south of Crixás (GO), occur in a geological context characterized by the transition between metabasic rocks of the Rio Vermelho Formation and metasedimentary rocks of the Ribeirão das Antas Formation, Crixás greenstone belt.

Due to constant falls in the gold price, starting at the end the eighteen and beginning of the nineteen, it became indispensable to look for a decrease of the production costs to accomplish to the world market.

The work of mineralogical characterization can contribute significantly in the costs decrease of the metallurgical plant, as it qualifies and quantifies the existent mineral phases in the mined and treated orebodies, as well as it determines the gold occurrence and granulation.

The Mina III presents three main mineralized ore zones: i) Upper Zone, represented essentially by massive sulfide where gold is associated to pyrrhotite, arsenopyrite, carbonate, chalcopyrite and quartz, ii) Lower Zone, a quartz vein that occurs within carbonaceous schist. Both are mineralized and gold is associated to quartz, carbonaceous matter, arsenopyrite, pyrrhotite, micas and carbonate and iii) Garnet Zone, which presents a mineralization also associated to quartz veins within chlorite-muscovite schist. Gold is associated to quartz, pyrrhotite, chalcopyrite, arsenopyrite and micas.

At Mina Nova two main orebodies occur: i) Corpo I, represented by carbonaceous schist, in a similar way to Mina III's Lower Zone and ii) carbonate-muscovite schist in the carbonaceous schist where gold is associated to carbonate, pyrrhotite and arsenopyrite. The variation of the relationship and of the granulation that gold presents with the several mineral phases; the different resistance degree to the milling processes that each ore type presents and the existence of cyanide mineral phases, tend to complicate the extraction process by leaching through cyanidation, which is used in these rocks.

The Au/Ag ratio in gold presents variation intimately associated to the host minerals or to associated mineral phases, suggesting that initial Au/Ag ratios in rock-source and deposition mechanisms, as fluid/rock interactions, high salinity fluids and fluid immiscibility probably have had great importance in the observed variations.

Corrêa, E.C. 1999. Geologic and textural characteristics of the Mina Cauê mine iron ore and its behaviour under creepitation. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 43

DataBase Ref.: 2386 1999 Date of presentation: 10/9/1999

Eduardo Costa Corrêa

Advisor(s): Rosière, C.A.

Committee: Friedrich Ewald Renger - IGC/UFMG
Farid Chemale Jr - IG/UFRGS
Nelson Borges - CPRM

Subject of thesis: Economic and Applied Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Costa, S.S. 1999. Evaluation of the geologic content in products of remote sensing of the western portion of the Roraima state (NA20-V-D Quadrangle). MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1781 1999 Date of presentation: 25/3/1999

Solange dos Santos Costa

Advisor(s): Amaral, G.

Committee:

Subject of thesis: Metallogeneses

State: RR 1/1,000,000 sheet: NA20 Centroid of the area: ' - 'W

Abstract

A large amount of new geological information was obtained with the integrated use of remote sensing and airborne geophysics for one of the least geologically known regions in South America. Western Roraima State and adjoining portions of the Amazonas State and Venezuela (Territorio Federal Amazonas), are characterized by difficult access, heavy vegetation cover (rain forest) and thick soil cover. Moreover, the region is almost entirely included within the Yanomami Indian Reserve, with legal restrictions for access. The area is included in the NA.20-V-D sheet of the 1:250 000 scale map. Landsat-5 TM image presents approximately 30% cloud cover of the "cumulus" type ("popcorn") with associated shadows. The best remote sensing product was the photographic mosaic of side looking airborne radar of the Radambrasil Project, with excellent textural and structural information content. Airborne geophysical data needed intense corrections in order to be adequately used. Digital image processing techniques were applied to remote sensing and geophysical data in order to enhance significant anomalies and to produce integrated remote sensing geophysics images. As consequence, several lithologic units were identified and mapped, as well as important structural features. Some of these units are associated with known Sn and Au deposits and new areas are now open to investigation.

Cukrov, N. 1999. The neoproterozoic glaciation in the southern part of the São Francisco Craton and its lithofacies in Jequitai-MG and Cristalina-GO regions. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Jequitai Formation, Diamictites, Bambuí Group, Glaciais, São Francisco Craton, Striae

Instituto de Geociências - Universidade de Brasília

Reference: M141

DataBase Ref.: 201 1999 Date of presentation: 23/7/1999

Neven Cukrov

Advisor(s): Alvarenga, C.J.S.

Committee: Marcel Auguste Dardenne - IG/UnB
Alexandre Uhlein - IGC/UFMG

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W
GO

Abstract

Due to their long duration (400 million years), the Neo-Proterozoic glacial sediments have recently drawn much attention. Another reason for this attention is the fact that today they are present on all the continents, and there is a possibility that they even reached the tropical latitudes. The Neo-Proterozoic glaciations are present in Brazil on the São Francisco Craton and their border mobile belt (from the Lower Neo-Proterozoic), and on the Paraguai belt and south-eastern border belt of the Amazonian Craton (from the Upper Neo-proterozoic). The glacial rocks of the Jequitai Formation that exist in the areas of Jequitai, MG, and of Cristalina, GO, are products of the same glacial event, but a direct correlation of lithofacies has been impossible due to the distance between these two areas. That is why a correlation of the association of facies was attempted. The most common facies in both regions are diamictites (Dpmm) and diamictites (Drmm), which are massive sediments with clay-silt matrix and with a variable number and size of clasts. Intercalations of massive quartzite (Sm) and cross-laminated quartzite have been found in the diamictites. Conglomerates with quartzite clasts and matrix have been found at the bottom of the Jequitai Formation in the area of Jequitai, in depressions of striated pavements. These conglomerates and morphology of the striae are proof for the erosion of the consolidated sediments, contrary to what has been proposed so far. Limestone clasts and grains of variable size in the carbonated matrix have been found in the Jequitai Formation diamictites. The

stable isotopes analysis was effectuated on these limestones and on the Bambui Group limestones. The limestone clasts from diamictites have values of $\delta^{13}\text{C}$ (PDB) from -0.577 to -2.109 ‰, which are very similar to the values of the carbonated matrix, which are from -2.109 to -3.087 ‰. This means that these limestones have been deposited during the Jequitai glaciation, probably during an interglacial period that did not last long enough to change the isotopic values. The origin of these limestones have not been found. The Bambui Group limestone's have values of +8.952 to +10.534 ‰, which, in comparison with the other Bambui Group values, indicates that the Jequitai area was above the level of sedimentation of the Bambui Group and that the sedimentation there began later. The Jequitai glaciation is formed by at least two events. The first one was when ice incised striae in the Espinhaco Supergroup quartzite's and deposited conglomerates. The other event was the deposition of Jequitai Formation in the glacial-marine environment.

Cunha, I.A. 1999. Study of fluid inclusions and sulfur isotopes of the Morro Agudo Zn-Pb ore bodies, Minas Gerais state. MSc Thesis, Institute of Earth Sciences, University of Bahia, Brazil, pg.

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 968 1999 Date of presentation: 30/8/1999

Ioná de Abreu Cunha Advisor(s): Misi, A.

Committee: Carlos Eduardo da Silva Coelho - IG/UFBA
Jorge Silva Bettencourt - IGc/USP

Subject of thesis: Metallogenesis and Mineral Exploration

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The Morro Agudo mine is located at the furthestmost W-NW region of Minas Gerais State in Brazil. Currently, it represents the only Brazilian Pb-producing mine, with a measured ore reserve of about 9.470.000 tons and average grades of 6,13% Zn and 2% Pb. The lead-zinc mineralization is hosted by carbonate sediments which constitutes the Morro do Calcário facies of Vazante Formation (Grupo Bambui).

The ore mineralogy is composed mainly by sphalerite and galena. The ore is pyrite-poor whereas gangue-minerals include dolomite, quartz, barite and calcite.

The Morro Agudo mineralization is closely associated with a N-S bearing normal fault zone dipping at 20 to 70° degrees towards the west. The ore occurs as stratabound bodies which are sometimes deslocated by faults. Shallow-water sedimentary structures such as teepee stromatolitic layering and microcrystalline-silica quartz nodules (length-slow types), recognised in the carbonate-hosted rocks, suggest an evaporitic palaeoenvironment.

Petrographic studies show a complex history of diagenesis involving four main environments: marine, reflux, meteoric and burial. The structural and textural nature of the mineralization, as well as the substitution features of the ore point to a main mineralization stage having occurred during the beginning of the carbonate diagenesis.

Sulphur isotopic ratios ($\delta^{34}\text{S}$) in barites associated with the ore reveal high, positive values (+14,5 a +44,03‰ CDT), with an average value of about +24‰ CDT. Such values are compatible with the ones known for the late neoproterozoic marine water. It suggests a marine-water sulphate as the main source for the sulphur of the Morro Agudo barite deposits.

The sulphur isotopic compositions ($\delta^{34}\text{S}$) at the Morro Agudo sulphur deposits have uniform values both for the oolitic and brecciated ore (G, H, I, J, K, L e M orebodies),

D'Ávila, R.S.F. 1999. Facies Analysis and Physical Stratigraphy of Lapa Sandstone, Itararé Group, Paraná Basin, Brazil. MSc Thesis, Instituto de Geociências, Universidade Federal do Rio Grande do Sul, 350 pp.

Itararé Group, Lapa, Paraná Basin, Turbidite, Sequence Stratigraphy, Carboniferous, Permian, Permocarboneous

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 1864 1999 Date of presentation:

Roberto Salvador Francisco D'Ávila Advisor(s): Medeiros, R.A.

Committee: Paulo Sérgio Gomes Paim - DG/UNISINOS
Paul Edwin Potter -
Luiz José Tomazelli - IG/UFRGS

Subject of thesis: Stratigraphy

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: 25 46 's - 49 42 'W

Abstract

The Lapa Sandstone, an informal stratigraphic unit of the Itararé Group, dated as westphalian/stephanian age, is a sinuous N-S oriented channelized body, measuring more than 50km in length and 800m in width. This sandstone crops out as elongated cliffs, up to 150m in height, in the region between Lapa (PR) and Rio Negrinho (SC) cities. Outcrops of the Lapa Sandstone have been described and interpreted using sedimentological and physical stratigraphy techniques, in association with a scintillometric survey and extensive sampling for paleontological dating. The surrounding rocks are westphalian deposits belonging to the Campo do Tenente and Lagoa Azul formations.

Fourteen sedimentary facies were identified, consisting of sandstones, conglomerates and diamictites. The grouping of these facies, according to their depositional processes, have resulted in seven facies associations: gravity flows, tidal and storm deposits, beach, and fluvial (sheet, channelized and fluvial flood deposits). Three depositional systems have been recognized, based on the lateral and vertical relationships of these facies associations: shelfal marine with gravity flows (valley's base), fluvial

and coastal systems. The fluvial deposits, including channelized, sheet and flood facies associations, are the commonest in the Lapa sandstone. The floods are considered to be a result of the breaking of ice dammed lakes. Beach deposits associated with fluvial channel and tidal deposits constitutes the coastal system. The Lapa Sandstone is defined as a glacial incised valley filling deposit. The valley was probably filled during a transgression following the ice retreat and the subsequent rise of the relative sea level caused by rising temperatures after a glacial maximum. The oldest sediments in the valley are marine tidal and storm facies associated with turbulent high-energy gravity flows deposits. The occurrence of these facies in the valley bottom suggests that the glacier had its terminus grounded at the sea when the ice retreat started. Fluvial and coastal sediments have prograded over these older deposits.

The Itarare Group can be subdivided into three second order depositional sequences, averaging 10 millions years each. In the study area, one of these sequences was further subdivided into two higher frequency sequences: the Pre-Lapa and the Lapa Sandstone depositional sequences. Glaciomarine deposits with rain-out, distal turbidites, and hemipelagites facies comprises the pre-Lapa sequence.

The Lapa sandstone constitutes part of the Transgressive Systems Tract of a third order depositional sequence (ca. 5m.a. duration). The deposition of the Lapa sandstone is estimated to have occurred during approximately 1,25m.a. These sandstone is composed by at least five fourth order depositional sequences, each one deposited during ca. 250k.a.

The conceptual sequence-stratigraphic model proposed for this glaciated region differs from those generally used in passive margin basins, the main difference being the higher sedimentary supply and progradation that are interpreted to have occurred during the transgression in this region, in contrast to the mainly retrogressive and fine-grained sedimentation in basins located far from the ice center. A complete cycle of relative sea-level variation would involve five phases: (1) incised valley excavation during the glacial maximum (Lowstand Systems Tract), causing subsidence and a relative sea-level rise at the marine regions in front of the ice sheet; lodgement tills, glacial striae and extensive substrate scouring occurs on shore; (2) beginning of the ice-melting due to warmer climate/temperature (Transgressive Systems Tract): positive rebound and high sediment meltwater discharge cause fluvial and coastal sediments progradation in the valley, covering older marine facies deposits; (3) following deglaciation, marine transgression of the valley, and deposition of glaciomarine dropstone-rich facies (Late Transgressive Systems Tract); (4) deglaciation maximum: dropstone-poor glaciomarine facies (Early Highstand Systems Tract); (5) return to glacial conditions with ice readvance, the additional ice weight enhances basin subsidence, as well the sedimentary supply, producing the growing instability of the huge fine-grained mass deposited in previous phases, creating a high potential for gravity-flow deposits initiation; dropstone amount increases again. The application of physical stratigraphy techniques in association with centilometric survey and extensive sampling for biostratigraphic analysis permitted a better correlation and higher stratigraphic resolution, and made possible the subdivision of the Itarare Group and Lapa Sandstone deposits into high frequency depositional sequences, unrecognizable by the biostratigraphic framework now available for this paleozoic deposits. The recognition of similar glacial incised valley fill deposits in the surrounding outcrops, well logs and seismic scales suggests that these features were commonly developed during the glaciation of this intracratonic basin. During the regional study two other possible glacial incised valley filling deposits, similar to the Lapa sandstone, were recognized: the Pedra Alta and Espigão Branco sandstones, interpreted as basal deposits of third order depositional sequences. Similar features were also identified in boreholes logs and seismic sections in the area.

de La Rosa, R.T. 1999. Arsenium and associated metals in the Piririca auriferous region, Vale do Ribeira valley, São Paulo state, Brasil. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1770 1999 Date of presentation: 30/9/1999

Regla Toujague de La Rosa

Advisor(s): Figueiredo, B.R.

Committee:

Subject of thesis: Metallogenesis

State: SP 1/1,000,000 sheet: SG23 Centroid of the area: ' - 'W

Abstract

The Pb-Zn mining activity in the Upper Ribeira Valley (Paraná and São Paulo States, Brazil) has ever been considered as the main pollution source for heavy metals in the region. However, in its medium course, between the Iporanga and Eldorado towns, the Ribeira de Iguape river drains the Piririca ore district where several gold-bearing quartz and base-sulfide veins may contain up to 9% As in the ore. These veins are hosted in metabasic volcanic rocks. Since there has never been any ore production in the Piririca region, the present study was aimed to characterize the natural arsenic sources in the area and to access the probable input of As and associated metals into the environment. This study included investigation of arsenic and metals concentrations in surface water as well as in stream-sediments sampled along the tributaries of the Ribeira de Iguape river (sampling campaigns in Sept.97, Mar.98 and Nov./98). Additionally, the primary sulfide ores and their oxidation products were examined in samples collected from outcrops, tranches and drill-cores. Combined petrographic and SEM analyses of the ores revealed that primary ore consists of quartz, arsenopyrite, pyrite, chalcopyrite, galena, marcasite, sulphosalts, sericite and chlorite. Weathered ore contains a mixture of iron and aluminum oxide-hydroxides, subordinate covellite and carbonate, and iron and lead arsenate and sulfoarsenate (e.g. skorodite, beudanticite and others), the latter described for the first time in the region. Arsenic contents in stream sediments (ICP-OES and HG-AAS, grain-size < 63 µm) exceeded in all cases the internationally recommended value of 8 µg/g and reached concentrations of 217 µg/g and 355 µg/g in the Piririca I and Piririca II creeks, respectively. These high As concentrations go with elevated Pb-contents in the sediments. Arsenic concentrations in surface water (HG-AAS) fall systematically below the current accepted limits for aquatic life preservation (Brazil, CONAMA, 50 µg/L) and for potable water (WHO, 10 µg/L). The Piririca region is an important geochemical anomaly for arsenic and acts as a natural source of As and heavy metals for the sediments of the Ribeira de Iguape river, especially during flooding periods. This fact explains the unexpected increase in metal concentrations in stream sediments sampled downstream the Iporanga town which was recorded twice by CETESB in the past. Nevertheless, the present results point to a circumstance in which arsenic is being retained in its oxidized and less mobile As⁵⁺ form in insoluble phases in the oxidation zone of the ore deposits and as adsorbed phase in iron

oxide-hydroxides and clay minerals in the stream-sediments. Both processes may be responsible for the low As-concentrations found in surface water. In case of some mining activity takes place in the Piririca region in the future, an inadequate exposure of fine particulate of ores and a significant change of the surface water physical-chemical conditions must be avoided in order to prevent the environmental bioavailability of arsenic in its reduced and more toxic As⁺ state.

Elias, A.R.D. 1999. Sequence stratigraphy and provenance of Eo Permian rocks of Paraná basin in middle west region of Rio Grande do Sul state, Brazil. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 870 1999 Date of presentation: 10/3/1999

Andréia Regina Dias Elias Advisor(s): Lavina, E.L.C.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Feola, J.L. 1999. Litho-structural and metamorphic characterization of the gold deposit JS-1 and its neighbourhood, Fortaleza de Minas (MG). MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 155 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR065

DataBase Ref.: 926 1999 Date of presentation: 19/3/1999

Jorge Luiz Feola Advisor(s): Carvalho, S.G.

Committee:

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Fernandes, L. 1999. Coal mining and the quality of water: the case of Criciúma. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2252 1999 Date of presentation:

Lincoln Fernandes Advisor(s): Taioli, F.

Committee:

Subject of thesis: Hydrogeology

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Ferreira, L.M.R. 1999. The practice of in situ domiciliary effluent disposal and the impact in underground waters: Case study - Campinas municipality, São Paulo state. MSc Thesis, Institute of Geosciences, University of São Paulo, pg.

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 290 1999 Date of presentation: 1/4/1999

Luciana Martin Rodrigues Ferreira Advisor(s):

Committee:

Subject of thesis:

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Campinas municipality is located in one of the highest urban and industrial growth areas in São Paulo State. In the last years the municipality has also shown a growth of slums and irregular estates without water and sewage network.

Jardim São Domingos, the study area, is a low income village located in the southeastern part of Campinas. It is divided in 1618 lots and 400 of them at the moment are occupied by approximately 1700 inhabitants. The domestic sewage is disposed in on-site systems.

Ten monitoring wells were installed for water level monitoring and water sampling, in order to analyse physical-chemical and bacteriological parameters.

The hydraulic conductivity was determined by slug-tests, infiltration tests and also by pumping test data interpretation. The results of all tests indicated hydraulic conductivity ranging between 10^{-7} and 10^{-6} m/s.

The flow directions obtained in the potentiometric maps indicate the lake as the local discharge area. Low hydraulic gradients did not vary substantially during the monitoring period. Ground water velocity values varied from $6.3 \cdot 10^{-7}$ to $1.68 \cdot 10^{-6}$ m/s (0.005 to 0.145 m/d).

Physical-chemical parameters have not indicated groundwater contamination by on-site sewage disposal systems. All parameters showed low concentrations without variation with aquifer recharge.

Bacteriological parameters analysis, mainly total bacteria and total coliform indicated higher values than the water standard. Faecal coliform were found in small amount in some samples (maximum of 16 MPN/100 ml). Faecal streptococci were not found in any of the analysed samples.

In the case the village is fully occupied and using on site sewage disposal systems, the estimated nitrate-nitrogen concentrations in groundwater indicate values higher than the water standard (10 mg/l).

In order to keep the nitrate-nitrogen concentrations lower than 10 mg/l in groundwater, the lots size must have a minimum of 830 m².

Fraga, L.M.S. 1999. The Espinhaço supergroup and its flexural adjacent basin (Macaúbas group) in the northeastern of the Serra do Espinhaço Meridional range, Inhaí - Domingas, Diamantina region, State of Minas Gerais. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 35

DataBase Ref.: 2378 1999 Date of presentation: 16/4/1999

Lúcio Mauro Soares Fraga Advisor(s): Abreu, P.A.A.

Committee: Friedrich Ewald Renger - IGC/UFMG
Carlos Maurício Noce - IGC/UFMG
Paulo de Tarso Amorim de Castro - DEGEO/UFOP

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Fragomeni, L.P.M. 1999. Analysis of spatial and dynamic variability of attributes of lateritized soils: An application of geoprocessing in the environmental planning. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 857 1999 Date of presentation:

Luiz Paulo de Moura Fragomeni Advisor(s): Coelho, O.G.W.

Committee:

Subject of thesis: Earth Sciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

França, G.S.L.A. 1999. Seismicity in the Tucunduba dam area, Senador Sá, CE. MSc Thesis, Universidade Federal do Rio Grande do Norte, 92 p.

seismicity in the northwest of Ceará, hypocentral determination, focal mechanism, shear-wave anisotropy

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 10/PPGG

DataBase Ref.: 1612 1999 Date of presentation: 12/6/1999

George Sand Leão Araújo de França Advisor(s): Takeya, M.

Committee: Marcelo Sousa de Assumpção - IAG/USP
Joaquim Ferreira Mendes - DG/UFRN
Francisco Hilário Rego Bezerra - DG/UFRN

Subject of thesis: Geophysics

State: CE 1/1,000,000 sheet: SB24 Centroid of the area: 03 12 's - 40 25 'W

Abstract

The Tucunduba Dam, is west of Fortaleza, Ceará State. The seismic monitoring of the area, with an analogical station and seven digital stations, had beginning on June 11, 1997. The digital stations, operated from June to November 1997. The data collected in the period of digital monitoring was analyzed for determination of hypocenters, focal mechanisms, and shear-wave anisotropy analysis. For determination of hypocenters, it was possible to find an active zone of nearly 1 km in length, with depth between 4.5 and 5.2 km. A 60°AZ/88°SE fault plane was determined using the least-squares method and hypocenters of a selected set of 16 earthquakes recorded. Focal mechanisms were determined, in the composite fault plane solution, a strike-slip fault, trending nearly E-W, was found. Single fault plane solutions were obtained to some earthquakes presented mean values of 65° (azimuth), and 80° (dip). Shear-wave anisotropy was found in the data. Polarization directions

and travel time delays, between S splitting waves, were determined. It was not possible to obtain any conclusion on the cause of the observed anisotropy. It is not clear if there is correlation between seismicity and mapped faults in the area, although the directions obtained starting from the hypocenters and focal mechanism are they are consistent with directions, observed in the area, photo, topographic and fractures directions observed in the area.

Garcia, M.A.T. 1999. Integration of multispectral and aerogeophysical data in the establishing of suitable areas to the occurrence of auriferous mineralizations in the Gentio do Ouro region, Chapada Diamantina (BA state). MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1764 1999 Date of presentation: 22/9/1999

Mary Anne Torres Garcia

Advisor(s): Crósta, A.P.

Committee:

Subject of thesis: Metallogenesis

State: BA 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

Primary gold mineralization in the Gentio do Ouro region, Chapada Diamantina, Bahia State, occurs along shear zones, in quartz veins intruded into basic rocks. Mesothermal fluids carrying the gold produced hydrothermal alteration zones containing chlorite, carbonate and sericite. These basic rocks form sills hosted by metasediments of the Paraguaçu Group of the Espinhaço Supergroup (Mesoproterozoic). Secondary mineralization is also known to occur, in association with Cenozoic sediments. Landsat-5 TM and aerogeophysical data were processed and integrated with the purpose of identifying the occurrence of basic intrusive rocks and the presence of hydrothermal alteration associated with quartz veins. These data were also used for identifying regional structures controlling the spatial distribution of the veins and for mapping the distribution of lateritic zones. The FPCS processing technique was successfully used for mapping basic rocks and hydrothermal alteration areas using Landsat TM imagery, through the identification spectral signatures due to occurrence of iron oxides/hydroxides and clay minerals; iron oxides/hydroxides signatures also helped to identify lateritic soils and crusts. The RGB color composite of bands 457 showed best results for separating different metasedimentary units. Lineament extraction was performed using artificial illumination applied to the first principal component of all reflective bands of Landsat TM. Limited spatial resolution of the aerogeophysical data available did not allow significant information to be obtained. Combination of aerogammaspectrometric data as a RGB color composite of KThU provided reasonable results in differentiating between lithologic units and identifying hydrothermal alteration areas. The best results obtained from aeromagnetic data were related to the use of filters (directional and analytical signal) for identifying regional structures and basic rocks. The integration of the above mentioned data allowed the identification of potential areas for gold mineralization in the Gentio do Ouro region. The data and methodology used in this study can be applied in the assessment for gold mineralization of similar areas in the Western Chapada Diamantina.

Gaspar Jr, L.A. 1999. Mineralogical, chemical and textural study of sedimentary rocks from the Corumbataí formation (Jazida Peruchi) deposit and its implications in the ceramics processes and products. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 152 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR061

DataBase Ref.: 930 1999 Date of presentation: 11/2/1999

Lineo Aparecido Gaspar Junior

Advisor(s): Valarelli, J.V.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Ghilardi, R.P. 1999. Palaeo autoecology of bivalves of the Passa Dois group (neopermian), in the São Paulo state: Fossils bivalves as markers of the sedimentary dynamic. MSc Thesis, Institute of Geosciences, University of São Paulo, 160 pg.

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 292 1999 Date of presentation: 27/7/1999

Renato Pirani Ghilardi Advisor(s): Simões, M.G.

Committee:

Subject of thesis: Sedimentary Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

In this study a paleoautoecological analysis of the Permian bivalves of Passa Dois Group (Serra Alta, Terezina and Corumbataí Formations), Paraná Basin, was carried out. Its goal is the mode of life reconstruction of these bivalves as a starting point for broad paleoecological discussions. The Anhembia froesi assemblage (Serra Alta and Corumbataí Formations) is dominated by shallow and slow burrowing bivalves (Anhembia froesi, Tambaquyra camargoi, Mendesia piracicabensis, Maackia contorta). Semi-infaunal (Barbosaia angulata) and epifaunal, byssate (?Anthracoaia mezzalirai) bivalves are also common. Additionally, a large number of shallow and slow burrowers (Pinzonella illusa, Plesiocyprinella carinata, Ferrazia cardinalis, Terraopsis aequilateralis and Othonella araguaiana) dominate the Pinzonella illusa assemblage (Serra Alta and Corumbataí Formations). Rapid burrowers (shallow or intermediate) are represented by the shallow burrowers Favalia arcuata, Holdhausiella elongata and Runnegariella fragilis, and the intermediate burrowers Cowperesia anceps, Angatubia cowperesioides. Slow, intermediate burrowers (Casterella gratiosa, Itatamba paraima) are less common, while deep burrowers (Roxoa corumbataiensis) and epifaunal byssate (Coxesia mezzalirai) bivalves are rare. Several lines of morphological evidence (e.g., shell morphology, obesity) suggest that the shallow and deep burrowers as well as epifaunal byssate bivalves colonized stable substrates. The same ecological guilds can be recognized in the Pinzonella neotropica assemblage (Corumbataí and Terezina Formations) such as: shallow and slow burrowers in soft and stable substrates (Pinzonella neotropica, Jacquesia brasiliensis); rapid and intermediate burrowers in soft bottoms (Cowperesia anceps); deep burrowers (Roxoa intricans) and endobyssate elements (Naiadopsis lamellosus) in soft, but bioclastic-rich sediments. All of them were suspension-feeding bivalves.

The low percentage of epifaunal, byssate bivalves in these assemblages is noteworthy. An interplay of abiotic and biotic factors could explain this feature. For example, during the deposition of the Corumbataí and Terezina Formations, condition of shallow waters, with soft and unstable substrate, frequently affected by storm events prevailed.

Morphologic (e.g., claustrum, tubercles, valve torsion) and taphonomic features (e.g., dissolution pits, regenerated breakages) commonly observed in freshwater bivalves were not found in the studied species (n= 25). On the other hand, morphologic features typically observed in marine bivalves were noted in Ferrazia cardinalis (e.g., radial ribs), Runnegariella fragilis (e.g., anteriorly expanded shells) and Cowperesia anceps (e.g., concentric ornamentation). Additionally, some specimens of Plesiocyprinella carinata, and particularly Pinzonella illusa, show drill holes of predation. Drilled bivalves are unknown among freshwater forms. Therefore, the Passa Dois Group bivalves (not including the Irati Formation) were not freshwater bivalves. In addition, Anhembia froesi and Tambaquyra camargoi (Serra Alta and Corumbataí) are interpreted as chemosymbiotic bivalves. This is supported by the occurrence of a rostrum (Anhembia froesi) and the large body size of their shells. These bivalves are also found in fine, soft, oxygen deficient substrates, deposited below or near storm wave base.

The examined bivalves are often preserved in internally complex fossil concentrations (proximal and distal tempestites). In all of these bivalves in life position are rare. This is because the shells of bivalves with exposed strategy are more prone to spatial and temporal mixing.

The paleoautoecologic and taphonomic analysis could be a tool for the study of sedimentary dynamics. For example, life positioned specimens of Naiadopsis lamellosus occur on the top of a thin bioclastic-rich concentration, intercalated in siltstones. The original substrate provided by the underlying accumulation, including a great amount of bioclasts and also some muddy parts, seems suitable for the settling of Naiadopsis lamellosus larvae. Still, the presence of disarticulated, complete or fragmented, and abraded or pristine shells of Naiadopsis lamellosus with different size classes suggests different episodes of substrate colonization and reworking, indicating different periods of taphonomic feedback. Although preserved in life position, taphonomic evidence indicates variable temporal resolution at these concentrations. In the case of Naiadopsis lamellosus, different periods of colonization and disruption have contributed to bioclast enrichment of the substrate, at different times, corroborating the idea that the genetic processes that are responsible for the origin of a particular concentration are less important for the time-averaging phenomenon than the presence of old shells or bioclasts in a given depositional system.

The obtained data have shown consistently that paleosynecological reconstruction that are not based on detailed paleoautoecologic and taphonomic studies are not justifiable. In this context, a seven step protocol is proposed as an alternative approach for a more accurate test of paleosynecological hypotheses.

Gimenez, D.Z. 1999. Tectono-structural characterization of the cretacic dyke swarm in Fartura region, São Paulo state. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 153 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR064

DataBase Ref.: 927 1999 Date of presentation: 15/3/1999

Daniel Zem Gimenez Advisor(s): Kiang, C.H.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Guimarães, E.M.A. 1999. Field works in hydrographic basins: The routes of an experience in environmental education. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1735 1999 Date of presentation: 1/10/1999

Eliana Maria Alves Guimarães

Advisor(s): Lopes, M.M.

Committee:

Subject of thesis: Education Applied to Earth Sciences

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This research that I realized through analysis of activities developed by the Environmental Education Project Areia and Areia Branca (Micro-basins Project), had the participation of teachers from public schools located at Campinas' city - State of São Paulo. So, this study mostly tries to show the importance of fieldwork as a methodology that was used by them. I also insert in this study the activities developed by the Dynamic Museum Decentralization Project, considered in my opinion as a promoter of micro-basins project, and also the contributions from the Microbasins Project especially the activity: Geology on the road. I realized a bibliographic survey too, about fieldwork in geography publications, in order to show its importance as a field of study and as a study of the field, to improve teaching, to develop an educational potential for new methodologies. As far as I am concerned, the main importance of fieldwork as a methodology in teaching practices occurs when it is able to subsidize the real Environmental Education actions. It can contribute to a new perception of river basin as a geographical space suitable for studies of environment and water management. So far, the fundamental contribution I intend to offer with this work is the need for a deep reflection about fieldwork, as a matter of environmental education that could be able to include activities in river basins, considering it is a subject to discuss environmental problems and as a place to make possible the interdisciplinarity - a good mechanism to improve teaching quality.

Guitarrari, M.M. 1999. Petrography and geochemistry of the turbiditic metasediments of the Nova Lima and Sabará groups in the Quadrilátero Ferrífero, Minas Gerais state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1756 1999 Date of presentation: 17/12/1999

Marcelo Marmo Guitarrari

Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SF23

Centroid of the area: ' - 'W

Abstract

The clastic metasediments of Nova Lima (Late Archean) and Sabará (Paleoproterozoic) were studied in several places around Quadrilátero Ferrífero, Minas Gerais, Brazil. These studies had a comparative focus through petrographic and geochemistry data, in order to understand the crustal evolution operating in the Archean-Proterozoic boundary, and also involving considerations about the provenance, the depositional tectonic framework and the geochemical and dynamic processes capable of changing the chemical composition of these sediments. Moreover, it was possible to establish parameters to distinguish turbidite-hosted gold sequences and barren turbidites. The metasediments studies included the turbidite couplets, concerning the T₁ - T₂ levels of Bouma, equivalent of Metagraywacke-Metapelitic Facies respectively. According to the metagraywackes, the turbidites of the Nova Lima Group could be divided into types I and II. The turbidites of Type I, or Caeté type, are older, with a minimum age of 2.857±1 M.a, equivalent to sections of the eastern portion of the Rio das Velhas Greenstone, as Caeté and São Bartolomeu and including some eventual tectonic wedges of the western portion, such as Rio Acima. The turbidites of Type II, also called Morro Velho type, are younger, yielding a minimum age of 2.701±4 M.a and restricted to the mid-western and north-western regions of the greenstone belt, including the exposures of Morro Velho Mine, Sabará and Macacos. The source areas of these sediments are of the mafic-felsic bimodal nature to the turbidites of Type I and mainly mafic of Type II. As to the Sabará Group, its metasediments are of felsic origin and the metagraywackes present a similar geochemical behavior to those of Type I. These metagraywackes are richer in SiO₂, Na₂O, CaO, Ba, Sr and in the SiO₂/MgO rate, in addition to P₂O₅ and Th/Sc only for Type I and MnO and Zr for Sabará Group, which is reflected in larger contents of plagioclase and quartz. On the other hand, the metagraywacke of Type II show a higher level concentration of TiO₂, K₂O, Fe₂O₃, MgO, Cr, Ni, V, Sc, Rb, Co, Y, Cu, Zn and on the Ti/Zr, Zr/Cr and Th/U rates which is explained by an increased abundance of old minerals of olivine, pyroxenes, Cr-spinel and minor magnetite and ilmenite. This type of turbidites host the major gold deposit of the Quadrilátero Ferrífero (the Morro Velho Mine). The Archean metapelites (Grupo Nova Lima) are approximately similar within themselves, not providing a clear distinction as in metagraywackes, unlike what happens in the majority of other Archean nucleus, where the distinction is effected by pelitic rocks. In comparison with the post-Archean metapelites (Grupo Sabará), they are richer in TiO₂, Fe₂O₃, MgO, CaO, K₂O, Cr, Ni, V, Cu, Zn and poorer in SiO₂, Na₂O, MnO, Zr, Nb, Y.

Hiruma, S.T. 1999. Neotectonics in the Campos do Jordão plateau, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1161 1999 Date of presentation: 11/5/1999

Silvio Takashi Hiruma Advisor(s): Riccomini, C.

Committee:

Subject of thesis: Sedimentology/Sedimentary Petrology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The Campos do Jordão Plateau, on the southwestern border of the main block of the Serra da Matiqueira presents evidence of recent tectonic reactivations, as expressed by the organization of the drainage network and the presence of morphotectonic features. Morphometric analyses usually used in morphotectonic studies revealed neotectonic control of the morphology of the plateau. Isovalue maps of drainage density, relief roughness, hydraulic gradients, isobase surface and slope confirm the compartmentalization of the plateau in blocks delimited by the main trend of lineaments. This compartmentalization coincides with the limits of geosystemic units established for the plateau. Morphotectonic features - river captures, asymmetric valleys with straight scarps, triangular and trapezoidal facets, suspended amphitheatres, shutter ridges, indistinct drainage divides, truncated hill crests - are directly associated with recent faults caused mainly by tectonic reactivation of zones of weakness represented by metamorphic foliation in Precambrian rocks. Morphostructural analysis of the Campos do Jordão Plateau, including characterization of Quaternary deposits and brittle tectonic structures, has led to the identification of three superposed neotectonic regimes: an initial E-W right-lateral transcurrent binary with left-lateral movement of NNW-SSE and right-lateral movement of ENE-WSW/NNW-ESE transcurrent faults (Late Pleistocene/Holocene), followed by E-W extension characterized by normal faults and a final E-W/NW-SE compression that generated neotectonic joints in colluvium, organic-rich soils and peat deposits, compatible with the present-day horizontal maximum stress obtained from geophysical data. Thus, the same pattern and ages of the tectonic regimes identified in neighboring areas, such as in the Paraíba do Sul Valley and in the area of the Queluz Structural High, are confirmed for the Campos do Jordão Plateau

Hortensi, R.A.A. 1999. The litho-structural context of the auriferous mineralizations in the Poconé region-MT state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1774 1999 Date of presentation: 26/3/1999

Ricardo Aurélio Albernaz Hortensi Advisor(s): Batista, J.J.

Committee:

Subject of thesis: Metallogenesis

State: MT 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Poconé region represents an important gold province located in the Mato Grosso State. This province is hosted in a Neoproterozoic metasedimentary sequence, which constitute the Cuiabá Group. This research is dedicated to a detailed study of the tectonic structures of this region, and the main target is to present a descriptive and qualitative structural analysis of these structures and their relationships with the gold mineralization. The gold bearing quartz-veins are exposed on open pits, made by gold-washers. The Cuiabá Group is characterized by a psamitic and pschitic intercalations with dropstones, interpreted as a typical turbiditic sequence fed by glacial debris. The deformation had a heterogeneous, non-coaxial and progressive character. It has been developed at different crustal levels, during four distinct phases. The D1 and D2 structures were developed in a ductile to ductile-brittle crustal regime, caused by compressive stress-field oriented in a NW/SE direction. These two phases show coaxial and progressive evolution. The D3 structures were formed in a brittle to brittle-ductile regime and reflect a compressive stress-field oriented in a NE/SW direction. During D4, a proeminant brittle tectonic regime was formed, with an extensional character, which was disposed in a perpendicular direction in relation to the other deformation phase structures. The structural framework of the gold-mineralization is controlled by sub-vertical quartz veins, parallel to the S3 and S4 planes. The gold occurs within the quartz-veins and also disseminated in hydrothermal alteration halos at the veins margins. The intersection of these two groups of veins represents an excellent mineral "Bonanza" type deposits. The observed structures and textures in the mineralized veins reveal that gold mineralization is closely related to sulphide percolation, mainly pyrite.

Kaneko, K.M. 1999. Typologic-mineralogic, structural characterization and three-dimensional geometric modelling of the Alegria 1 and 6 iron deposits - Quadrilátero Ferrífero. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 143 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR066

DataBase Ref.: 925 1999 Date of presentation: 9/4/1999

Kioshi Márcio Kaneko Advisor(s): Hasui, Y.

Committee:

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Laux, J.H. 1999. Characterization of the copper-gold mineralization of part of the Uruguai mine underground sector, Caçapava do Sul - RS. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 868 1999 Date of presentation: 10/7/1999

Jorge Henrique Laux

Advisor(s): Lindenmayer, Z.G.

Committee:

Subject of thesis: Earth Sciences and Environment

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Lazarim, H.A. 1999. Hydrogeological characterization of the northern utmost point of the Moeda syncline, Quadrilátero Ferrífero, Nova Lima, MG - proposal of model. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 115pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 38

DataBase Ref.: 2381 1999 Date of presentation: 6/5/1999

Hélio Alexandre Lazarim

Advisor(s): Loureiro, C.O.

Committee:

Leila Nunes Menegasse - IGC/UFMG
Antonio Roberto Saad - IGC/UFMG
Ricardo César Aoki Hirata - IGC/USP

Subject of thesis: Geodynamics and Crustal Evolution

State: MG 1/1,000,000 sheet: SF23

Centroid of the area: ' - 'W

Abstract

Leal, P.C. 1999. Moçambique - Barra da Lagoa beach system, Santa Catarina island, SC state, Brazil: Morphologic, morphodynamic, sedimentological and environmental aspects. MSc Thesis, University Federal of Santa Catarina, Brazil, pp.

Universidade Federal de Santa Catarina

Reference:

DataBase Ref.: 1712 1999 Date of presentation: 13/12/1999

Paulo Cesar Leal

Advisor(s):

Committee:

Subject of thesis: Coastal and Sedimentary Geology

State: SC 1/1,000,000 sheet: SG22

Centroid of the area: ' - 'W

Abstract

Lousada, E.O. 1999. Geological and geophysical studies applied to location of deep core drilling in fractured aquifers of the Distrito Federal region, Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

fractured aquifers; geophysics; remote sensing

Instituto de Geociências - Universidade de Brasília

Reference: M144

DataBase Ref.: 204 1999 Date of presentation: 10/12/1999

Eneas Oliveira Lousada

Advisor(s): Campos, J.E.G.

Committee:

Augusto Cesar Bittencourt Pires - IG/UnB
Uriel Duarte - IGC/USP

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23

Centroid of the area: ' - 'W

Abstract

The research theme is the integration of the geological/structural, geophysical and remote sensing data to localization of deep well in fractured domains. The studied areas are Rural Sitting and they are in different geological domains, related to Paranoá (Area I) and Canastra (Area II) groups.

In the methodology suggested a study based on remote sensing products for identification of structural features with probability of groundwater storage was first carried out. In fissured domains groundwater occurs filling fractures in rocks. To identify these

structures through the analysis of relief and drainage elements, black and white aerial photographs in 1:30.000 scale acquired in August 1991 and orbital images with high resolution from LANDSAT-TM Sensor System acquired in 1998 by the Institute of Spatial Research (INPE) were used. The software used was the ENVI 3.1 (Environment for Visualizing Images) from Research Systems.

Based on structural analysis sub-areas were selected to which a geophysics study was applied. The electromagnetic method was used in the profile. This methodology that uses alternated current has provided satisfactory results in the location of the vertical conductors. The profiles carried out were always perpendicular to the fracture direction, for identification of the plunging direction, which is a very important characteristic in the location of the well in fracture domains. The acquired data were shown on isoline maps with conductivity values created in the Surfer 6.1 program. The geophysics equipment used was the EM 34-3XL of the Geonics Ltda.

Integration of data followed the acquisition stage and then the well position was determined. The data acquired through the well perforation were very important to the analysis of the systematic methodology suggested, and to compose the schematic hydrogeological model for the areas. The wells were located in R4, PPC (Paranoá System) and F (Canastra System) fractured domains and the yield averages were of 10.500 L/h for Area I and 8.400 L/h for Area II. These averages were greater than the averages relative to different aquifer domains in regional level. In the evaluation of the research was concluded that the methodology is valid, restraining the application in areas with interference that can change the acquired data through the geophysical study.

As well as the studies related to well location in fractured domains, this research collaborated with the improvement of local cartography, that was possible from analyzing the sample obtained from the perforation (eliminating the thick cover) and by the mapping in semi detail scale. In the last stage a hydrogeological model was made for the areas which can be related to other Federal District areas. This composition was based on the well data production and their hydrodynamic parameters.

Madrucci, V. 1999. Evaluation of integrated TM, LANDSAT, RADARSAT and Gammasspectrometric products in the tectonic characterization and geologic mapping of gold mineralized area in Alta Floresta region - MT state. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1324

1999

Date of presentation: 10/11/1999

Vanessa Madrucci

Advisor(s): Veneziani, P.

Paradella, W.R.

Committee:

Subject of thesis: Remote Sensing

State: MT

1/1,000,000 sheet:

SC21

Centroid of the area:

' -

'W

Abstract

Martins, F.A.L. 1999. Faciologic and stratigraphic analysis of paleo-proterozoic Araí sequence in the Chapada dos Veadeiros National Park. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Araí Sequence in the Chapada dos Veadeiros National Park, Early and Mid Proterozoic Sequence

Instituto de Geociências - Universidade de Brasília

Reference: M139

DataBase Ref.: 199

1999

Date of presentation: 29/4/1999

Francisco de Assis Lima Martins

Advisor(s): Dardenne, M.A.

Committee: Carlos José Souza de Alvarenga - IG/UnB

Carlos Schobbenhaus - DNPM

Hamilton D. Rangel - PETROBRÁS

Subject of thesis: Regional Geology

State: GO

1/1,000,000 sheet:

SD23

Centroid of the area:

' -

'W

Abstract

This thesis deals with Early and Mid Proterozoic Araí Sequence facies and stratigraphic studies, in the northern portion of the Brasília Folded Belt in the Chapada dos Veadeiros National Park (CVNP), Goiás State.

From sedimentary facies description and analysis surveyed from several geologic cross-sections in the CVNP region, and also their sedimentary environment characterization, the 950 m thick Araí sedimentary section, was divided in two sedimentary sequences, bounded by regional stratigraphic discontinuities: a Continental Sequence and a Marine-Transitional Sequence.

The Continental Sequence is composed of braided fluvial, river delta and eolian depositional systems. This sequence is the lowermost one of the Araí sedimentary package, which overlies unconformably regional basement granitic and gneissic rocks.

The Marine-Transitional Sequence is related to coastal depositional systems (estuarine and beach) and open shelf. This transgressive megasequence can be subdivided in high frequency sedimentary sequences. The marine-transitional sediments vertical limit with Continental Sequence is marked by an important stratigraphic regional unconformity.

Paleogeography of the area illustrates an evolution from an intracratonic rift type basin, where Continental Sequence represents, probably, sedimentation which occurred during rift phase, while marine and transitional sediments are possibly related to the post-rift phase of the Araí basin.

Paleocurrents studies and the regional geologic map illustrate provenance of sediments from north and northwest, with sediments depositional dip to the south and southeast.

Mello, L.H.C. 1999. Cladistic analysis of bivalves from Passa Dois group (Neopermian), Paraná basin, Brazil: Taxonomic, Evolutive and Palaeobiogeographic implications. MSc Thesis, Institute of Geosciences, University of São Paulo, 160 pg.

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 291 1999 Date of presentation: 17/5/1999

Luiz Henrique Cruz de Mello

Advisor(s):

Committee:

Subject of thesis: Sedimentary Geology

State: SP

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

Two analysis were carried out with cladistic methodology, in order to clarify the phylogenetic affinities of endemic bivalves of the classical Late Permian Passa Dois Group biota, Paraná Basin, Brazil. In the first analysis, 14 genera of the Family Megadesmidae Vokes, 1967, including the most common taxa of bivalve assemblages from Serra Alta, Terezina and Corumbataí formations (Anhembia froesi, Pinzonella illusa and Pinzonella neotropica assemblages) were examined. In this analysis the consistency of the Family Megadesmidae Vokes, 1967 and the two subfamilies (Megadesminae Vokes, 1967 and Plesiocyprinellinae Simões et al., 1997) were evaluated.

The simple parsimony analysis resulted in 128 equally parcimonious cladograms (L=78; CI=51; RI=70), and its strict consensus tree (L=111; CI=36; RI=45) showed a basal polytomy including taxa of both subfamilies. Successive weighting analysis resulted in 9 cladograms (L=283; CI=85; RI=91) and its strict consensus tree (L=286; CI=84; RI=90) was assumed as work hypotheses. The following topology was obtained: Astartila, Pleurikodonta, Vacunella+ {=Vacunella + Pyramus + Australomya + Megadesmus + Myonia}, Guiratingia, Itatamba, Jacquesia, Plesiocyprinella+ {=Plesiocyprinella + Ferrazia}, Casterella+ {=Casterella + Favalia + Roxoa intricans+ [Roxoa intricans + Roxoa corumbataiensis]}, Holdhausiella elongata* {=Holdhausiella elongata + Holdhausiella almeidai + Othonella + Tambaquyra+ [Tambaquyra + Cowperesia + Runnegariella + Anhembia + Leinzia]}.

The results corroborated the family and subfamilies consistency. Yet, the monophyly of Roxoa Mendes, 1952 was confirmed, being represented by Roxoa corumbataiensis Mendes, 1952 and Roxoa intricans (Mendes), 1944. On the other hand, Jacquesia Mendes, 1944 is not a monophyletic genus. Thus, Holdhausiella Mendes, 1952 and Favalia Mendes, 1962 should be brought up to accommodate the species Jacquesia elongata (Mendes), 1952, Jacquesia almeidai (Mendes), 1952, and Jacquesia arcuata (Mendes), 1962, respectively. The status of the genera Othonella Mendes, 1963 and Guiratingia Petri & Fúlfaro, 1966 (Tatuí Formation) was corroborated. They can not be attributed to Plesiocyprinella Holdhaus, 1918 and Cowperesia Mendes, 1952, as suggested by previous authors. Furthermore, the genera Religiicola Rohn, 1985, Tambaquyra Simões et al., in press b, Anhembia (Mendes), 1949 and Leinzia Mendes, 1949 were attributed for the first time to the Family Megadesmidae Vokes, 1967.

The main goal of the second analysis is to clarify the relationships between the common Passa Dois Group genera (Pinzonella Reed, 1932 and Terraia Cox, 1934 and Nothoterraia Rohn, 1985) from Pinzonella illusa, Pinzonella neotropica, Terraia curvata, and Leinzia similis assemblages (Terezina, Corumbataí, and Rio do Rasto formations) within Veneroida. Twenty eight cladograms (L=104; CI=44; RI=102) were obtained with a simple parsimony analysis. The strict consensus tree (L=116; CI=39; RI=67) showed a polytomy including those genera. The successive weighting analysis resulted in 20 cladograms (L=318; CI=77; RI=91). The obtained topology of its strict consensus tree (L=326; CI=76; RI=90) have a polytomy, including the Crassatellaceans bivalves. However, the relationships between Pinzonella Reed, 1932, Terraia Cox, 1934 and Nothoterraia Rohn, 1985 are well resolved, presenting the following groups: Terraiopsis {=Terraiopsis curvata + Terraiopsis aequilateralis + Terraiopsis bipleura}, Nothoterraia, Terraia {=Terraia altissima} and Pinzonella {=Pinzonella illusa + Pinzonella neotropica}, apart from Crassatellaceans.

Pinzonella Reed, 1932 is monophyletic, belonging to the Family Pinzonellidae Beurlen, 1954. Terraia Cox, 1934, type genus of Family Terraiidae Beurlen, 1957a, is paraphyletic and represented only by Terraia altissima (Holdhaus), 1918. The genus Terraiopsis Beurlen, 1953 was revalidated including the following species attributed to the new Family Terraiopsidae: Terraiopsis curvata (Reed), 1929, Terraiopsis bipleura (Reed), 1929 and Terraiopsis aequilateralis Mendes, 1952. The status of Nothoterraia Rohn, 1985 (Nothoterraiidae n. fam.), as a distinct genus, was confirmed. The families Pinzonellidae Beurlen, 1954, Terraiidae Beurlen, 1957a, Terraiopsidae n. fam., and Nothoterraiidae n. fam. are an important basal grade within Veneroida. However, the families Schizodidae Newell & Boyd, 1975, Pachycardiidae Cox, 1961, Astartidae d'Orbigny, 1844, and Crassatellidae Férussac, 1822 were not recognized as monophyletic groups.

Additionally, the relationships between the Passa Dois Group bivalves (Pinzonella Reed, 1932, and Terraia Cox, 1934) and Triassic genera from North America, Europe and New Zeland (Balantioselena Speden, 1962, Trigonodus Alberti, 1864, Kaibabella Chronic, 1952, Pachycardia Hauer, 1857, and Heminajas Neumayr, 1891), suggested by previous researchers, based on morphological similarities were not confirmed. These similarities are probably due to homoplasy. Consequently, paleobiogeographical models based on those phylogenetic relationships, suggesting a Tethian affinity and Triassic age to the Passa Dois Group bivalves are not justifiable.

The results obtained herein allow to affirm that: 1- the Passa Dois Group biota is more diversified than previously thought, including 4 new families; 2- the following genera Guiratingia Petri & Fúlfaro, 1966, Jacquesia Mendes, 1944, Roxoa Mendes, 1952, Othonella Mendes, 1963, Tambaquyra Simões et al., in press b, Religiicola Rohn, 1985, Leinzia Mendes, 1949, and Anhembia (Mendes), 1949 belong to megadesmids, and Pinzonella Reed, 1932, Terraia Cox, 1934, Terraiopsis Beurlen, 1953, and Nothoterraia Rohn, 1985 to veneroids, and 3- the Passa Dois Group bivalves are highly endemic. In addition, several taxa are re-described (e.g., Anhembia (Mendes), 1949, Leinzia Mendes, 1949, Jacquesia Mendes, 1944, Othonella Mendes, 1963, Pinzonella illusa Reed, 1932, Pinzonella neotropica (Reed), 1928, Terraiopsis aequilateralis (Mendes), 1952, and Terraiopsis

curvata (Reed), 1929} in this document.

Melo, M.V.L.C. 1999. Chemistry of minerals from rocks of the Catalão II carbonatitic complex: Petrogenetic implications. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Catalão II, carbonatite, clinopyroxenites, flogopitites, phoscorites, lamprophyres, mineral chemistry, olivine, clinopyroxene, spinel, ilmenite, oxygen fugacity, metassomatism, liquid immiscibility

Instituto de Geociências - Universidade de Brasília

Reference: M142

DataBase Ref.: 202 1999 Date of presentation: 26/8/1999

Marcus Vinícius Leite Cabral de Melo Advisor(s): Gaspar, J.C.

Committee: Nilson Francisquini Botelho - IG/UnB
Herbet Conceição - IG/UFBA

Subject of thesis: Mineralogy and Petrology

State: GO 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Catalão II Complex is located in southeastern of Goiás State, 30 km far from the city of Catalão. This complex intruded and fenitized Upper Proterozoic metasedimentary rocks of the Araxa Group during Upper Cretaceous (~84Ma), compounding the Alto Paranaíba Magmatic Province. The body is made of primary ultramafic/mafic silicate phases, represented by clinopyroxenites and syenites. These clinopyroxenites were intensely transformed to flogopitites and sodic clinopyroxenites in reason of the injection of multiples carbonatitic phases (at least five of them). Foscorites, associated with carbonatitic magmatism, were transformed to flogopitites by the carbonatitic metassomatism, too. The injection of lamprophyric dykes represents one of the last magmatic events impressed in this area.

Petrographically, cumulated pyroxenites, apatite pyroxenites, titanite pyroxenites, carbonate pyroxenites, flogopitites (with or without cpx and k-feldspar), syenites, foscorites, carbonatites (magnetite-pyroxchlore-flogopite carbonatite, ilmenite-flogopite carbonatite, Ca-carbonatite and Mg-carbonatite) and lamprophyres were described in Catalão II. Mineral chemistry of olivine from foscorites and lamprophyres shows compositions with high Ni and low Mn (lamprophyres) or high Mn and low Ni (foscorites). Clinopyroxene occur in clinopyroxenites and flogopitites and shows compositions in the diopside-sodic salite-augitic egerine series, being diopside in the clinopyroxenites texturally more preserved and aegerine (sodic cpx) in more transformed/evolved rocks. Spinel is magnetite and cromite, presenting low compositional variation. Ilmenites belong mostly to the ilmenite-geikelite series. Ilmenites from foscorites and carbonatites show more Mn than ilmenites from silicate rocks. The coexistence of ilmenite exsolution lamellae in magnetite grains yield the calculus of temperature (522,8° to 645,9° C) and fO₂ (17,31 to -23,40) of this process of some rocks from Catalão II.

Mineral chemistry data from this work strengthened the proposed model for the evolution of the complex that consists in liquid immiscibility, characterizing a primary ultramafic/mafic phase intruded by a carbonatitic phase. This last phase provoked the transformation of the ultramafic rocks in flogopitites.

Mendonça, K.R.N. 1999. Paleogeographic analysis of sediments from the Areado Group (Neojurassic-Eocretaceous) of the Sanfranciscana basin, in the Presidente Olegário topographic chart, State of Minas Gerais. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 73 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 42

DataBase Ref.: 2385 1999 Date of presentation: 20/8/1999

Kátia Regina Nogueira Mendonça Advisor(s): Silva, R. R.

Committee: Henri Simon Jean Benoit DuPont - IGC/UFMG
Joel Carneiro de Castro - IGCE/UNESP

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Monteiro, A.C. 1999. Electro resistivity applied to the evaluation of the aquifer potential in the Porto Seguro region - BA state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1553 1999 Date of presentation:

Alexandre César Monteiro Advisor(s): Porsani, M.J.

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SE24 Centroid of the area: ' - 'W

Abstract

This work aims at characterizing the hydrogeologic environment by means of the electric resistivity sounding method of an area of

approximately 60 km² located near and to the north of the town of Porto Seguro towards to the north, in the state of Bahia (Brazil). The geological context of the area refers to a Tertiary (Barreiras Formation) and Quaternary (coastal lines) sedimentary environment. Sixty vertical electrical sounding (VES) were performed in the region using Schlumberger array, thirty six of which were made just in the concerned area; ten were related to a regional profile between the towns of Eunápolis and Porto Seguro, in order to follow the topography of the basement crystalline rocks between those towns. The remaining VES were made in a regional reconnaissance aiming at choosing a pilot area to apply the referred geophysical method. A Fortran program was written for data interpretation based on an algorithm proposed by Porsani et al (1998), which uses the linearized inversion with a variant Lp norm, instead of traditional L1 and L2 norms. This proposition proved itself to be more appropriate than the traditional approach and excellent results were obtained on the synthetic data, as well as on the measured data obtained in the study area. Pseudo sections of apparent resistivity were produced from the VES, and from the results obtained through the VES inversions, it was possible to construct both the geoelectric sections, and the maps using the Dar Zarrouk's parameters in order to design the geological/geophysical modeling of the area. To make the data interpretation easier the available well drilling data of the region was used. A geoelectric model consisting of a bedded package of sandstone and clay was obtained in the depth ranging from 20 to 80 meters, which presents a good potential for groundwater. A deeper geoelectric model obtained over 80 meters is located in the center-north part of the area and indicates the best possibility to find groundwater.

Nascimento, K.R.F. 1999. Isotopic and hydrogeochemical study of the aquifers in the Pólo Petroquímico, Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1551 1999 Date of presentation: 14/12/1999

Kátia Rejane Freitas do Nascimento Advisor(s): Azevedo, A.E.G.

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

It is presented a study of aquifers in the Recôncavo Basin, Pólo Petroquímico region, state of Bahia, using the determination of the composition of stable isotopes of hydrogen and oxygen in the water, the concentration of the major ions (Ca⁺⁺, Mg⁺⁺, Na⁺, K⁺, Cl⁻, SO₄⁻⁻ e HCO₃⁻), the temperature, pH and electric conductivity. 50 samples were collected, 37 of groundwater (production wells), 10 of surface water (rivers and dams) and 3 of monitoring wells. The difference between the isotopic composition of surface water and groundwater indicated no direct connection between these water bodies. The joint analyzes of data showed that seems not to have separation between the sandstone blocks that compose the aquifer São Sebastião. In spite of this being a multi-layered system and to be inserted in a geologic context separate by faults, the isotopic composition was found very homogeneous and indicates a local recharge without participation of transported water for a long distance in the deep layers. It was not identified effect of separation by the faults of Leandrino and Camaçari that divide the studied area in three sub-regions. The exit temperature of the water of the production wells allowed to identify the capture zone of water that varied from the superficial part of the aquifer to more than 300m of depth. A good correlation was observed between the concentration of ions and the temperature, showing the increase of a factor of about 5 in the mineralization of groundwater with the depth of capture.

Neves, M.A. 1999. Cenozoic evolution of Jundiá (SP) region. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 135 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR069

DataBase Ref.: 922 1999 Date of presentation: 18/6/1999

Mirna Aparecida Neves Advisor(s): Morales, N.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Neves, S.C. 1999. Geological and geochemical characterization of the occurrences of aluminium and iron phosphates in the contact between the Rio Paraúna and Espinhaço supergroups, southern of Diamantina, State of Minas Gerais. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 36

DataBase Ref.: 2379 1999 Date of presentation: 19/4/1999

Soraya de Carvalho Neves Advisor(s): Horn, A.H.

Committee: Friedrich Ewald Renger - IGC/UFMG
Hubert M. P. Roeser - IGC/UFMG
Paulo Roberto Antunes Aranha -

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Oliveira, E.A. 1999. Geology, petrography and geochemistry of the Cachoeira da Prata granitoid massif. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 39

DataBase Ref.: 2382 1999 Date of presentation: 28/5/1999

Edeleuza Adriana de Oliveira Advisor(s): Neves, J.M.C.

Committee: Essaid Bilal -
Carlos Maurício Noce - IGC/UFMG

Subject of thesis: Geodynamics and Crustal Evolution

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Osako, L.S. 1999. Estudo do potencial mineral do depósito uranífero de Lagoa Real, BA, com base em dados geológicos, aerogeofísicos e de sensoriamento remoto. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1750 1999 Date of presentation: 29/3/1999

Liliana Sayri Osako Advisor(s): Amaral, G.

Committee:

Subject of thesis: Metallogenesis

State: BA 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

Analysis of available geological, geophysical and remote sensing data for the Lagoa Real yielded a large amount of additional data regarding regional geology and ore control. This is Brazil's second largest uranium reserve, associated with albitite lenses enclosed in Mesoproterozoic granitic rocks within the Paramirim block, at the southern portion of the São Francisco Craton. Airborne gamma spectrometry data were useful for delineating known and probable uranium anomalies. Magnetic data were useful for extraction of regional structural information, indicating discontinuities in the 30°, 70°, 170°, 0° and 140° azimuths, the last two being the main directions of the albitite lens, associated with a regional ductile flexure. Landsat 5 - TM image for the dry season enhanced mainly vegetation (savanna type) differences which could be associated to the main lithologic units. Residual soil (clay and iron oxides and hydroxides) presented almost no difference due to the widespread lateritic weathering. Landsat lineament statistical analysis was disturbed by random directions. However, comparison with magnetic linear features allowed discrimination of the main structural directions.

Paes, V.J.C. 1999. Geology of the Alvarenga quadrangle, State of MG, and the geochemistry: Geotectonic and metallogenetic implications. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 149 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 41

DataBase Ref.: 2384 1999 Date of presentation: 2/8/1999

Vinícius José de Castro Paes Advisor(s): Lobato, L.M.

Committee: Antônio Carlos Pedrosa Soares - IGC/UFMG
Claiton Piva Pinto - CPRM

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE24 Centroid of the area: ' - 'W

Abstract

Parizzi, M.G. 1999. Genesis and dynamics of the Lagoa Santa lagoon based on palinologic, geomorphologic and geologic studies of its basin. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 55 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 07

DataBase Ref.: 2351 1999 Date of presentation: 10/12/1993

Maria Giovana Parizzi Advisor(s): Kohler, H.C.

Committee: Edézio Teixeira de Carvalho - IGC/UFMG
Jean-Pierre Raymond Ybert - DG/UFRJ

Subject of thesis: Geology and Mineral Resources

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Passos, R.V. 1999. Characterization of the hydrothermal alteration zones geometry - Case study in the Brumal auriferous deposit, Quadrilátero Ferrífero, Minas Gerais state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1773 1999 Date of presentation: 20/8/1999

Renato Vieira Passos Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

The Brumal gold deposit is located in the northeastern portion of the Quadrilátero Ferrífero region. It is enclosed within an Archaean volcano-sedimentary sequence (i.e., Nova Lima Group). Regional host rocks comprise two distinct greenstone assemblages, from bottom to top: (i) mafic to ultramafic volcanics and (ii) clastic and chemical sediments. At least two phases of deformation affected these rocks. These two phases were coaxial and probably evolved under a single deformation event associated to compression towards WNW. The gold mineralization is intrinsically associated to banded iron formations (BIFs), which are usually constrained within carbonaceous-rich schists at both hangingwall and footwall. The ore bodies contain a wealth of sulphides but especially arsenopyrite. Gold occurs mostly as inclusions in arsenopyrite. The development of sulphide-rich BIFs involved the percolation of mineralizing fluids through structural traps, triggering the sulphidation of iron carbonates and magnetite. Chemical (iron-rich), textural (primary porosity and permeability) and structural (secondary permeability) characteristics of BIFs favoured the percolation of fluids. The hydrothermal fluids altered both wallrock and host rocks. Wallrock alteration comprises three main zones with particular mineral assemblages. These are chloritic, carbonatic and sericitic zones. Mineralized BIFs (host rocks) comprise two alteration zones which differ spatially in relation to the main ore zones. These are the carbonatic zone (more extensive but away from the ore bodies) and the stilpnomelane-rich zones (closest and within the ore). The comparison between different analytical methods applied to distinct assemblages in the Brumal deposit proved that reflectance spectroscopy is a suitable technique to provide a reliable identification of alteration minerals. The method is rapid, efficient and can distinguish minerals based on their particular spectral signature. The technique is extremely sensitive to alteration minerals such as clays, micas, carbonates, iron oxides and hydroxides and selected sulphates, most of which were documented in Brumal. SWIR analysis is also sensitive to elemental substitution and changes in order or crystallinity in minerals. Having proved its suitability, the technique was employed to map alteration zones throughout the deposit. The results show that alteration zones transcend the notion of symmetric haloes and instead are a complex of alternating and intercalated mineral assemblages with no particular zoning. These conclusions added new constraints on the geometry and evolution of hydrothermal systems associated to mesothermal gold mineralizations hosted by Archaean greenstone belt sequences.

Penteado, A.H.D.G. 1999. Spectral content evaluation of the Geoscan (MKII) bands in the aid of gold exploration in the southern portion of the Rio Itapicuru Greenstone Belt - Bahia state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1724 1999 Date of presentation: 14/1/1999

Antônio Henrique Dantas da Gama Penteado Advisor(s): Crósta, A.P.

Committee:

Subject of thesis: Metallogenesis

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

The Rio Itapicuru Greenstone Belt (GBRI) has been subject to several studies and exploration surveys for gold. In one of these studies, high spectral resolution remote sensing data generated by the airborne sensor Geoscan AMSS MK-II were used to characterize hydrothermal alteration areas. One of the main constraints found in the study was the presence of high amount of noise in some of the Geoscan bands, particularly in those from the thermal infrared portion of the electromagnetic spectrum. This dissertation aims to develop techniques for removing or minimizing the noise, through the use of Fourier Transform, and to apply them to the Geoscan data. After the noise removal from the thermal bands, they were used in conjunction with the remaining bands of this sensor for the evaluation of the potential use of their spectral information for characterizing hydrothermal alteration zones. The study area corresponds to a portion of the GBRI located at southwest of Araci town, Bahia. As a result, new alternatives for processing these data were suggested and four areas containing spectral anomalies, characteristic of hydrothermal alteration, were identified, corresponding to potentially mineralized areas. One of these areas represents a continuation of the Weber Belt, an important geologic feature where some of the most significant gold occurrences are located,

such as the Fazenda Brasileiro gold mine.

Pinelli, M.P. 1999. Water and sediment geochemistry of the São Bartolomeu river basin. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

São Bartolomeu River, Total Extraction, Sequential Extraction, Land Usage

Instituto de Geociências - Universidade de Brasília

Reference: M134

DataBase Ref.: 194 1999 Date of presentation: 16/3/1999

Marcelo Pedrosa Pinelli

Advisor(s): Boaventura, G.R.

Committee: Patrick Seyler - IG/UnB
Sambasiva Rao Tachineelam - UFF

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

This work makes an evaluation of the current concentrations of metals in water and sediments of some sub-basins of the São Bartolomeu river system: Sobradinho, Mestre d'Armas and Pipiripau (Distrito Federal - Brazil). This area, classified as one of fundamental importance for the Plan Diretor of Waters, Sewer and Hydric Pollution of DF, is regarded as the viable alternative for future provisioning of water for the Distrito Federal.

In the sediments, the following elements were determined by the total extraction method: Ti, Ca, Mg, Fe, Al, Na, K, P, Sr, La, V, Y, Ni, Cu, Cr, Mn, Ba, Co and Zn. The sequential extraction method, was used to determine the distributive properties of the elements Pb, V, Ni, Zr, Cu, Cr, Mn, Ba, Co and Zn. In water samples, the elements determined were Al, Ba, Ca, Cr, Cu, Fe, Mg, Mn, Ni, P, Si, Ti, V, Pb, Zn, Na and K, in addition to the parameters pH, conductivity, TDS and temperature. The metals analyses were accomplished by Inductively Coupled Plasma - Atomic Emission Spectroscopy (ICP-AES) and Atomic Absorption Spectrometry (AAS) analytical methods.

The water analysis allowed to define areas influenced by urban, rural activities and preserved area. The results of the total extraction in sediments allowed the identification of geochemical signatures related to the type of soil usage for each individual sub-basin. Furthermore, it was possible to propose indexes for evaluation of the geological and/or antropogenic contributions in the area. The results of the partial extraction method characterized the agricultural and urban areas as a function of the preferred phase of extraction.

The final evaluation of the obtained data showed that the three sub-basins are affected by their main land usage. The sub-basin of Sobradinho is impacted mainly along Ribeirão Sobradinho due to the presence of the city of Sobradinho and of minor residential clusters nearby. The sub-basin of Mestre d'Armas presented the wider range and the most scattered values among the three basins. This is due to the existence, in the same sub-basin, of both an area of environmental preservation (Ecological Reserve of Águas Emendadas) and urban zones (i.e. the city of Planaltina and other establishments recently installed). The data for the Pipiripau sub-basin, although not as high as those of the other two, are still above the levels established as normal for the region. The agricultural activities developed in this sub-basin probably explain the high values found.

Pinheiro, G.G.C. 1999. Radar (JERS-1 satélite, band L) data analysis applied to geologic, soil and vegetation mapping of the cerrado region. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Remote Sensing, Radar, Vegetation, Soil and Geology

Instituto de Geociências - Universidade de Brasília

Reference: M138

DataBase Ref.: 198 1999 Date of presentation: 23/4/1999

Giane Goreth Costa Pinheiro

Advisor(s): Sano, E.E.

Committee: Maria Leonor Ribeiro Casimiro - IG/UnB
Evlyn Márcia Leão de Moraes - INPE

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The development of Brazilian central west region has been intensified after the construction Brasília that have brought people from all over the country. This has led to an intense land occupation and therefore, has requested a continuous natural resources monitoring of the area. One economic and adequate remote sensing available technique for environment monitoring is the radar system, specifically Synthetic Aperture Radar - SAR, that offers the advantage to operate under any atmospheric conditions in order to get data about earth surface. On the other hand, in this land cover savanna region known as "cerrado", few studies have been carried out on radar interaction backscattering sign with earth surface. In order to help monitoring and managing land's occupation and to improve knowledge on geological features, vegetation cover and soil characteristics, studies on radar remote sensing have to be intensified in the cerrado.

This work analyzes the potential of a digital radar image on band L and wavelength of 23,5 cm from Japanese Earth Resources Satellite (JERS-1) to interpret geological features, soil characteristics and vegetation surface cover in the cerrado's region. In order to correlate the soil moisture content, leaf area index and terrain roughness with backscattering coefficient (s^0), it was chosen a preserved and representative cerrado's area (area 1), with low terrain movement (Brasília National Park) and to analyze the geological features it was chosen a high terrain movement area at the north part of the Park (area 2)

Maps of soil, vegetation type and geological structures were digitized and overlaid to produced the biophysics map of the Park

area, and 5 representatives classes were selected. Data on field parameters such as soil moisture content, leaf index area and roughness of the surface were collected. Backscattering Coefficient was calculated from each unit and correlated with the data field parameters. Spatial analysis on soil and vegetation were also conducted in the area 1. Photo- interpretation of the area 2 image, involving radiometric correction was carried out in order to eliminated speckles using filtering spatial techniques. Results have shown that the backscattering sign was strongly influenced by the vegetation, and the radar complex image, after being enhanced, it can be used as a powerful tool to help mapping vegetation and geology features for cerrado.

Pizarro, M.A. 1999. Hyperspectral remote sensing for the mineral characterization and identification in tropical soils. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1322 1999 Date of presentation: 21/6/1999

Marco Antonio Pizarro

Advisor(s): Epiphanyo, J.C.N.

Committee:

Subject of thesis: Remote Sensing

State: MS 1/1,000,000 sheet: SF21 Centroid of the area: ' - 'W

Abstract

Reis, L.B. 1999. Study of the graphite mineralization in the extreme northeastern of Minas Gerais state. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 87 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 40

DataBase Ref.: 2383 1999 Date of presentation: 28/7/1999

Leandro Barros Reis

Advisor(s): Pedrosa-Soares, A.C.

Committee:

Alexandre Uhlein - IGC/UFMG
Fernando Flecha de Alkmim - DEGEO/UFOP

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE24 Centroid of the area: ' - 'W

Abstract

Rocha, M.M. 1999. Comparative study of computational methods of reserves evaluation and content control of the Mina de Capanema mine, Santa Bárbara, MG state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2253 1999 Date of presentation:

Marcelo Monteiro da Rocha

Advisor(s): Yamamoto, J.K.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Rosa, C.L.M. 1999. Organism/sediment interaction in deposits of Santa Bárbara alogroup. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 867 1999 Date of presentation: 4/10/1999

Carmem Lúcia Martini da Rosa

Advisor(s): Rosa, R.G.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Rosales, M.J.T. 1999. Geophysical characterization of Jacupiranga ultrabasic-alkaline complex (SP state). MSc Thesis; Institute of Astronomy, Geophysics and Atmospheric Sciences, University of São Paulo, São Paulo, 120 pp

Instituto Astronômico e Geofísico- Universidade de São Paulo

Reference:

DataBase Ref.: 1504 1999 Date of presentation: 15/3/1999

Mario Jesus Tomas Rosales Advisor(s): Shukowsky, W.

Committee:

Subject of thesis: Geophysics

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Rossi, A.R. 1999. Quaternary foraminifera of Fernando de Noronha archipelago: Taxonomy, ecology, bathimetric and faciologic distribution. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 871 1999 Date of presentation: 9/4/1999

Adriana Rost Rossi Advisor(s): Leipnitz, I.I.

Committee:

Subject of thesis: Earth Sciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Salles, F.A.F. 1999. Evaluation of contaminated area by organic compounds at the Guarapiranga dam margins, in the São Paulo municipality - SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2257 1999 Date of presentation:

Flávio Augusto Ferlini Salles Advisor(s): Duarte, U.

Committee:

Subject of thesis: Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Sallun Filho, W. 1999. Analysis of stromatolites of Itaiacoca group (proterozoic), south of Itapeva, SP state. MSc Thesis, Institute of Geosciences, University of São Paulo, pg.

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 296 1999 Date of presentation: 1/11/1999

William Sallun Filho Advisor(s):

Committee:

Subject of thesis:

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Stromatolites were studied at nine localities south of Itapeva, São Paulo, Brazil, generally in light-gray metadolostones and secondarily in dark-gray metalimestones of the Itaiacoca Group, a Mesoproterozoic volcanosedimentary unit of the Ribeira Belt. Five columnar forms were distinguished, the most common consisting of unbranched, coniform columns, with centimetric to decimetric diameters and heights, attributed to Conophyton. The other four forms exhibit convex, but not coniform lamination and differ in size, silhouette and style/frequency of branching.

Differences in stromatolite preservation are related to the differing tectonic behaviour of the purer and more competent metadolostones and the more argillaceous metalimestones which behaved more plastically.

In the best exposures in this area the stromatolites are grouped into Conophyton bioherms, without any evidence of subaerial exposure or reworking by waves, which suggests that they formed in a calm and relatively deep setting (perhaps up to several tens of meters in depth), probably below the base of fairweather water.

Conophyton from Itapeva is similar to other coniform stromatolites in the Itaiacoca Group near Abapã (Paraná), about 100 km SW of Itapeva, but differs from other forms, including Conophyton cylindricum and C. metulum, from Proterozoic successions associated with the western margin of the São Francisco Craton. The Conophyton from the Itaiacoca Group is most similar to forms in the ex-Sovietic Union that are usually found in the Mesoproterozoic or lowest Neoproterozoic, which is consistent with

available radiometric age dates that place this unit near the end of the Mesoproterozoic.

Sestini, M.F. 1999. Geomorphologic variables in the study of landslides in Caraguatatuba -SP state - Using Tm-Landsat images and SIG. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1323 1999 Date of presentation: 13/7/1999

Marcelo Francisco Sestini

Advisor(s): Florenzano, T.G.

Committee:

Subject of thesis: Remote Sensing

State: SP 1/1,000,000 sheet: SG23 Centroid of the area: ' - 'W

Abstract

Silva, C.H. 1999. Structural characterization of gold mineralizations of the Cuiabá group, Baixada Cuiabana (MT). MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 134 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR068

DataBase Ref.: 923 1999 Date of presentation: 22/4/1999

Carlos Humberto da Silva

Advisor(s): Simões, L.S.A.

Committee:

Subject of thesis: Regional Geology

State: MT 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Silva, F.V. 1999. Geologic-gammaspectrometric integration in the Curitiba quadrangle. MSc Thesis, Department of Geology, University Federal of Paraná, pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 763 1999 Date of presentation:

Francisco Valdir da Silva

Advisor(s): Ferreira, F.J.F.

Committee: Alberto Pio Fiori - DG/UFPR

Raimundo Almeida Filho - INPE

Subject of thesis: Exploratory Geology

State: 1/1,000,000 sheet: Centroid of the area: 49 15 's - 25 15 'W

Abstract

Souza, C.J.M. 1999. Mineralogical and geochemical characterization of the Pederneira pegmatites in the Santa Maria do Suaçuí region, State of Minas Gerais. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, 274 pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 44

DataBase Ref.: 2387 1999 Date of presentation: 20/9/1999

Cláudio José Marques de Souza

Advisor(s): Quémeneur, J.J.G.

Committee: - IGC/UFMG

Vitória Régia Peres da Rocha - IGC/UFMG

Júlio César Mendes -

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Souza, C.S. 1999. Genesis and control of the gold deposit of Lagoa Seca, Andorinhas greenstone belt, Rio Maria-Pará state, Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Andorinhas greenstone belt, shear zone, metagreywacke, hydrothermal, gold, pyrite

Instituto de Geociências - Universidade de Brasília

Reference: M146

DataBase Ref.: 206 1999 Date of presentation: 21/12/1999

Cristiano Soares de Souza

Advisor(s): Oliveira, C.G.

Committee: Hardy Jost - IG/UnB
 Raimundo Netuno Nobre Villas - CG/UFGA

Subject of thesis: Prospection and Economic Geology

State: PA 1/1,000,000 sheet: SB22 Centroid of the area: ' - 'W

Abstract

Hydrothermal alteration and gold mineralization at Lagoa Seca deposit are hosted by the Lagoa Seca Shear zone which cuts the Lagoa Seca Group, the upper unit of the Andorinhas greenstone Belt (Carajás Mineral Province). The Lagoa Seca group at Lagoa Seca Gold Deposit area comprises metasedimentary and metaultramafic units. Dacite dykes with island arc chemical affinity crosscut the Lagoa Real Group and yielded U-Pb age of 2.97 Ga (Pimentel & Machado 1994). The Mesoproterozoic anorogenic Jamon (~ 1.8 Ga) granite intrudes the greenstone sequence. Gold mineralization host rocks are metagreywackes lenses enveloped by metaultramafic rocks. Two main ore bodies, named LS-1 and LS-2, are distributed along the Lagoa Seca Shear Zone. Metagreywacke lenses are high-grade ore, whereas enveloping hydrothermalized metaultramafic rocks are low-grade ore with marginal grades.

The studied deposit is the only greenstone belt hosted lode gold deposit in the Carajás Mineral Province that is not associated with quartz veins and basic metavolcanic rocks, showing a singular nature in relation to other greenstone belt hosted gold deposits in the Carajás Mineral Province.

In the Lagoa Seca shear zone country rocks develop a subvertical mylonitic foliation striking N65E with right lateral displacement developed during the deformation D1. Higher-grade ore zones are controlled by dilatation zones between R and P fractures formed during the late stages of deformation D1. N-S striking normal faults related to D2 cut both Andorinhas greenstone belt and Jamon granite.

Hydrothermal alteration in the shear zone is characterised by haloes of carbonation/propylization, which is widespread in the shear zone domain; silicification, restricted to the contact between metaultramafic rocks and metagreywackes; potassification, represented by K-feldspar and actinolite veinlets; and sulphidation, mainly pyrite with minor pirrotite, which can occur either along mylonitic foliation or in veinlets. Chemical changes induced by intense deformation and coeval hydrothermal alteration are characterised by introduction of alkalis (K, Li, Ca), Fe, S and CO₂, Al mobility and Si immobility.

Mineral chemistry of chlorite and biotite from hydrothermalized host rocks show that Fe/Mg ratio of chlorite increases towards the ore body, whereas this ratio decreases in biotite. P and T hydrothermal alteration conditions estimated from mineral assemblage and chlorite geothermometry are those of 2-4 kbar and 270-300° C, respectively.

It is suggested that the Lagoa Seca gold deposit is of orogenic mesozonal epigenetic lode type, as shown by its high Au/base metal ratio and island arc tectonic setting (dacites that shows petrochemistry affinity with island arcs. Mineralising auriferous would be composed mainly of H₂O-CO₂, S and K; have neutral pH; and were channelled through transcrustal shear zones, during the late stages of the deformation and metamorphism of greenstone sequence. Gold precipitation was attributed by the reaction between Au-S rich fluid and magnetite rich metagreywacke, which resulted in the decrease of sulphur activity and changing pH.

The isotopic signature (δ¹³C -7.09 to -7.98 and δ¹⁸O 9.98 to 14.11) of the studied deposit show low fractionation of carbon and oxygen. Strongly negative δ¹³C values indicate the participation of mantelic fluids in the formation of the hydrothermal carbonate. Several likenesses are observed between the studied deposit and classic Archaean lode gold deposits: shear zones structural control, the potassic alteration, the high Au/Ag (9:1) ratio and the intrinsic association between gold and pyrite. When compared to other gold deposits from Carajás Mineral Province, the Lagoa Seca gold deposit have δ¹³C and δ¹⁸O isotopic similar to hydrothermal carbonates from Cumaru and Igarapé Bahia gold deposits, which have magmatic/mantelic sources. However, when compared to the Diadema gold deposit (Sapucaia greenstone belt), a typical lode gold deposit of Carajás Mineral Province, its possible to notice that δ¹³C values (-2.03 to -3.59) are remarkable less negative and δ¹⁸O (7.16 to 10.08) are slightly lower than those obtained to Lagoa Seca gold deposit.

Spier, C.A. 1999. Petrology and metallogenesis of chromite deposits associated to the mafic-ultramafic Bacuri complex, Amapá state, Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

chromite, Bacuri Complex, mafic-ultramafic, Vila Nova, Amapá state

Instituto de Geociências - Universidade de Brasília

Reference: M140

DataBase Ref.: 200 1999 Date of presentation: 14/7/1999

Carlos Alberto Spier

Advisor(s): Ferreira Filho, C.F.

Committee: Jose Carlos Gaspar - IG/UnB
 Elson Paiva Oliveira - IG/UNICAMP

Subject of thesis: Prospection and Economic Geology

State: AP 1/1,000,000 sheet: NA22 Centroid of the area: ' - 'W

Abstract

The Vila Nova Project covers an area of 170 km² located at the center-southeast of the Amapá State. The Project area comprises gneiss-migmatite terrains, mafic-ultramafic rocks, volcanic-sedimentary association and granitic and basic intrusive. Amphibolite facies metamorphism affected the mafic-ultramafic rocks. Similar metamorphic conditions characterize both the gneiss-migmatite terrains and supracrustal volcanic-sedimentary rocks suggesting that all three units were affected by the same regional scale tectonic-metamorphic event. The volcanic-sedimentary association is correlated to the Vila Nova Group and consists of fine- and coarse-grained clastic metasediments and chemical metasediments with basic metavolcanics interlayered. This association hosts deposits of gold and iron and corresponds to a Paleoproterozoic greenstone belt broadly comparable to the Guyana Shield greenstone belts. The mafic-ultramafic rocks, named Mafic-Ultramafic Bacuri Complex (MUBC), are intrusive

in the gneiss-migmatite terrains and older than the volcanic-sedimentary association. The Bacuri Complex hosts 11 stratiform deposits with proven chromitite reserves of 9 Mt, indicating an extensive mantelic magmatism. It consists of a Lower Mafic Zone, an Ultramafic Zone and an Upper Mafic Zone. The chromitite layers are restricted to the Ultramafic Zone. This zone consists of interlayered serpentinite (olivine cumulate) and chromitite (chromite cumulate). Most of the chromite is concentrated in a thick single chromitite layer, known as the main chromitite, located at the base of the Ultramafic Zone in direct contact with the underlying Lower Mafic Zone. The thickness of the main chromitite is highly variable due to deformation and ranges from 3 to 30 meters (average of 12 m). Several thinner layers of massive chromitite are located above the main chromitite within the Ultramafic Zone. Chromitites are generally massive with more than 60 vol. % of cumulus chromite. The chromite is mainly euhedral and fine-grained, ranging from 0.1 to 3 mm in diameter (average of 0.2 mm). The matrix of massive chromitite consists mainly of metamorphic silicates (serpentine, chlorite, tremolite) except for the B1 ore body where large igneous opx oikocrysts are preserved. Chromite grains in massive chromitite have an homogeneous core and an alteration rim. Microprobe line traverses along chromite grains of massive chromitite indicate that the alteration rim is enriched in Cr and Fe²⁺ and depleted in Al and Mg. Chromite from massive chromitite exhibits significant compositional changes with stratigraphic height. The consistent stratigraphic variation is well indicated by an upward progressive decrease in the Mg/(Mg+Fe²⁺) ratio, as well as by the progressive upward increase in the Cr/(Cr+Al) ratio, Fe³⁺/(Fe³⁺+Al+Cr) ratio and TiO₂ content. The significant TiO₂ and Fe³⁺ enrichments in chromite of the uppermost massive chromitites are typical of stratiform chromite deposits. Olivine shows an equivalent trend of compositional variation characterized by upward decrease in Fo and Ni content. The cryptic variation of chromite and olivine indicates extensive fractionation within the Ultramafic Zone. Reversals in the Fo content of olivine and reversals in both Mg/(Mg+Fe²⁺) ratio and TiO₂ content of chromite suggest that successive replenishments of the magma chamber with more primitive magma occurred during the formation of the Ultramafic Zone. The compositional variation trends of chromite in massive chromitite of the BMUC are similar to typical stratiform chromite deposits such as Bushveld and Great Dyke. Starting Mg/(Mg+Fe²⁺) ratios of the BMUC chromite are high, with a moderately wide range of variation (0.15-0.55), what is comparable with chromite crystallizing from primitive magmas that underwent extensive fractionation, a feature typical of chromite deposits in continental layered complexes. Chromite from the BMUC shows higher Cr/(Cr+Al) ratios (0.66 - 0.89) when compared to those of Bushveld and Great Dyke, suggesting higher crystallization temperatures and more primitive magma.

Tasso, M.A.L. 1999. Study of the sandstones provenance in Taubaté basin. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 102 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR067

DataBase Ref.: 924 1999 Date of presentation: 12/4/1999

Maria Angélica de Lima Tasso Advisor(s): Chang, M.R.C.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Tazava, E. 1999. Au-Cu (±REE-U) mineralization associated to hydrothermal breccias of Igarapé Bahia deposit, Carajás mineral province, PA state. MSc Thesis, Departamento de Geologia, Universidade Federal de Ouro Preto, MG, pg.

Departamento de Geologia - Universidade Federal de Ouro Preto

Reference:

DataBase Ref.: 289 1999 Date of presentation: 1/2/1999

Edison Tazava Advisor(s):

Committee:

Subject of thesis: Petrogenesis and Mineral Deposits

State: PA 1/1,000,000 sheet: SB22 Centroid of the area: ' - 'W

Abstract

The Au-Cu Igarapé Bahia deposit, located in the Carajás Mineral Province (Northern Brazil), can be defined as a sequence of metamorphosed volcanosedimentary rocks, with metabasics at the base and metapyroclastics/metasedimentaries at the top of the sequence. The main mineralization occurs between volcanic and metavolcaniclastic rocks, and it is characterized by the presence of magnetitic and sideritic heterolithic breccias.

The volcanic sequence underwent an intense hydrothermal alteration which resulted in chloritization throughout the whole sequence, associated with sulphidation, silicification, carbonatization, Fe-metasomatism, tourmalinization and biotitization. Chemical and mineralogical data show an REE, Mo, U, F, Cl and P enrichment of these rocks, specially in the mineralization's neighbourhood. Saline and F-rich fluids at high T may have been responsible for the REE transportation.

C and O isotopic data from hydrothermal carbonates suggest the presence of two fluids which promoted alteration and consequent mineralization. A magmatic fluid is characterized by negative values of δ¹³C (-9.3 to -5.8‰); moreover, the large variation of δ¹⁸O (0.7 to 9.4‰) suggests a mixture between magmatic fluids of high T (higher isotopic values) and meteoric fluids (lower values).

Based on chemical and mineralogical composition, and isotopic data, a genetic model similar to that of Cu-Au-U-REE Olympic Dam deposit (Southern Australia) is suggested to Igarapé Bahia deposit. However, some features are quite different for the two

deposits such as the age of mineralization. All Fe-oxide (Cu-Au-U-REE) known deposits are of Proterozoic age, while the Igarapé Bahia deposit could be the first described of Archaean age. Moreover, besides the chemical and mineralogical composition of the mineralization are suggestive of granitic sources involvement, direct sources were not observed in the deposit region, so that Igarapé Bahia deposit may be related to other granitic intrusions present in that region. In Olympic Dam deposit the mineralization and granitic intrusions are contemporaneous.

Thomazella, H.R. 1999. The influence of seasoning in the mineralogical, physic-chemical and technological characteristics of the clays for red ceramics in Rio Claro – SP region. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 98 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR063

DataBase Ref.: 928 1999 Date of presentation: 12/3/1999

Helber Roberto Thomazella

Advisor(s): Zanardo, A.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Torello, F.F. 1999. Biostratinomy of fossiliferous concentrations of the pinzonella neotropica (reed) assemblage, Corumbataí formation (Permian), in the Tambaú region, SP. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2256 1999 Date of presentation:

Fernanda de Freitas Torello

Advisor(s): Rocha-Campos, A.C.

Committee:

Subject of thesis: Sedimentology/Sedimentary Petrology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Yamato, A.A. 1999. Geological mapping of part of the Bocaiúva do Sul sheet (SG.22-X-D-I-2), 1:50.000 scale. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1826 1999 Date of presentation: 23/4/1999

Arlindo Akio Yamato

Advisor(s): Campos Neto, M.C.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Zoby, J.L.G. 1999. Hidrogeology of Brasília-DF - Sobradinho stream basin. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2041 1999 Date of presentation: 26/11/1999

José Luiz Gomes Zoby

Advisor(s): Duarte, U.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

Almeida, T. 2000. Prospection of Pb/Zn exploratory models using remote sensing data: Case study of the Salobro prospect (Porteirinha-MG). MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 980228

DataBase Ref.: 903

2000

Date of presentation: 25/8/2000

Tati Almeida

Advisor(s): Souza Filho, C.R.

Committee:

Subject of thesis: Metallogenesis

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

The chief goal of this research is to design a remote sensing strategy for targeting SEDER and VMS-type PbZn deposits. The investigation was two-folded. Firstly, based on the available literature, descriptive models were compiled for several types and subtypes of PbZn deposits and optimum spectral bandwidths covered by contemporary multispectral sensors were suggested for detection of their primary geologic features. Secondly, the detection model was tested in the Salobro Zn(Pb) Prospect (Porteirinha - MG), considering GEOSCAN data that consist of 24 spectral bands at 5m spectral resolution. The descriptive models unanimously indicate that SEDER and VMS deposits differ mostly by their host rocks, which are sediments and volcanics, respectively. The characteristics of SEDER deposits that are potentially detectable by remote sensing comprehend primary and secondary alteration assemblages, whereas VMS deposits can be sensed by their ordinary host rocks. Before the conceptual detection model was tested in the Salobro Prospect, a geologic surveying followed by petrographic and spectral analysis were accomplished in order to tune the model to a list of local geologic observational phenomena at the surface (e.g., favourable host rocks, alteration patterns, structural controls) that might lend themselves to remote sensing investigation. The list of observational phenomena were then filtered by a set of physical environmental constraints (climate, vegetation and soil cover) to produce a new set of landscape attributes (detectable phenomena) that stood a reasonable chance of being detected and exploited in this particular study area. Dense vegetation (even in dry seasons) and soil (either in situ or transported) cover most of rocks throughout the prospect, which limits considerably the observational features, screening the detectable features to a few. Among the main detectable features are the Zn ore zone (ferrous metachert) and banded iron formations closely associated to it. Key spectral bandwidths to detecting these two sets of rocks and that are simultaneously available within GEOSCAN data, comprise: (i) 300-1000 nm - covering the visible and near infrared region of the spectrum, for iron oxides and hydroxides; and (ii) 8500-12500 nm - covering the thermal region, for mapping silica-rich rocks. A reasoned thematic mapping approach, favoured in this study, tailored image processing of GEOSCAN data to the specific attributes of interest, focusing on the detectable features yielded from this view, image processing was split in two steps: (i) a basic toolkit for image processing, including colour composite images, band ratios and principal component transformations, were applied to the data aiming to discriminate between the key rocks of the prospect; (ii) spectral classifiers (SAM and SFF) were then employed to identify such rocks based on spectral libraries. As predicted by the detection model, both sets of techniques, particularly the ordinary ones (e.g., band 20-9170 nm at 530 nm; band 14-2176 nm at 44 nm and band 6-740 nm at 23 nm, in RGB), were able to successfully map the surface expression of the ore zone and the banded iron formations within the prospect. However, most of the other geologic features associated to the deposit were masked by vegetation and soil cover. This research has demonstrated that theoretical exploration models based on remote sensing data can sufficiently support the indirect targeting of base metal deposits. However, the physical environment at the surface as well as the choice of remote sensing data may constrain the suitability of the model for a particular scale. Using the Salobro Prospect as a control, this work showed that the application of a specific detection model coupled with the moderately high spatial and spectral resolution of GEOSCAN data was able to define the ore zone accurately, an achievement that has been rarely repeated in tropical terrains.

Amaral, C.A. 2000. Correlation between seismicity and morpho-structural context in João Câmara and São Rafael/RN regions. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 019/PPGG

DataBase Ref.: 1028

2000

Date of presentation:

Cristiano de Andrade Amaral

Advisor(s): Bezerra, F.H.R.

Committee:

Subject of thesis:

State: RN

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract**Aquino, W.F. 2000. Electromagnetic geophysical methods applied to the diagnosis of soils and underground water contamination in industrial residual infiltration area. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp**

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1916

2000

Date of presentation: 4/4/2000

Wagner França Aquino

Advisor(s):

Committee:

Subject of thesis: Geophysics

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Astolfo, R. 2000. Influence of the vegetal cover in the chemical composition of sediments in suspension in a small hydrographic basin at the northeastern of Amazonian region. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1924 2000 Date of presentation: 17/4/2000

Rosana Astolfo

Advisor(s): Forti, M.C.

Committee:

Subject of thesis: Environmental Geochemistry

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Barreto Neto, A.A. 2000. Accuracy patterns in geological data bank aiming the determination of Pb, Zn and Ag anomalous areas using georeferenced information system. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 980220

DataBase Ref.: 901 2000 Date of presentation: 16/1/2000

Aurélio Azevedo Barreto Neto

Advisor(s): Silva, A.B.

Committee:

Subject of thesis: Metallogenesis

State: BA 1/1,000,000 sheet: SC22 Centroid of the area: ' - 'W

Abstract

The Una-Utinga Basin has been known as a favorable environment for mineralizations of Pb, Zn and Ag. This basin consists of a large carbonate platform which was formed during the Neoproterozoic. In this platform there are several occurrences of these mineralizations, always associated with faults and fractures, displaying a clear litho-structural control. The most important geological studies in the area were carried out by CPRM (Mineral Resources Exploration Company) that indicated some anomalous areas for Pb, Zn e Ag on the basis of soil and stream sediment geochemical data. Soil geochemistry and elevation data related to the target area were used to carry out a study in which three methods of interpolation were assessed: inverse distance to power, kriging and minimum curvature. This assessment had the objective of identifying the interpolation method which better preserved the original data in the generation of continuous surfaces, using the residual analysis to identify the inferred mistakes in the interpolations. The sediment stream data when overlaid with the maps of drainage basin permitted the identification of anomalous basins for Pb, Zn, V and Ag, which were used to audit the delimited areas by CPRM. The anomalous areas obtained by the three interpolation methods and the anomalous drainage basins were confronted with the delimited areas by CPRM through a Geographic Information Systems (GIS) to identify the level of concordance with the terrestrial reality, making use of Moran Index, Geary Index and Kappa Index. This technique proved to be very useful to audit the data presented by CPRM and to verify its level of accuracy.

Barros Neto, L.S. 2000. Structural evolution of the Campos Verdes esmerald district, Goiás state. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

[Emerald, Santa Terezinha sequence, structural evolution, sheat folds, isotopes](#)

Instituto de Geociências - Universidade de Brasília

Reference: M149

DataBase Ref.: 209 2000 Date of presentation: 7/7/2000

Leonel de Souza Barros Neto

Advisor(s): D'el-Rey Silva, L.J.H.

Committee: Elton Luiz Dantas - IG/UnB
Hans Dirk Ebert - IGCE/UNESP

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

This dissertation reports the results of a research carried out in the northwestern part of the State of Goiás, specifically in the region of Campos Verdes and Santa Terezinha de Goiás, addressing the structural evolution of the emerald district and its neighborhoods, with the aid of complementary isotopic studies (Sm-Nd system). The study area, a 370 Km² rectangle bounded by meridians 49°35'29" and 49°48'05" West and parallels 14°11'50" and 14°22'38" South (the town of Campos Verdes lies in the central-northeastern part of the area) has been mapped in the 1:25,000 scale. Lithostratigraphy comprises an Archaean unit consisting of well-banded amphibole gneisses that crop out in the eastern part of the area and also in the nucleus of the Santa Cruz dome, this one situated in the southwestern corner of the area, and a Neoproterozoic unit composed of the Santa Terezinha

Sequence and a packet of mylonitic gneisses that rest structurally on the sequence and is intruded by the São José do Alegre granite. The sequence covers the gneisses of the dome and of the eastern part of the area, and consists of siliciclastic and chemical meta-sediments, meta-volcanics and emerald-bearing talc schists. To the northeast, the Neoproterozoic unit is in continuity with those that form the Goiás Magmatic Arc in the Mara Rosa region.

All rocks are highly deformed and metamorphosed under greenschist facies, as a result of the Brasiliano orogeny (650 My) but the Archean unit also records one or more older tectonic cycles (not studied in detail). The data define a progressive evolution according to three deformation events, D1-D3, which in the archean rocks are denominated Dn+1 – Dn+3 and have affected an amphibolite facies metamorphic banding. They also permit to divide the area into five lithostructural domains: the Santa Cruz dome, the anfibolitic gneisses, the regional domain, the São José do Alegre granite, and the Rio do Peixe synclinary. Together with the metamorphic banding of the Archean gneisses (Sn) and the sedimentary layering (So) of the Santa Terezinha Sequence rocks, the D1-D2 planar structures define a highly anisotropic packet of S-L tectonites, with a strong intersection lineation displaying rakes that vary from sub-parallel to sub-perpendicular to the strike of So/S1/S2. The rocks in the area trend SW-NE and dip to NW, and are organized in a vertical cross-section according to a geometry of thrust faults of low angle of dip to NW (frontal ramps) associated to F2 folds with axial planes also dipping to NW, as the result of an inter-layer shearing regime, with a ductile flow in the NW-SE direction and vice-versa, corresponding to a maximum sub-horizontal compressive tension (s_1) in the 2900 - 3000 / 1100-1200 direction.

The Rio do Peixe synclinary is a NNW-SSE trending F3 structure parallel to the F2 sheath folds that control the emerald mineralization. The rotation of the structures from the SW-NE regional direction to the NNW-SSE direction was facilitated by the talc schists and by ductile lateral ramps developed since D2 and also during D3, under the same regional compression. The Santa Cruz dome is a F3 braquianticline oriented similarly as the synclinary. The slide of the rocks along the ramps originated the E-W shortening responsible for the F3 folds in the Rio do Peixe and Santa Cruz dome domains. The internal flow of the matter, associated with the anisotropy formed by the F2 sheath folds, may have also contributed in process. The emerald district and its surroundings occupies the eastern part of the hinge zone of a F3 regional antiform, the oriental limb of which stretches for several kilometers to the northeast, up to the city of Mara Rosa.

The Sm-Nd data indicate that the Santa Cruz dome gneisses are Archean and are partially derived from crustal sources (TDM = 2,95Ga, eNd between – 31,95 and – 35,19), whereas the sericite quartzites (TDM = 2,83 Ga, eNd = -22,67) that surrounds the dome and are the base of the Santa Terezinha Sequence, were derived from these gneisses or from other rocks of similar age. These data, associated with the nature of other rocks of the Santa Terezinha Sequence, allow to envisage deposition of the sequence in a back-arc basin bounded to the west by the magmatic arc under evolution in the Neoproterozoic and, to the east, by the adjacent continental margin. The mylonitic gneisses and the São José do Alegre granite possibly derive from partial melting of the same crustal source (TDM between 1,56 and 1,71 Ga, eNd between –10 and –8,88 for the set). The age of 529 ± 190 My (Sm-Nd whole rock isochron) of the granite is interpreted as the age of the end of metamorphism, and also for the end of deformation, since the intrusion is sin-D1/D2. The emeralds formed brasiliano cicle by interaction of fluids derived from granites with the chrome-bearing ultramafic rocks precursors of the talc schists. A granite dike which cut across slices of mylonitic gneiss within the São José do Alegre granite (eNd = - 6,32) derives from the underlying continental crust and possibly determines the end of deformation in the area.

Bottino, E.C.C. 2000. Typology, mineralogic and economic aspects of the diamond deposits of Jequitai and Francisco Dumont regions (MG state). MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 51

DataBase Ref.: 2394 2000 Date of presentation: 30/10/2000

Elaine Cristina de Castro Bottino

Advisor(s): Chaves, M.L.S.C.

Committee: Alexandre Uhlein - IGC/UFMG
Jéssica Beatriz de Carvalho - CVRD

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Campello, M.S. 2000. Technologic characterization of ornamental granites - mounting of laboratory and routines for essay realization. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 53

DataBase Ref.: 2396 2000 Date of presentation: 10/11/2000

Marcos Santos Campello

Advisor(s): Costa, A.G.

Committee: Vitória Régia Peres da Rocha - IGC/UFMG
Adejardo Francisco da Silva Filho - DG/UFPE
Antonio Neves de Carvalho Júnior - IGC/UFMG

Subject of thesis: Economic and Applied Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Cardoso, A.G.A. 2000. Distribution of metals in sediments of the Ribeira bay, Angra dos Reis, Rio de Janeiro state. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

metals, Ribeira Bay, coastal regions, sediments, cluster analysis, normalization

Instituto de Geociências - Universidade de Brasília

Reference: M148

DataBase Ref.: 208 2000 Date of presentation: 27/4/2000

André Gustavo Assumpção Cardoso Advisor(s): Boaventura, G.R.

Committee: Roberto Ventura Santos - IG/UnB
Julio Cesar de Faria Alvim - UFF

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Industrialization especially in coastal regions, has driven investigators to preferentially research metal distribution in contaminated areas. However, a reliable database from non-impacted areas, against which would be possible to assess contamination, is still lacking. The aim of this work is to provide comparison parameters from the study of one such non-impacted area, the Ribeira Bay, in Angra dos Reis region, Rio de Janeiro state. A total of 23 samples of surface sediments were collected in the Bracuí Cove, along the Ribeira Bay. The concentrations of Ti, Ca, Mg, Fe, Al, Sr, La, V, Y, Ni, Cu, Cr, Mn and Zn were determined by ICP/AES, and Hg was determined by CVAAS. The results were normalized with Al and metals were classified in 4 groups, with respect to Al: correlated, intermediate, inversely correlated and non-correlated. In 2 points (BR 04 and BR 21), the control exerted by clay minerals as sediments constituents was confirmed by XRD. A cluster analysis of the data confirmed the results of normalization, except for Hg. This element is in fact associated with the organic matter found in the same grain-size fraction as the clays. The sampling sites were also treated by cluster analysis, which allowed the distinction of 3 main groups on the basis of grain-size, Fe and Al concentration (continental input), and Ca and Sr concentration (marine input). The sediment cores analysed can be distinguished as a function of grain-size. The sediment core 1 (T-1) presented an enrichment at the top layers, caused by intensive continental input. The sediment core 2 (T-2) had a coarser granulometry, which dilutes major-element concentrations, and presented abnormal high Cr and Zn concentrations. The normalization and the cluster analysis demonstrated the relative importance of climatic factors, hydrodynamic factors, and the characteristics of the original soil, on the metals distribution in the region. The study confirmed that the region has a naturally high background metal content, in comparison with both shales and other impacted and non-impacted regions.

Coelho, V.M.T. 2000. Protection perimeter for natural mineral water fountain. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2274 2000 Date of presentation:

Virgínia Maria Tezzoni Coelho Advisor(s): Duarte, U.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Conceição, F.T. 2000. The method of uranium isotopic unbalance applied to the study of weathering in Rio Corumbataí river basin (SP). MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 142 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR072

DataBase Ref.: 919 2000 Date of presentation: 18/5/2000

Fabiano Tomazini da Conceição Advisor(s): Bonotto, D.M.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Costa, M.N.S. 2000. Carbon and oxygen Isotope study and petrographic characterization of the Balancão and Serrotinho bodies in the Level 11 of the Cuiabá Mine, Quadrilátero Ferrífero, State of MG. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 52

DataBase Ref.: 2395 2000 Date of presentation: 30/10/2000

Marcos Natal de Souza Costa Advisor(s): Lobato, L.M.

Committee: Carlos Maurício Noce - IGC/UFMG
 Roberto Ventura Santos - IG/UnB
 Elizabeth da Fonseca - CVRD

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Cuchierato, G. 2000. Technologic characterization of the aggregate minning residua in the São Paulo metropolitan area (RMSP), aiming its economic use. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2273 2000 Date of presentation:

Gláucia Cuchierato Advisor(s): Sant'Agostino, L.M.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Dehler, H.R.S. 2000. Mineral chemistry and petrography of the São Francisco rapakivi granitic massif, south of São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 115 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1271 2000 Date of presentation: 30/10/2000

Heloísa Rodrigues de Souza Dehler Advisor(s): Machado, R.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Dias, F.P. 2000. Analysis of the susceptibility and landsliding in the Bairro Saco Grande, Florianópolis city-SC state. MSc Thesis, University Federal of Santa Catarina, Brazil, pp.

Universidade Federal de Santa Catarina

Reference:

DataBase Ref.: 1711 2000 Date of presentation: 15/12/2000

Fernando Peres Dias Advisor(s):

Committee:

Subject of thesis:

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Enrich Rojas, G.E. 2000. Geology and mineral chemistry of Monte de Trigo island, northern shore of São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 227 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1198 2000 Date of presentation: 14/12/2000

Gaston Eduardo Enrich Rojas Advisor(s): Ruberti, E.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Fantinel, L.M. 2000. Field practices in introductory geology - Paper of field activities in the teaching of geology fundaments at the Geography course, Univesity Federal of Minas Gerais (UFMG). MSc Thesis,

Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 971821

DataBase Ref.: 896

2000

Date of presentation: 29/2/2000

Lucia Maria Fantinel

Advisor(s): Cunha, C.A.L.S.

Committee:

Subject of thesis: Education Applied to Earth Sciences

State:

1/1,000,000 sheet:

Centroid of the area:

'W

Abstract**Ferron, J.M.T.M. 2000. Geostatistics evaluation of the tin-tungsten deposit related to the Correias-Ribeirão Branco granitic massif - SP state. MSc Thesis, Institute of Geosciences, University of São Paulo, 110 pg.**

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 299

2000

Date of presentation: 29/3/2000

José Maximino Tadeu Miras Ferron

Advisor(s): Yamamoto, J.K.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP

1/1,000,000 sheet:

Centroid of the area:

'W

Abstract

This dissertation presents the results of a geostatistical study carried out on exploration data from the Sn-W deposit related to the Correias Granitic body, located in the district of Ribeirão Branco - SP. This mineral deposit was intensively explored by Mineração Taboca S.A., in cooperation with Instituto de Pesquisas Tecnológicas do Est. de São Paulo - IPT. About 5000 meters of diamond drill holes have been made, which resulted in the discovery of six bodies of Sn-W mineralized greisens. These bodies present dimensions varying from 20 to 200m and are close each other drawing a highly complex geometry. The mineralization is associated with albitites and greisens derived from tardi to post-magmatic alterations associated with the granitic dome. The exploration data coming from samples gathered along 5000 m of diamond drill holes constitute the data-base for this research. All available data were plotted in horizontal and vertical sections in order to proceed the geological interpretation which allowed delineation of mineralized greisen bodies. For this interpretation were considered not only Sn-W grades but also the field observation and the geological model of the mineralization. This step has to precede any further processing because it allows separation between ore and waste or host rocks. Thus in order to characterize the greisen bodies statistical and geostatistical analyzes were carried out. Based on the variogram model draft in the previous analysis ordinary kriging was applied to evaluate the measured mineral resources in the Correias Deposit. The final results of this evaluation study indicate that the Correias Deposit presents a total of 1,472,492 t of ore with average grades of 0.130% of Sn and 0.043% of W, which corresponds respectively to 1907 t of Sn and 631 t of W.

Filgueiras, A.M.C. 2000. Lithostructural studies of the Greenstone Belt Morro do Ferro between the Mumbuca and the Morro do Ferro belts, Minas Gerais state and its implication in the sulfide mineralizations. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 980218

DataBase Ref.: 899

2000

Date of presentation: 10/11/2000

Alexandre Mattos da Cruz Filgueiras

Advisor(s): Chouduri, A.

Committee:

Subject of thesis: Metallogenesis

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

'W

Abstract

The area studied is situated in the southwest part of Minas Gerais State, near the towns Passos and Fortaleza de Minas. The limits of the terranes are given by the coordinates UTM 7682-7690 N and 320-340 E. The main objective of the dissertation is to study the litho-structural relationship between metaultrabasic/metabasic lithologies present in the area. These rocks are limited spatially and form elongated shapes in the gneissic-granitic-migmatitic basement. Regionally, these lithologies belong to the Northern Domain of the Campos Gerais Complex, more exactly to the Morro do Ferro Greenstone Belt, composed of Meta-Volcano-Sedimentary Sequence of komatiitic origin. This Greenstone Belt has undergone heterogeneous and progressive metamorphism varying from greenschist facies to upper amphibolite-granulite facies. The study of these rocks reveals metamorphic differences between two groups of metaultrabasic/metabasic rocks separated structurally by a brittle transcendent shear zone with sinistral movement, named ZC2, that developed on a larger and older ductile shear zone, named ZCI. The terrane has the same regional direction trend WNW / ESE, having been affected by similar structural episodes. This structural characteristic favors the present geometry and distribution of the greenstone remnants as well as the contacts with the other lithologies. The first belt of metaultrabasic/metabasic rocks, named Morro do Ferro sub-area, shows the mineral association: Mg-chlorite, hornblende and cummingtonite. The amphibolites studied in this terrane have the paragenesis: plagioclase, cummingtonite and hornblende. These rocks show metamorphic condition in amphibolite facies. The second group occurs in the Mumbuca sub-area, and the main lithotype has the paragenesis: orthopyroxene, hornblende ± olivine + green spinel. This rock

type is connected with some amphibolites bodies, and at placas shows traces of granulite fácies paragenesis: orthopyroxene, clinopyroxene, plagioclase and hornblende. These rock Bassociation show peak metamorphism in granulite fácies. The present juxtaposition of these two tectonic sub-areais, formed in distinct crustal levels, is thought to have resulted by vertical movement, block faulting and uplift associated with the regional transcurrent shear zone (ZC2), which cuts across the greenstone belt and has remodelled the terranes.

Franco, A.C. 2000. Teeth of Theropodomorphos from Upper Cretaceous of Paraná basin: Electronic scattering microscopy analysis. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 113 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR071

DataBase Ref.: 920 2000 Date of presentation: 25/2/2000

Aldirene Costa Franco

Advisor(s): Bertini, R.J.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Freitas, F.C. 2000. Geothermobarometry and metamorphic evolution of granulitic rocks from Socorro region - SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 175 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 44 2000 Date of presentation: 13/12/2000

Fernando Camargo Freitas

Advisor(s): Juliani, C.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet:

SF23

Centroid of the area: ' - 'W

Abstract

Fuck, R.F. 2000. Interpretation of magnetometric, electromagnetometric and gammaspectrometric data of the Carajás region-Pará state, Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Magnetometry, eletromagnetometry in time domain, gama-spectrometry, geologic mapping, mineral prospection, Fe-Au-Cu-U-REE deposits, Mn deposits.

Instituto de Geociências - Universidade de Brasília

Reference: M147

DataBase Ref.: 207 2000 Date of presentation: 20/1/2000

Rodrigo Felício Fuck

Advisor(s): Moraes, R.A.V.

Committee: Claudinei Gouveia de Oliveira - IG/UnB

Luiz Fernando Santana Braga - GEOMAG

Subject of thesis: Prospection and Economic Geology

State: PA 1/1,000,000 sheet:

SB22

Centroid of the area: ' - 'W

Abstract

Although the Carajás Mining Province contains a number of world class deposits of Fe, Mn, Cu, Au and Ni, it remains widely unexplored. Recent discoveries of Fe-Cu-Au-U-REE deposits have triggered a competitive surge of mineral exploration. In this context, airborne geophysical data are critical since they are cost-effective in assessing large areas and focusing follow up in otherwise limited outcrop and difficult to access rainforest terrain. Joint interpretation of airborne geophysical high resolution datasets (250 m line spacing) was carried out in an area of 900km², which is located in the central part of the Carajás Mining Province.

The geology comprises Archaean meta-volcanosedimentary sequence (Grão-Pará Group), overlaid discordantly by Archaean siliciclastic rocks (Águas Claras Formation). Both are cut by Proterozoic anorogenic granite (Granito Central Carajás) and minor gabbroic intrusives of unknown age. NW-SE transcurrent fault zones caused strong deformation. Sandstones of the Águas Claras Formation host a set of Cu-Au mineralized quartz veins in NE-SW fault zones, where supergene gold enrichment occurred. Gamma-ray spectrometric data draped over digital elevation model enabled detailed subdivision of lithological units and regolith reconnaissance, despite vegetation cover and thick weathering layer. Phase and amplitude of simple and enhanced analytical signals of the residual magnetic field intensity provided information on magnetic sources as well as on geological structures. These included the recognition of pervasive NE-SW faulting even within the anorogenic granite, which was previously regarded as an almost non-deformed body. Time domain electromagnetics also helped on further characterization of lithological units. In this regard, conductivity depth images (CDI) were especially useful in adding fine detail to interpreted geological map, besides giving unique information concerning subsurface structures and geology.

Another data integration spin-off is identification of prospective locations within the study area for Fe-Cu-Au-U-REE or pyrolusite-rich manganese deposits. This process is based on ideal geophysical signatures due to such deposit types. For the first deposit

type the geophysical signature has been derived from observed geophysical data and known geology of the Águas Claras deposit as well as from some other known Fe-Cu-Au-U-REE deposits elsewhere in the province. Likewise, the data on the Azul Manganese Mine provided the basis upon which prospective areas for manganese deposits could be delineated.

Guimarães, F.R. 2000. Use of Landsat TM5 satellite images and of geographic information system in the geologic study of the Minas-Bahia graphitic province - Northeastern Sector. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 50

DataBase Ref.: 2393 2000 Date of presentation: 27/10/2000

Fernando Rosa Guimarães Advisor(s): Pedrosa-Soares, A.C.

Committee: Britaldo Silveira Soares Filho - IGC/UFMG
Fernando Flecha de Alkmim - DEGEO/UFOP
Alvaro Pentead Crôsta - IG/UNICAMP

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

Kahwage, M.A. 2000. Gemstone minerals of the Araçuaí-Itinga region (MG state): Occurrence, characteristics and ore treatment methods. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 46

DataBase Ref.: 2389 2000 Date of presentation: 22/3/2000

Márcio Aleixo Kahwage Advisor(s): Karfunkel, J.

Committee: Antônio Gilberto Costa - IGC/UFMG
Maurício Veloso Brant Pinheiro - IGC/UFMG

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Lamour, M.R. 2000. Sedimentary dynamics in the Gelheta channel, access way to Paranaguá port. MSc Thesis, Department of Geology, University Federal of Paraná, pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 761 2000 Date of presentation:

Marcelo Renato Lamour Advisor(s): Angulo, R.J.

Committee: Guilherme Camargo Lessa -
Moyses Gonzalez Tessler -

Subject of thesis: Environmental Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Lazarini, A.P. 2000. Petrology of the metabasites/ultrabasites from Águas de Lindóia region. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 134 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR070

DataBase Ref.: 921 2000 Date of presentation: 18/2/2000

Ana Paula Lazarini Advisor(s): Zanardo, A.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Leite, E.P. 2000. Interpretation of geoide and free-air anomalies at the southern continental margin of Brazil: Rio-Grandense shield and southeastern of Rio Grande cone. MSc Thesis; Institute of Astronomy,

Geophysics and Atmospheric Sciences, University of São Paulo, São Paulo, 60 pp

Instituto Astronômico e Geofísico- Universidade de São Paulo

Reference:

DataBase Ref.: 1481 2000 Date of presentation: 18/4/2000

Emilson Pereira Leite Advisor(s): Ussami,N.

Committee:

Subject of thesis: Geophysics

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract**Liotte,S.V. 2000. Use of geoprocessing techniques aiding the physico-territorial planning of the Pariqueira-Açu municipality/SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp**

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2269 2000 Date of presentation:

Sérgio Vicente Liotte Advisor(s): Macedo,A.B.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract**Machado Filho,J.G. 2000. Slopes stability and geological, geomorphological and structural constraints, in a section of the Serra de Cubatão range. MSc Thesis, Institute of Geosciences, University of São Paulo, 172 pg.**

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 297 2000 Date of presentation: 1/7/2000

José Gonçalves Machado Filho Advisor(s): Sadowski,G.R.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Serra de Cubatão, local denomination of Serra do Mar ridge is predominantly constituted by metamorphic rocks of high and medium grade which belong to the Upper Proterozoic Embu and Costeiro Complexes. They include gnaisses, granite-gnaisses, schists, phyllites, mylonites, quartzites and carbonates.

Its origin is intimately linked to the origin and development of the Brazilian southeastern coast, which began in the Jurassic/Early Cretaceous with separation of South America from Africa, during the break-up of Gondwana land.

The lithologic contacts in the area are quite lineal and sub-parallel, accompanying the local strike of the Cubatão Fault, N 50°- 60°. That is also the main regional trend of folds, faults, foliations, granitic intrusions, etc.

The alteration profile in the scarps is basically represented by the sequence coluvial soil/residual soil/weathered rock/rock, with several local talus occurrences. The alteration thickness reaches dozens of meters close to the border of the Paulistano Highlands (about 750m of altitude), declining in lower altitudes. Below the altitude of 300m, its thickness is reduced to a few meters and rock appears along the drainage lines and on the slopes.

Along the years the area has been subjected to mass movements related to the geomorphic evolution of the scarp, represented as much as slow movements ("rastejo"), as cyclical landslides in the rainy seasons leaving extensive scars in the landscape. The high pluviometric index, around 3500mm/year, allied to the abrupt relief, favor the landslides occurrences, which are always aggravated by local anthropic actions, such as road constructions, deforestations and disordered human settlements. One exemple are the Bairros-Cotas of Via Anchieta, with an estimated population of 30000 people.

The slopes in general are in precarious balance (Factor of safety ~1,0). Its stability is directly conditioned by geological, geomorphological and structural factors.

The predominant landslides are thin and superficial, affecting the coluvial soil, with failure surface on the contact with the saprolitic substratum, which can have some of its parts involved in the process. This type of landslides also affects talus zones, but in some cases related to the road cuts, talus present deep circular failures.

Plane failures are local, affecting saprolites and rocks.

The general discontinuities are disposed in patterns following or sub-normal to the general strike of the regional structures (N50°-60° ; N140°- 150°), with secondary families quite unfavourable for the stability of the slopes.

Maffra, C.Q.T. 2000. Structural geology of the crystalline basement of São Sebastião region, SP state: Evidences of a transpressive domain. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 113 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1209 2000 Date of presentation: 14/4/2000

Cristina de Queiroz Telles Maffra Advisor(s): Campanha, G.A.C.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: SG23 Centroid of the area: ' - 'W

Abstract

Martin, M.A.B. 2000. Geology, petrography and metamorphism of the Serra do Itaberaba and São Roque groups at the northwestern of the São Paulo city (SP state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1844 2000 Date of presentation: 18/9/2000

Marco Aurélio Bonfá Martin Advisor(s): Juliani, C.

Committee:

Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Martins, R. 2000. Petrographic characterization and mineral geochemistry of the ore bodies Fonte Grande Sul and Galinheiro, level 11, Mina de Cuiabá mine, Quadrilátero Ferrífero, State of MG. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 49

DataBase Ref.: 2392 2000 Date of presentation: 26/10/2000

Rodrigo Martins Advisor(s): Lobato, L.M.

Committee: Joel Jean Gabriel Quémèneur - IGC/UFMG

Jose Carlos Gaspar - IG/UnB

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Martins, V.T.S. 2000. Isotopic geology of the Faixa Araçuaí Neoproterozoic plutonism, Minas Gerais state northeastern region. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 187 p

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1621 2000 Date of presentation: 19/9/2000

Veridiana Teixeira de Souza Martins Advisor(s): Teixeira, W.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Mattosinho, M. 2000. The education aiming the environmental conservation of the Protected area of Sousas and Joaquim Egídio region, Campinas, SP. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 958778

DataBase Ref.: 897

2000

Date of presentation: 31/3/2000

Martha Mattosinho

Advisor(s): Carneiro, C.D.R.

Committee:

Subject of thesis: Education Applied to Earth Sciences

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This dissertation explores educational possibilities, addressed to local environmental problems, with the purpose of making teachers from schools in the Environmental Protection Area – EPA of Sousas and Joaquim Egidio aware of its environmental richness and complexity. The widening of critical spirit and citizenship by the local community is a specific objective. The research tried to develop environmental conservation postures among teachers, and, eventually, students and their relatives. Against destruction, the territory of the EPA, located at northeastern Campinas, has natural and cultural characteristics that deserve protection. The EPA is an exceptional place for education and environment conservation activities, here understood as a synonym of 'environmental education'. It is an alive laboratory that allows one to visit different echosystems that can be studied. Both formal and non-formal educational processes have been considered. The approach involved a survey on the reality of the schools, on teacher daily activities, as well as on motivation for local environmental questions. At the same time, specific information about the EPA, the management plan and the environmental legislation was made available to the participant teachers. A better professional performance of the teachers was stimulated by the identification of new general themes of interest. The selected themes are related to: (1) geology and physiography of the region; (2) historic formation; (3) water, pollution and flooding; (4) vegetation cover. All themes include suggestions of activities with students, giving emphasis to field practice (environmental studies). The work allows to conclude that an educational process addressed to the environment preservation is fundamental. Formal and non-formal educational activities are thus essential for the definition of such an EPA. It is clear that the community participation is slow and gradual, however, it leads to a consciousness where Education can be the best way to reach the purpose.

Medeiros, E.S. 2000. Platinum and palladium mineralization of the Niquelândia complex upper mafic zone, Goiás state. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

platinum, palladium, layered intrusion, mafic-ultramafic rocks, Niquelândia Complex

Instituto de Geociências - Universidade de Brasília

Reference: M151

DataBase Ref.: 211

2000

Date of presentation: 1/12/2000

Edson Souza Medeiros

Advisor(s): Ferreira Filho, C.F.

Committee:

Ariplino Antonio Nilson

- IG/UnB

Nelson Angeli

- IGCE/UNESP

Subject of thesis: Prospection and Economic Geology

State: GO

1/1,000,000 sheet:

SD22

Centroid of the area:

' -

'W

Abstract

The studied area of the Pt and Pd mineralization in the Niquelândia Complex comprises mafic and ultramafic rocks from the top of the Upper Mafic Zone (UMZ) of the complex. The mineralized horizon, identified in previous exploration program developed in the early 90', is associated to websterite and harzburgite of a cyclic unit. The sequence of cyclic units observed in the studied area occurs within a 10 kilometers-long to approximately 300 meters-wide zone called, in this study, Upper Group Pyroxenites (UGP). The UGP comprises interlayered gabbro-norite, plagioclase websterite and websterite with minor ilmenite and harzburgite. Pyroxenes from gabbro-norite samples stratigraphically below the UGP, within the UGP zone and above the UGP were analyzed and their compositional variations show consistent results with the petrologic evolution of the UMZ presented in previous studies. The compositional variation of cumulus orthopyroxene shows general trend of fractionation towards the top of the stratigraphy with progressive Fe enrichment. Several reversals observed within the trend are indicative of replenishment of the magma chamber with primitive magma and reflect the cyclic units. The rock composition and textures and the associated sulfides suggest typical magmatic mineralogy. In a section of one drill hole, the precious metals are concentrated (1,5 ppm Pt+Pd) in a 1 meter-thick stratigraphic interval close to the base of one specific cyclic unit. The Ni and S contents of the analyzed samples show a clear positive correlation with the distribution of Pt and Pd. Compositional variations of pyroxenes observed within the UGP show progressive Fe enrichment towards the top of the stratigraphy. Reversals within the fractionation trend suggest successive replenishment with primitive magma and this supports the assumption of the existing cyclic units. The olivines from the cyclic unit associated with the mineralized zone have a distinct composition. They are characterized by higher Ni content (0.19-0.29 %NiO) at lower forsterite contents (Fo78-80) when compared to the non-mineralized olivine-bearing layers (0.07-0.23 %NiO; Fo79-83). The Fo-Ni correlation is negative for the groups of distinct compositions. This feature cannot be explained by a single process and we suggest that both fractional crystallization, trapped liquid shift effect and re-equilibration with sulfides have all played a role in affecting the actual composition of the olivines. The association of the UGP with rocks from the top of the sequence is outlined in this study. The UGP and the mineralized horizon represent important stratigraphic markers that should be considered in future studies of correlation between the large layered complexes of central Brazil. The relatively low Pt and Pd contents may suggest the separation the sulfide liquid from a previously PGE-depleted magma, thus supporting the existence of a sulfide-associated PGE mineralization in the transition zone between the Ultramafic Zone and the Upper Mafic Zone of the Niquelândia Complex. The association of the mineralization with base metals sulfides in a specific cyclic unit, its stratiform nature and its location close to the base of the cyclic unit are common characteristics observed in the mineralized horizons in the Niquelândia Complex and in the complexes of Bushveld and Stillwater. Several characteristics of the mineralization in the Great Dyke and in the Skaergaard intrusion are distinct of those observed in the Niquelândia Complex and they rule out any possibility of correlation between the mineralizations of these complexes. The critical elements for an appropriate prospective evaluation of the Niquelândia Complex

should consider the existence of two petrologically distinct and juxtaposed magmatic systems, the evolution of the Lower Layered Series from a primitive magma in an open system with fractional crystallization and crustal contamination, the moment of sulfur saturation during crystallization of the Ultramafic Zone and separation of a sulfide liquid from a previously PGE-depleted magma.

Mendonça, J.B.S. 2000. Environmental impacts and seismic researches for hydrocarbons in the Paraná basin. MSc Thesis, Department of Geology, University Federal of Paraná, pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 762

2000

Date of presentation:

João Bosco de Souza Mendonça

Advisor(s): Ferreira, F.J.F.

Committee: Osni José Peton - IGc/USP
Luiz Eduardo Mantovani -

Subject of thesis: Environmental Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Nascimento, M.A.L. 2000. Petrology of the late-brasilian magmatism from São José de Campestre massif (RN/PB), with emphasis in alkaline Caxexa pluton. MSc Thesis no. 15, Pós-Graduação em Geodinâmica e Geofísica, University Federal of Rio Grande do Norte, Natal/RN, 142 p.

Caxexa Pluton; Alkaline Magmatism; Petrology; São José do Campestre Massif; Borborema Province

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: M015

DataBase Ref.: 721

2000

Date of presentation: 24/3/2000

Marcos Antonio Leite do Nascimento

Advisor(s): Souza, Z.S.

Committee: Jaziel Martins Sá - DG/UFRN
Herbet Conceição - IG/UFBA

Subject of thesis: Geodynamics

State: 1/1,000,000 sheet:

Centroid of the area: 06 48 's - 35 53 'W

Abstract

The area studied is located on the north-easternmost portion of the Borborema Province, on the so-called São José de Campestre Massif, States of RN and PB, Northeast Brazil. Field relations and petrographic, geochemical and isotope data permitted the separation of five suites of plutonic rocks: alkali-feldspar granite (Caxexa Pluton), which constitutes the main subject of this dissertation, amphibole-biotite granite (Cabeçudo Pluton), biotite microgranite, gabbro-norite to monzonite (Basic to Intermediate Suite) and aluminous granitoid.

□ The Caxexa Pluton is laterally associated to the Remígio – Pocinhos Shear Zone, with its emplacement along the mylonitic contact between the gneissic basement and the micashists. This pluton corresponds to a syntectonic intrusion elongated in the N-S direction, with about 50 km² of outcropping surface. It is composed exclusively of alkali-feldspar granites, having clinopyroxene (aegirine-augite and hedenbergite), andradite-rich garnet, sphene and magnetite. It is classified geochemically as high silica rocks (>70 % wt), metaluminous to slightly peraluminous (normative corindon < 1%), with high total alkalis (>10% wt), Sr, iron number (#Fe=90-98) and agpaitic index (0.86-1.00), and positive europium anomaly.

□ The Cabeçudo Pluton is composed of porphyritic rocks, commonly containing basic to intermediate magmatic enclaves often with mingling and mixing textures. Petrographically, it presents k-feldspar and plagioclase phenocrysts as the essential minerals, besides the accessories amphibole, biotite, sphene and magnetite. It is metaluminous and shows characteristics transitional between the calc-alkaline and alkaline series (or monzonitic subalkaline). Its REE content is greater than those ones of the Caxexa Pluton and biotite microgranite, and all spectra have negative europium anomalies.

□ The biotite microgranites occur mainly in the central and eastern portion of the mapped area, as dykes and sheets with decimetric thickness, hosted principally in orthogneisses and micashists. Their field relationships as regards the Caxexa and Cabeçudo plutons suggested that they are late-tectonic intrusions. They are typically biotite granites, having also sphene, amphibole, allanite, opaques and zircon in the accessory assemblage. Geochemically they can be distinguished from the porphyritic types because the biotite microgranites are more evolved, peraluminous, and have more fractionated REE spectra.

□ The Basic to Intermediate rocks form a volumetrically expressive elliptical, kilometeric scale body on the Southeast, as well as sheets in micashists. They are classified as gabbro-norites to monzonites, with the two pyroxenes and biotite, besides subordinated amounts of amphibole, sphene, ilmenite and allanite. These rocks do not show a well-defined geochemical trend, however they may possibly represent a monzonitic (shoshonitic) series. Their REE spectra have negative europium anomalies and REE contents greater than the other suites. The aluminous granitoids are volumetrically restricted, and have been observed in close association with migmatized micashists bordering the gabbro-norite pluton. They are composed of almandine-rich garnet, andalusite, biotite and muscovite, and are akin to the peraluminous suites.

□ Rb-Sr (whole rock) and Sm-Nd (whole-rock and mineral) isotopes furnished a minimum estimate of the crystallization (578±14 Ma) and the final resetting age of the Rb-Sr system (536±4 Ma) in the Caxexa Pluton. The aluminous granitoid has a Sm-Nd garnet age similar to that one of the Caxexa Pluton, that is 574±67 Ma. The strong interaction of shear bands and pegmatite dykes favoured the opening of the Rb-Sr system for the Caxexa Pluton and biotite microgranite.

□ The amphibole-plagioclase geothermometer and the Al-in amphibole geobarometer indicate minimum conditions of 560°C and 7 kbar for the Cabeçudo Pluton, 730°C and 6 kbar for the microgranite and 743°C and 5 kbar for the basic to intermediate suite. The Zr saturation geothermometer reveals temperatures of respectively 855°C, 812°C and 957°C for those suites, whereas the

Caxexa Pluton shows temperatures of around 757°C. The Caxexa, Cabeçudo and microgranites suites crystallized under high fO₂ (presence of magnetite). On the other hand, the occurrence of ilmenite suggests less oxidant conditions in the basic to intermediate suite.

□ Field relations demonstrate the intrusive character of the granitoids into a tectonically relatively stable continental crust. This is corroborated by petrographic and geochemical data, which suggest a late- or post-collisional tectonic context. It follows that the generation and emplacement of those granitoid suites is related to the latest events of the Brasiliano orogeny. Finally, the relationships between eNd (600 Ma), TDM (Nd) and initial Sr isotope ratio (ISr) do not permit to define the precise sources of the granitoids. Nevertheless, trace element modelling and isotopic comparisons suggest the participation of the metasomatised mantle in the generation of these suites, probably modified by different degrees of crustal contamination. In this way, a metasomatised mantle would not be a particular characteristic of the Neoproterozoic lithosphere, but a remarkable feature of this portion of the Borborema Province since Archaean and Paleoproterozoic times.

Newerla, V.B. 2000. Rivers visited and revisited: The exploratory expeditions of the "sertão" Geographic and Geological Commission in the History of Science and Natural Sciences Teaching. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 865180

DataBase Ref.: 898

2000

Date of presentation: 29/2/2000

Vivian Branco Newerla

Advisor(s): Figueirôa, S.F.M.

Committee:

Subject of thesis: Education Applied to Earth Sciences

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Odo, M.Y.K. 2000. The radiocharbon method: Principles, techniques, applications and characteristics of an 80 ml proportional counter. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 151 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1253

2000

Date of presentation: 4/9/2000

Marisa Yukie Kawashita Odo

Advisor(s): Rebouças, A.C.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Ogihara, S.H. 2000. Evaluation of environmental investigation and intervening technology applied to an industrial area with high concentration of hydrocarbons. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2268

2000

Date of presentation:

Sérgio Hiroshi Ogihara

Advisor(s): Casarini, D.C.P.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

Oliveira Jr, V.T. 2000. Microstructural and textural characterization of the Mina de Conceição mine (Itabira - MG) iron ore. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 180 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR075

DataBase Ref.: 918

2000

Date of presentation: 26/7/2000

Valter Teodoro de Oliveira Junior

Advisor(s): Hackspacker, P.C.

Committee:

Subject of thesis: Regional Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Oliveira, M.S.C. 2000. The sambaquis of the Joinville coastal plain, northern littoral of Santa Catarina state: Geology, paleogeography and conservation in situ. MSc Thesis, University Federal of Santa Catarina, Brazil, pp.

Universidade Federal de Santa Catarina

Reference:

DataBase Ref.: 1710 2000 Date of presentation: 20/10/2000

Mário Sérgio Celski de Oliveira

Advisor(s):

Committee:

Subject of thesis: Coastal and Sedimentary Geology

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Perosi, F.A. 2000. Deep seismic refractin in souteastern sector of Tocantins province. MSc Thesis; Instituto de Astronomia, Geofísica e Ciências Atmosférica - University of São Paulo; 115 p

Instituto Astronômico e Geofísico- Universidade de São Paulo

Reference:

DataBase Ref.: 1472 2000 Date of presentation: 31/7/2000

Fábio André Perosi

Advisor(s): Berrocal, J.

Committee:

Subject of thesis: Geophysics

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Prazeres Filho, H.J. 2000. Lithogeochemistry, geochronology (U-Pb) and isotopic geology of the Cunhaporanga and Três Córregos granitic complexes, Paraná state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 180 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1254 2000 Date of presentation: 27/9/2000

Hélcio José dos Prazeres Filho

Advisor(s): Basei, M.A.S.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Ribeiro, L.V. 2000. Dynamics of sediments transport by the analysis of spatial variation of the granulometry. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 48

DataBase Ref.: 2391 2000 Date of presentation: 25/10/2000

Luciano Versiani Ribeiro

Advisor(s): DuPont, H.S.

Committee: Elírio Ernestino Toldo Júnior - IG/UFRGS
Bruno Rabelo Versiani - IGC/UFGM
Jefferson Vianna Bandeira - CNEN

Subject of thesis: Economic and Applied Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Rodrigues, A.C.P. 2000. Mafic and ultramafic metamorphic rocks of the Barbacena Greenstone Belt, in the Itutinga region, Minas Gerais state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 980219

DataBase Ref.: 900 2000 Date of presentation: 21/6/2000

Analuiza Costa Pereira Rodrigues

Advisor(s): Chouduri, A.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

In the area around Itutinga-Nazareno, Minas Gerais State, at the southeastern limit of São Francisco Craton, there are outcrops of thick successions of volcanic mafic and ultramafic rocks that are the subject of the present study. This volcano-sedimentary succession is mainly constituted by metabasalts, metakomatiites and minor metasedimentary rocks, and is considered to be part of the Barbacena Greenstone Belt. Intrusive bodies of gabbroic composition also occur in the same area. The strip of the volcano-sedimentary rocks is parallel with the regional NE-SW trend in common with other similar greenstone strips in the surrounding areas. They are bordered and intruded to the NW and SE by granitic rocks (*sensu lato*). Partially preserved primary structures and textural features indicate a volcanic origin for the ultramafic rocks. A volcanic origin for the amphibolites (metabasalts) was inferred from their fine-grained texture and the close spacial relationship with the volcanic ultramafic rocks. The gabbroic rocks at times show rare preserved cumulate texture, attesting to their intrusive nature. The volcanic and plutonic rocks were metamorphosed in amphibolite or greenschist facies, or transitional between the two. Two metamorphic phases, M₁, M2a and M2b, and some deformational features correlated to the three regionally recognised events, D₁, D_n+, and D_n+2, were identified. The mafic and ultramafic volcanic and plutonic rocks show tholeiitic composition. The geochemical signature of the metabasalts is similar MORB, and the volcanic ultramafic rocks are clearly komatiitic.

Sales, A.M.F. 2000. Morphotectonic study of the setentrinal sector of the Moji-Guaçu lignement, São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 106 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1210 2000 Date of presentation: 22/2/2000

Alexandre Magno Feitosa Sales Advisor(s): Riccomini, C.

Committee:

Subject of thesis: Sedimentary Geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Santos, E.R. 2000. Mineral characterization and geological context of the Fazendinha mine clay, Tijucas do Sul-PR. MSc Thesis, Department of Geology, University Federal of Paraná, pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 752 2000 Date of presentation:

Elizabete do Rocio Santos Advisor(s): Biondi, J.C. Giannini, P.C.F.

Committee:

Mario Sérgio de Melo - UEPG_PR

Eleonora Maria Gouveia - DG/UFPR

Subject of thesis: Exploratory Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Silva, J.A. 2000. Structures of water accumulation in crystalline rocks: Geophysical study of cases in Rio Grande do Norte state. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 016/PPGG

DataBase Ref.: 1030 2000 Date of presentation: 13/4/2000

Jesimael Avelino da Silva Advisor(s): Medeiros, W.E.

Committee:

Subject of thesis:

State: RN 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Silva, M.D.F. 2000. Gemologic varieties of quartz in Minas Gerais state: Geology, mineralogy, origin of the colour, treatment techniques and marketing aspects. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 47

DataBase Ref.: 2390 2000 Date of presentation: 24/5/2000

Maurício Darcy Favacho da Silva

Advisor(s): Chaves, M.L.S.C.

Committee: Tânia Mara Dussin - IGC/UFMG
Roberto Staciulevicius - CNEN

Subject of thesis: Economic and Applied Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Silva, S.F. 2000. Evaluation of the Environmental Alterations in the Ribeirão do Piçarrão Hydrographic Sub-basin, Campinas - SP state. MSc Thesis - Escola de Engenharia de São Carlos, Universidade de São Paulo.

Universidade de São Paulo

Reference:

DataBase Ref.: 2510 2000 Date of presentation:

Sandra Fernandes da Silva

Advisor(s):

Committee:

Subject of thesis: Engineering geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Silva, V.R. 2000. Territorial occupation and underground water quality in fractured massif in Itaquera region, São Paulo - SP state. MSc Thesis, Institute of Geosciences, University of São Paulo, pg.

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 295 2000 Date of presentation: 1/3/2000

Valdeneide Regina da Silva

Advisor(s):

Committee:

Subject of thesis:

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The studied area is located in the eastern region of São Paulo city, in the Itaquera neighborhood. In this region the Companhia de Desenvolvimento Habitacional e Urbano do Estado de São Paulo – CDHU (one of the agencies which is in charge of supplying housing for the low income population) has been developing a project to settle more than 3.000 families. The present thesis is intended to improve the knowledge about the fractured aquifer in the region, to know groundwater feasibility use to supply the new population.

The study, in the 1:10.000 scale included a geological, landuse and qualitative hydrogeological surveys. The geological survey was focused, mainly, on structural characterization in order to determine the most suitable fracture families for groundwater exploration. The landuse survey covered industries, commerce and other activities present in the area, as well as the cataloguing of potential contamination sources. The hydrogeological survey consisted in the cataloguing of the wells and their production, constructive and conservation aspects and physical-chemical characteristics of the water.

The area is formed basically by proterozoic rocks of the Açungui Group (schists) and granite-gneiss. It was found that the groundwater occurs either in the porous aquifer (weathering soil and quaternary sediments) or in the fractured aquifer. The groundwater of the porous aquifer is exploited almost only by excavated wells. Otherwise, the groundwater of the fractured aquifer is exploited by deep wells and is destined to industrial supply, irrigation and human consumption. The schists are the most productive rock, due to the relatively thick weathering soil covering (about 54 meters) that should work as a reservoir connected to the fractured aquifer. The deep wells in these rocks presented flows of about 4,65 m³/h. The landuse of the area is diversified but predominates residential, commercial and industrial sectors. These occupations present several potential contaminant activities which might compromise the groundwater quality. However, the major contaminant problem (high nitrate concentration) was found to be related to the lack of basic sanitary conditions practly in the whole area. It is suggested that the groundwater might be used as complementary source to attend the population that will be settled in the area.

Silveira, A.S. 2000. Sequence stratigraphy and palaeo-environmental evolution in Permian sucession (Sakmarian-Eokazanian) of Paraná basin, between Rio Pardo and Mariana Pimentel (RS). MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 866 2000 Date of presentation: 12/9/2000

Ariane Santos da Silveira

Advisor(s): Paim, P.S.G.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Soares,U.M. 2000. The relationships between tectonism and depositional sequences in Potiguar rift - SW portion of the Umbuzeiro graben, Potiguar basin- emerged part. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 020/PPGG

DataBase Ref.: 1026

2000

Date of presentation:

Ubiraci Manoel Soares

Advisor(s):

Committee:

Subject of thesis:

State: RN

1/1,000,000 sheet:

SB24

Centroid of the area:

' -

'W

Abstract

Souza,M.G. 2000. Aeromagnetometry and remote sensing in Seridó/RN belt: Implications in tectonics and in control of deposits. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 017/PPGG

DataBase Ref.: 1029

2000

Date of presentation: 19/4/2000

Maurício Goes Souza

Advisor(s): Amaro,V.E.

Silva,F.C.A.

Committee:

Subject of thesis:

State: RN

1/1,000,000 sheet:

SB24

Centroid of the area:

' -

'W

Abstract

Swalf,P.S. 2000. Exploratory models of Morro do Ouro type gold deposits based on remote sensing data and techniques. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 980221

DataBase Ref.: 902

2000

Date of presentation: 10/3/2000

Patricia Seara Swalf

Advisor(s): Crósta,A.P.

Committee:

Subject of thesis: Metallogenesis

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

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'W

GO

Abstract

A method for the identification of metalotects related to Morro do Ouro-type gold deposits (DTMO) is proposed, based on remote sensing data and techniques. Samples from this type of deposit, collected at Paracatu (Minas Gerais State) and Luziânia (Goiás State), were studied through reflectance spectroscopy and petrography. The results showed that iron oxides and hydroxides, organic matter, phyllosilicates (mainly muscovite and clay minerals, such as smectite, kaolinite and illite) are the main constituents, responsible for the spectral signature of the phyllites which host the mineralization (Morro do Ouro and Serra da Anta units) and also that these two units can be mapped as a function of the intensity variation in the 2.2 µm spectral absorption feature. Remote sensors with bands located at this wavelength region are therefore the best choice for exploration of this type of deposit. Available geological data were integrated with spectral data, forming the basis for the exploration model. The spatial dimensions of metalotects and spectral resolution of the sensors were also taken into account in the model. Spectral curves of the samples were modeled according to the spectral resolution of Landsat/TM and ASTER. This latter sensor showed to be potentially important for the detection of DTMO metalotects, due to its better spectral resolution than TM. The exploration model was tested on a TM scene of the Paracatu region, using image processing techniques. Color composites of band ratios and band subtractions, principal component analysis and spectral classification routines such as SAM and SFF were used for enhancing spectral and spatial attributes related to the Morro do Ouro unit. The conception and application of the remote sensing exploration model for DTMO allowed the identification of the most suitable sensor for the task, to predict the detectability of structures and minerals assemblages associated with the mineralization and to establish an appropriate image processing strategy.

Trindade,I.R. 2000. Geochemical, geochronological and isotopic study in gold and sheelite mineralized shearing zones in Seridó belt and relationships with the host rocks. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 018/PPGG

DataBase Ref.: 1027 2000 Date of presentation: 31/5/2000

Ivaldo Rodrigues da Trindade Advisor(s): Sá, J.M.

Committee:

Subject of thesis:

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

Great part of the gold mineralizations are associated with shearing zones through which circulate a great volume of fluids, that interact with the host rocks, originating leaching or precipitation of chemical elements, including gold.

□ The studied mineralizations are inserted in the Seridó Belt. The tungsten mineralization in Brejuf Mine is hosted in calcsilicate rocks from Jucurutu Formation. The São Francisco auriferous mineralization has as host rocks mica-schists from Seridó Formation, while the Ponta da Serra and Fazenda Simpático mineralizations are hosted in orthogneisses of this fold belt basement.

The research conducted on these mineralizations had the purpose of integrate the data of chemical elements behavior during the shearing/mineralizing event, and its influence on the isotopic systems Rb-Sr and Sm-Nd.

The studies of chemical mobility in the auriferous mineralizations showed that elements that during the shearing displayed in general an immobile behavior were Al, Ti and Zr. Among the elements that were mobilized during the event, K and Rb showed mass gain in all belts of transformed rocks, while the elements Ca, Na and Sr normally lost mass.

□ Petrographic studies showed that the minerals biotite and plagioclase, in all investigated mineralizations, played an important role in the chemical reactions occurred in the transformed rocks to the generation of muscovite, cordierite and sillimanite, justifying the input of K to the formation of muscovite, and the release of Na and Ca from plagioclase to the fluid phase.

□ In the tungsten mineralization, the diagram Sm-Nd constructed with the whole-rock data of calcsilicatic and the high-temperature paragenesis (garnet, diopside and iron-pargasitic hornblende) indicated an 631 ± 24 Ma age, while with the whole-rock data and low-temperature paragenesis (vesuvianite, epidote and calcite), a 537 ± 107 Ma age was obtained. These ages, associated with the petrographic observations, suggest that there was a time gap among the hydrothermal events responsible by the formation of the high and low temperature paragenesis in the calcsilicatic rocks mineralized in scheelite.

□ In the São Francisco auriferous mineralization, the results of the Rb-Sr isotopic analysis yielded ages of 645 ± 19 Ma and 596 ± 17 Ma, with both samples, from original and transformed rocks. Two ages, 569 ± 20 Ma. and 554 ± 19 Ma., were obtained with samples from the transformed rocks domain. These ages suggest that there were two metamorphic pulses during the emplacement of the mineralized shearing zone. The Sm-Nd data yielded TDM ages of 1,31 Ga and 1,26 Ga with εNd (0,6 Ga) of -0,26 e -0,40 for the original and final transformed rocks, respectively.

□ In case of the orthogneisses of Caicó Complex, e.g. the Ponta da Serra and Fazenda Simpático mineralizations, the Rb-Sr data did not yield ages with geological significance. In the Ponta da Serra mineralization, the Sm-Nd isotopic data yielded TDM ages of 2,56 Ga and 2,63 Ga to the original rocks and of 2,71 Ga to the mineralized sheared rock, and values of εNd (2,0 Ga) between -3,70 e -5,42 to the original and sheared rock, respectively. In the Fazenda Simpático, Sm-Nd data yielded TDM between 2,65 and 2,69 Ga with values of εNd (2,0 Ga) between -5,25 e -5,52. Considering the Sm-Nd data, the TDM ages may be admitted as the age of the parental magma extraction, producer of the protoliths of the orthogneisses from Ponta da Serra and Fazenda Simpático mineralizations.

□ The chemical mobility studies showed that in the basement hosted mineralizations, Rb achieved mass while Sr lost mass, as Sm as well as Nd were strongly mobilized. The Sm/Nd ratio remained constant, however, confirming the isochemical character of those elements. In the basement mineralizations, Rb-Sr ages are destituted of geological significance, because of the partial opening of the isotopic system during the tectono-metamorphic transformations.

Vilela, L.G.G. 2000. Petrography, geothermobarometry and metamorphic evolution of high pressure basic granulites and transitional to eclogitic facies rocks of Lima Duarte region, MG state. MSc Thesis, Institute of Earth Sciences, University of São Paulo, 162 pg.

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 298 2000 Date of presentation: 7/7/2000

Luiz Gustavo Gallo Vilela Advisor(s): Juliani, C.

Committee:

Subject of thesis: Mineralogy and Petrology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

High grade metamorphic rocks belonging to the Juiz de Fora and Mantiqueira complexes and Andrelândia Group occur in the Ribeira Belt, southeastern margin of São Francisco craton. The limit among these units is through shear zones in the Lima Duarte city region (Minas Gerais state), resulting in an intense tectonic imbricate zone between these lithotypes.

High-pressure basic granulites (garnet granulites) boudins in Mantiqueira gneisses are characterized by the assemblage garnet + orthopyroxene + clinopyroxene + plagioclase + quartz. The main textural feature is the plagioclase-orthopyroxene incompatibility, pointed out by the constant separation between these minerals through garnet moats and kelyphytic structures of hornblende and clinopyroxene. The reaction rims and the occurrence of hornblende + quartz + clinopyroxene ± biotite symplectites are due to retrograde metamorphism. The metamorphic peak conditions were calculated by geothermobarometry and are around 9-10 kbar/750°C, compatible with high-pressure granulitic terranes, displaying reequilibrium at 7-8 kbar/675-740°C and 5,5-6,1 kbar/550-660°C.

Transitional rocks to eclogite facies, named granoblastite, occur in the area and are characterized by the assemblage garnet + orthopyroxene + clinopyroxene + quartz + plagioclase where plagioclase occurs as small relicts in garnet. Geothermobarometric calculation resulted in a likely metamorphic peak between 16-20 kbar/780-800oC and a reequilibrium around 11 kbar/550oC.

The study of high-pressure rocks metamorphism evolution together with the Mantiqueira gneisses, pyroxene granulites (Juiz de Fora Complex) and metasedimentary rocks (Andrelândia Group) defines tectonic processes of continental collision at magmatic arc environment. These deep-seated rocks might have been exhumated fastly with contribution of deep shear zones.

Wankler, F.L. 2000. Geometric and architectural characterization of Mesoproterozoic fluvial bodies of the Araí formation (Roraima supergroup), northeastern of Roraima state, Brazil. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 856 2000 Date of presentation: 5/10/2000

Fábio Luiz Wankler Advisor(s): Paim, P.S.G.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Zolinger, I.T. 2000. Mineralogic and economic aspects of diamonds from the Chapada dos Guimarães, Poxoréu, Diamantino, Paranatinga and Alto Paraguai regions, Mato Grosso state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2267 2000 Date of presentation:

Iede Terezinha Zolinger Advisor(s): Svisero, D.P.

Committee:

Subject of thesis: Mineralogy and Petrology

State: MT 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Abdallah, S. 2001. Research on the gold mineralizations hosted in the granites of Rio dos Bois fountainheads, Mara Rosa, state of Goiás, Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

granites, gold, hydrothermal alteration, magmatic arc, shear-zone

Instituto de Geociências - Universidade de Brasília

Reference: M160

DataBase Ref.: 220 2001 Date of presentation: 7/12/2001

Said Abdallah Advisor(s): Botelho, N.F.

Committee: Claudinei Gouveia de Oliveira - IG/UnB
Francisco Egidio Cavalcante - DG/UFMT

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The Mundinho, Viúva and São Jorge granitic bodies, here are named Cabeceira do Rio dos Bois granites, located at the Mara Rosa District, northwestern Goiás State, host many small gold deposits. These granites are related to the Neoproterozoic Mara Rosa-Amaralina Magmatic Arc, and are intrusive in the Mara Rosa Volcano-sedimentary Sequence. Their composition varies from granodiorite to tonalite with metaluminous to peraluminous characteristics. Lithogeochemical data display similar MgO/TiO₂ ratios for all the granites, suggesting an evolutionary trend and a petrogenetic relationship between the rocks. The Cabeceira do Rio dos Bois granites are low fractionated I-type granites, depleted in Rb and Y, typical of calc-alkaline magmatic arc. They are similar to the deformed, pre- to syn-tectonic granites of the Mara Rosa region. The studied granites underwent important deformation and hydrothermal processes which modified their original magmatic texture and mineralogical composition, resulting in alterations such as biotitization, sericitization and silicification. Biotite and muscovite from normal and altered granites display important compositional variation, mainly in TiO₂, MgO and FeO(t) contents. The primary biotite has the composition of biotite from calc-alkaline orogenic suites and the high TiO₂ muscovite is considered of magmatic origin. The granite-related gold mineralization in the studied region is mainly hosted in sulfide-rich quartz veins, with magnetite and ilmenite, and controlled by important regional shear zones. Gold occurs as inclusions within pyrite and chalcopyrite, and as disseminated grains associated to alteration minerals such as quartz, carbonate, chlorite and micas. The composition of gold grains is 90-95 wt% Au and 1,5-3,5 wt% Ag with minor Cu and Fe impurities. Gold concentration presents a direct relationship with Cu and Ag anomalies in the granites. There are important gold contents, up to 1 wt%, as invisible gold, in pyrites from the quartz veins but also from altered regions outward the shear zones. The studied gold mineralization is interpreted as being genetically related to the granite magmatism which played a fundamental role in the generation of the deposits in spite of their control by shear zones, developed during or immediately after the emplacement of the granitic bodies.

Aguiar, E.S. 2001. Quaternary foraminifera from the external shelf and superior slope of southern half of Rio Grande do Sul state: Taxonomy, bathimetric distribution and faciology. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 855 2001 Date of presentation:

Eduardo da Silva Aguiar Advisor(s): Leipnitz, I.I.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: 32 30 's - 50 30 'W

Abstract

Aily, C. 2001. Isotopic characterization of lead in the atmosphere: An example of the São Paulo city. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1869 2001 Date of presentation: 21/9/2001

Cristiane Aily Advisor(s): Babinski, M.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Albuquerque, P.R.F. 2001. Re-evaluation of possible biogenic origin structures (ichnofossils, dubiofossils and associated structures) of the Alto Paraguai group (Vendian or Cambrian), MT state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1890 **2001** Date of presentation: 17/8/2001

Paulo Roberto Ferreira de Albuquerque Advisor(s): Fairchild, T.R.

Committee:

Subject of thesis: Palaeontology

State: MT 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Alcântara, H. 2001. Influence of religious option of disciples in the learning of earth sciences: Studies in the 5th series of public school of Campinas - SP. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 942071

DataBase Ref.: 888 **2001** Date of presentation: 28/3/2001

Heronilda de Alcântara Advisor(s): Gonçalves, P.W.

Committee:

Subject of thesis: Education Applied to Earth Sciences

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Changes in the cultural characteristics of the urban population and specially related to children studying in the Public School system has been responsible for the arrival to school of new visions of reality. This brings up new educational challenges: how should nature processes such as the formation of the planets be taught to fundamentalist evangelical students? The object of this research is the question of religious convictions and their influence on nature, as well as the dialogue of the children with the school knowledge.

Almeida, R.P. 2001. Tectono-sedimentary evolution of the Santa Bárbara formation in the Camaquã Ocidental sub-basin, RS state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1609 **2001** Date of presentation: 9/3/2001

Renato Paes de Almeida Advisor(s): Fragoso César, A.R.S.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: RS 1/1,000,000 sheet: SH21 Centroid of the area: ' - 'W

Abstract

Alves, A.L. 2001. Temporal cartography and geo-environmental analysis of the Rio Piranhas-Açu river mouth dynamics, Macau-RN region, based on LANDSAT 5-TM images. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 024/PPGG

DataBase Ref.: 1022 **2001** Date of presentation:

Adriano de Lima Alves Advisor(s): Amaro, V.E.

Committee:

Subject of thesis:

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

This work embraces the application of Landsat 5-TM digital images, comprising August 2 1989 and September 22 1998, for temporal mapping and geoenvironmental analysis of the dynamic of Piranhas-Açu river mouth, situated in the Macau (RN) region. After treatment using several digital processing techniques (e.g. colour composition in RGB, ratio of bands, principal component analysis, index methods, among others), it was possible to generate several image products and multitemporal maps of the coastal morphodynamics of the studied area. Using the image products it was possible the identification and characterization of the principal elements of interest (vegetation, soil, geology and water) in the surface of the studied area, associating the spectral characteristics of these elements to that presented by the image products resulting of the digital processing. Thus, it was possible to define different types of soils: Amd, AQd6, SK1 and LVe4; vegetation grouping: open arboreal-shrubby caatinga, closed arboreal-shrubby caatinga, closed arboreal caatinga, mangrove vegetation, dune vegetation and areas predominately constituted by juremas; geological units: quaternary units – beach sediments, sand banks, dune flats, barrier island, mobile dunes, fixed dunes, alluvium, tidal and inundation flats, and sandy facies of the Potengi Formation; tertiary-quaternary units – Barreiras

Formation grouped to the clayey facies of the Potengi Formation, Macau Formation grouped to the sediments of the Tibau Formation; Cretaceous units – Jandaíra Formation; moreover it was to identify the sea/land limit, shallow submersed areas and suspended sediments. The multitemporal maps of the coastal morphodynamics allowed the identification and a semi-quantitative evolution of regions which were submitted to erosive and constructive processes in the last decade. This semi-quantitative evolution in association with an geoenvironmental characterization of the studied area are important data to the elaboration of actions that may minimize the possible/probable impacts caused by the implantation of the Polo Gas/Sal and to the monitoring of areas explored by the petroleum and salt industries.

Araújo, J.G.M. 2001. Influence of the São Vicente and Tapera shearing zones in the gold mineralization of the Quadrilátero Ferrífero, state of Minas Gerais, Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Gold Mineralization, Iron Quadrangle, Greenstone Belt, Shear Zone, Structural Geology

Instituto de Geociências - Universidade de Brasília

Reference: M155

DataBase Ref.: 215

2001

Date of presentation: 11/4/2001

João Gualberto Motta de Araújo

Advisor(s): Oliveira, C.G.

Committee:

Subject of thesis: Prospection and Economic Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

The studied area is located on the central-southeast portion of the Quadrilátero Ferrífero, Minas Gerais State. In this area, several gold deposits occur, hosted mainly in rocks of the Rio das Velhas greenstone belt. These mineralizations are associated with banded iron formations (BIF), basic metavolcanics and quartz veins, as well as to shear zones comprising metasedimentary rocks.

Two important regional structures control the emplacement of the gold mineralizations in this area: the ductile São Vicente Shear Zone and the brittle-ductile Tapera Shear Zone. These structures are parallel to the Fundão Fault lateral ramp, representing a NW-trending regional transcurrent system – the São Vicente-Tapera Shear Zone. Field relations indicate post-Archean age for these structures, since they cross-cut NS-trending Neoproterozoic lineaments.

The Paciência gold deposit is hosted in quartz-feldspar-phengite schists of the Córrego do Sítio Formation. Gold occurs as inclusions in disseminated and concentrated sulfide in quartz micro-domains parallel to the main foliation. Quartz ribbons and quartz segregations make up the main occurrence types of the ore bodies, and they are parallel to regional SE-plunging stretching lineations. This feature indicates that the ore bodies are syn-deformational to the last tectono-thermal event registered in the Quadrilátero Ferrífero. Similar conclusions were extended to other gold deposits, such as Morro Velho, Raposos, Cuiabá and Passagem de Mariana.

The mineralogical assemblage presents in the gold mineralization ore bodies from the Quadrilátero Ferrífero suggests that reduced-sulfide complexes were dominant in the mineralizing fluids. These complexes were precipitated in lower greenschist to lower-amphibolite regional metamorphic conditions, mainly into dilational structural sites in shear zones and along the BIF's and carbonated schist contact.

The replacement of iron carbonate by gold and sulfide, as well as spatial distribution of the several deposits, support the hypothesis of epigenetic nature for the gold mineralization in the Quadrilátero Ferrífero. In this context, the NW-trending shear zones seem to have formed conduits for the percolation of hydrothermal fluids enriched in sulfide and gold, generating regional gold mineralization.

Arrais, J.C.P. 2001. Study of "Granito Preto Piracaia" - SP black granite as an ornamental rock. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 136 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR076

DataBase Ref.: 917

2001

Date of presentation: 5/3/2001

Julio Cesar de Pinheiro Arrais

Advisor(s): Godoy, A.M.

Committee:

Subject of thesis: Regional Geology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Barros, G. 2001. Geostatistic re-evaluation of the phosphate resources/reserves of the Mina de Cajati mine, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1938

2001

Date of presentation: 18/4/2001

George de Barros

Advisor(s): Yamamoto, J.K.

Committee:

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Bernardes, E.S. 2001. Constraint factors of ceramics behaviour of the plastic clays from a deposit at the Itararé subgroup in Jundiá region - SP. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 69 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR078

DataBase Ref.: 914 2001 Date of presentation: 27/4/2001

Eduardo Silveira Bernardes Advisor(s): Moreno, M.M.T.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Bertolani-Batezelli, C.V. 2001. Stratigraphic analysis and structural features of Itararé group in Jundiá region, São Paulo state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, 138 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR085

DataBase Ref.: 907 2001 Date of presentation: 29/6/2001

Carla Verônica Bertolani-Batezelli, Advisor(s): Perinotto, J.A.J.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Bonacin Silva, A.L. 2001. Environmental characterization and behaviour study of lead, zinc and boro in degraded area by ceramics industry - Santa Gertrudes lakes region, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1959 2001 Date of presentation: 6/7/2001

André Luiz Bonacin Silva Advisor(s): Hypolito, R.

Committee:

Subject of thesis: Environmental Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Bosso, S.T. 2001. Use of scolecite in the retention of heavy metals in water solution. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 990546

DataBase Ref.: 895 2001 Date of presentation: 26/6/2001

Sérgio Tagliaferri Bosso Advisor(s): Enzweiler, J.

Committee:

Subject of thesis: Metallogenesis

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Scolecite is a type of zeolite which can be found associated to the basalts of the Paraná Continental Igneous Province (PCIP). In this work, the potentiality of scolecite as a new material for heavy metals removal (Pb²⁺, Cu²⁺, Zn²⁺, Ni²⁺, Co²⁺ and Cd²⁺) from aqueous solutions is evaluated. The samples used in the experiments were collected in Morro Reuter - RS and characterized by X-ray diffraction and X-ray fluorescence. The experiments were carried out by immersion of 0.5 g of pulverized sample in aqueous solutions of the metallic ions (prepared from their nitrates) and kept under constant agitation for 24 h, at ambient temperature. The initial and final concentrations of the metals in the solutions were determined by atomic absorption spectrometry. The initial concentration (5 to 60 mg L⁻¹), pH (4 - 6) and the liquid/solid ratio (200, 1000 and 2000) and scolecite granulometry were altered in the experiments to evaluate their influence in the ion exchange process. Scolecite showed great

affinity for Pb^{2+} , with retention values of about 11 mg g⁻¹ (pH 5.5 and $C_i = 60$ mg L⁻¹) of zeolite. In same experimental conditions, the other ions presented decreasing retention values, i.e., Cu^{2+} (8.2 mg g⁻¹), Zn^{2+} (6.2 mg g⁻¹), Ni^{2+} (2.6 mg g⁻¹), Co^{2+} (2.4 mg g⁻¹) and Cd^{2+} (0.06 mg g⁻¹), resulting in the following sequence of selectivity: $Pb^{2+} > Cu^{2+} > Zn^{2+} > Ni^{2+} > Co^{2+} > Cd^{2+}$. The relative removal efficiency was higher in more diluted solutions (5 - 15 mg L⁻¹). The ions affinity for scolecite was interpreted with help of hydrolysis constante, and it was concluded that internal and external sphere complexas are formed (Pb^{2+} e Cu^{2+}) at the solid-water interface and external sphere complexas for the other cations. Results indicate that scolecite could be useful in secondary treatment of waste water, especially for Pb^{2+} e Cu^{2+} removal.

Camarão Júnior, L.F. 2001. Brittle tectonics in Açude Castanhão (CE) dam flood area: Implications for seismic risk. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 022/PPGG

DataBase Ref.: 1024

2001

Date of presentation:

Luciano Formiga Camarão Júnior

Advisor(s): Bezerra, F.H.R.

Committee:

Subject of thesis:

State: CE

1/1,000,000 sheet:

SB24

Centroid of the area:

' -

'W

Abstract

Carminatti, M.G. 2001. Gravimetric study of the Cana brava mafic-ultramafic intrusion, northern of Goiás state. MSc Thesis; Institute of Astronomy, Geophysics and Atmospheric Sciences, University of São Paulo, São Paulo, 95 pp

Instituto Astronômico e Geofísico - Universidade de São Paulo

Reference:

DataBase Ref.: 1479

2001

Date of presentation: 23/5/2001

Miguel G. Carminatti

Advisor(s): Maragomni, Y.R.

Committee:

Subject of thesis: Geophysics

State: TO

1/1,000,000 sheet:

SC22

Centroid of the area:

' -

'W

Abstract

Carmo, M.S. 2001. Water and flow sediments geochemistry of Rio Descoberto hydrographic basin - Brasília-DF. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

stream sediments, mercury, Melchior river, trace elements, metals.

Instituto de Geociências - Universidade de Brasília

Reference: M161

DataBase Ref.: 221

2001

Date of presentation: 21/12/2001

Marciléia Silva do Carmo

Advisor(s): Boaventura, G.R.

Committee:

Laurence Maurice Bourgoïn

- IG/UnB

Rômulo Simões Angélica

- CG/UFGA

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF

1/1,000,000 sheet:

SD23

Centroid of the area:

' -

'W

Abstract

This work presents the geochemistry of waters and stream sediments of the Descoberto River drainage basin during the dry and the rainy seasons. Had been collected 9 water and sediment samples at the points during the dry season and 15 during the rainy season, repeating the same points that of the dry season. The basin of the Descoberto River is located in the Distrito Federal (DF) in the State of Goiás. It supplies about 70% of the DF population and receives directly or indirectly sewage from agricultural and domestic activities. Agricultural activity is well developed in this basin, mainly on its eastern part in the vicinities of Brasília city and in areas of the INCRA (Agricultural Reform and Colonization National Institute) located at the confluence with the Descoberto Lake, used as potable water reservoir. In the water samples (dissolved fraction) have been determined: temperature, pH, Electric Conductivity (EC), Total Dissolved Solids (TDS), color, turbidity, Alkalinity and the following anions: Cl^- , HCO_3^- , SO_4^{2-} , PO_4^{3-} , NO_3^- , NH_3 . Have been determined in the water and sediments samples the elements La, Al, Ba, Ca, Cr, Cu, Fe, Mg, Mn, Ni, P, Si, Ti, V, Zn, Sr, Zr, Co and Y (Mo, Cd and Zr were analysed only in the water samples). These elements were analysed by Inductively Coupled Plasma- Atomic Emission Spectrometry. Sodium and K were analysed by Atomic Absorption Spectrometry (AAS). Mercury by Cold-Vapor Atomic Absorption Spectrometry (CV-AAS) and the Volatile Material by loss on ignition. Granulometric analyses were carried out in all bottom sediments samples. A good correlation ($0.71 < r^2 < 0.93$) was observed between the metals Y, V, Cr and Fe with the Al. The Al was used as a reference element – for its relatively low mobility in such environment – that those elements are associated to the geology of the area. The maximum concentrations (compared with OMS, CONAMA and the composition of the upper continental crust) was: turbidity (1200 UT), color (86 uH), PO_4^{3-} (8 mg.L⁻¹), NO_3^- (8 mg.L⁻¹) and NH_3 (38 mg.L⁻¹) in point 1 and of the elements Fe (0.75 mg.L⁻¹) and Al (0.87 mg.L⁻¹) in the water

sample in points 2s and 1c, respectively. For the sediments the elements Al (15%), Ni (41 mg.g-1) and Cu (43mg.g-1) in point 7s, La (249 mg.g-1) in point 3s, V (155 mg.g-1) and Cr (114 mg.g-1) in point 13c, Mn (1815 mg.g-1), Zn (137 mg.g-1) and Co (57 mg.g-1) in point 14c, P (2806 mg.g-1) in point 5s and Hg (0,723 mg.g-1) in point 1. The values show that they are influenced in the specific points, i.e., the impact is located. Specific points are located in Rio Melchior, main tributary of Discoberto River, with urban influence (points 1, 2, 5 and 7) and in the points 3, 5, 13 and 14 with agricultural influence. The evaluation of the results were made in both local, national and mundial scales, by means of comparison with other hydrographics basins inside and outside the DF, it was observed that a great part of metal concentrations ranged acceptable. As well as, the physic-chemical and chemical parameters with OMS and CONAMA, but this does not remove the local impact and the polluting actions that results from the urban occupation, the use of pesticides, fungicides and fertilizers thus harming an important source of supplying of the DF. It is necessary to apply monitoring in the water, reduce or eliminate the elements P, K, Na, Ca and Hg from the fertilizes, fungicides, pesticides in agricultural areas. Implement sewages systems in the cities of Taguatinga, Águas Claras and Ceilândia.

Carvalho,E.R. 2001. The fluids imiscibility in gold mineralizations of the lode type at serra de Jacobina range, Bahia state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 990543

DataBase Ref.: 891

2001

Date of presentation: 10/5/2001

Emerson de Resende Carvalho

Advisor(s): Xavier,R.P.

Committee:

Subject of thesis: Metallogenesis

State:

1/1,000,000 sheet:

Centroid of the area:

' - 'W

Abstract

The Paleoproterozoic Jacobina Basin is characterized by containing economically important Witwatersrand-type gold quartz-pebble metaconglomerates and, more subordinately, sub-economical epigenetic gold mineralizations represented by hydraulic breccia and quartz vein systems hosted by metaconglomerate (domain 1) and at the contact between quartate and intrusive mafic/ultramafic rocks (domain II). Petrographic, microthermometric and laser Raman microspectroscopic studies of fluid inclusions in auriferous quartz associated with domains 1 and II revealed three compositional types of primary/pseudosecondary inclusions: (AC) H₂O-CO₂(±CH₄) inclusions of low salinity (mean of 2 wt % eq. NaCl) and variable CO₂/H₂O volume ratios (0,1 < VCO₂ < 0,8); (C) CO₂(±CH₄)-rich inclusions with VCO₂ > 0,8; and (A) low salinity H₂O inclusions containing small amounts of CO₂. The AC inclusions predominates in domain 1 while C inclusions prevails in domain II. The low content in CH₄ (≤4 mol%) is restricted to domain II. Secondary H₂O inclusions of variable salinity transects all the others types of inclusions and are interpreted as a fluid regime active during uplift, after the formation of the mineralization. Textural features provides strong evidence of temporal and spatial association of the AC, C and A inclusions. In both domains, the homogenization of the carbonic phase indicated a variation in the CO₂ density of 0,47 to 0,98 gJcm³ for AC inclusions and of 0,61 to 1,02 gJcm³ for C inclusions. The AC inclusions with XCO₂33 mol% and 21Ws35 cm³mol showed total homogenization to the H₂O phase in the range of 215°C to 340°C, whereas AC inclusions with XCO₂34mol% and V > 31 cm³mol and C inclusions homogenized to the CO₂ phase in the range of 210°C to 360°C. Data obtained from bulk gas analysis in fluid inclusions by quadrupole mass spectrometry showed a clear fractionation of the volatile phases (CH₄, N₂, CO₂, H₂S and SO₂) towards the carbonic phase. Fluid inclusion constraints: (a) the presence of variable Xco₂ inclusions assemblages which was attributed to heterogeneous entrapment; (b) the existence of contemporaneous H₂O-rich and CO₂-rich inclusions in an assemblage, interpreted as end-members of immiscible aqueous carbonic fluid; (c) total homogenization to the H₂O and CO₂ phases in the same range of temperatures; and (d) fractionation of volatiles to vapor phase during its separation of the solution, satisfy the requirement of immiscibility. The conformation of Xco₂-TH data to experimental solvus curve assures the H₂O-NaCl-CO₂(±CH₄) system phase separation. According to bulk volatile analysis the CO₂/CH₄ ratio trends suggests that the homogeneous aqueous carbonic fluid was submitted to an advanced stage of immiscibility. The high grade of immiscibility caused an almost entire separation of the H₂O and CO₂ phases and can explain the prevalence of CO₂-rich inclusion in domain II. Fluid immiscibility is a episodic process produced by cyclic fluctuation of fluid pressure during ascension of hydrothermal solutions along structural discontinuities and hydraulic breccia and quartz vein formation. Based on these evidences, combined with the nature of the host lithologies (e.g. non-reactive quartz is the dominant mineral in metaconglomerate and quartzites), the immiscibility was the principal mechanism responsible for gold deposition that, in this context, occurred between 200°C and 350°C and 1,0 to 2,5 kbar.

Carvalho,M.J. 2001. Geology and geochemistry of the Itareru tonalite-diorite, occidental border of the Greenstone Belt do Rio Itapicuru, Bahia state, Brazil. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 990544

DataBase Ref.: 893

2001

Date of presentation: 30/3/2001

Marcelo Juliano de Carvalho

Advisor(s): Oliveira,E.P.

Committee:

Subject of thesis: Metallogenesis

State:

BA

1/1,000,000 sheet:

SC24

Centroid of the area:

' - 'W

Abstract

Elongated tonalitic bodies, like peridotite belfa and large-scale shear zones, are significant geological features that help identify tectonic discontinuities in orogenic belts. The Rio Itapicuru Greenstone Belt, located on the northeastern edge of the Palaeoproterozoic Itabuna-Salvador-Curaçá orogen, is an important gold-producing geological unit. It is made up mostly of

metamorphosed mafic and felsic volcanics, and sedimenta, intruded by tonalite to granodiorite domes. Although a back-arc tectonic setting has been suggested, the location of the arc and of any suture zone, or even the relations with the basement have been hampered by deformation and paucity of high-quality isotope data. Recently, on the basis of Nd isotope data juvenile-, arc-related tonalite to granodiorite intrusions were recognized on the southern portion of the greenstone belt. New field work also helped to recognize a NW-SE to N-S-trending body that may mark the western boundary between the greenstone belt and an Archaean block within the Itabuna-Salvador-Curaçá Orogen. It is a sheet-like body (up to 7.5 km wide and over 80 km long) composed of enclave-rich, porphyritic diorite to tonalite. Isotope studies indicated an age of $2,109 \pm 5$ Ma (U-Pb SHR0C on zircons) and slightly negative ϵ_{Nd} values. To the east of the Itareru Tonalite-diorite supracrustal rocks of the greenstone belt and foliated granitoid intrusions dominate, whereas Archaean banded gneisses and isotropic granitoids are the main rock-types to the west. It is suggested that the Itareru Tonalite defines a tectonic discontinuity between two terranes, and that for its syn-tectonic characteristics it marks the timing of continent-continent collision.

Chiarini, A.P. 2001. Geology of the Piumhi Greenstone belt basal portion - MG state. MSc Thesis; Instituto of Earth Sciences, University of São Paulo, São Paulo, 172 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1194 2001 Date of presentation: 17/8/2001

Alexandre Patrício Chiarini

Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis: Mineralogy and Petrology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Costa, A.B. 2001. Alpha and radiocarbon radioactivity in underground waters of the Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1550 2001 Date of presentation: 23/3/2001

Alexandre Barreto Costa

Advisor(s): Azevedo, A.E.G.

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The ^{222}Rn and ^{226}Ra concentrations in groundwater from three regions in the state of Bahia with different geological characteristics has been measured. 15 samples were collected from wells open in the Sedimentary Basin of Recôncavo in the region of the Petrochemical Complex of Camaçari, 25 samples from wells in the crystalline basement in the Ipirá county and 9 samples from the region of uranium complex of Lagoa Real. The concentration measured for ^{222}Rn averaged 7.2 Bq/l (varying from 3.5 to 13.4 Bq/l) in Camaçari, 74.1 Bq/l (varying from 16.1 to 200.9 Bq/l) in Ipirá and 580.3 (varying from 41.3 to 3330.9 Bq/l) in Lagoa Real. For ^{226}Ra , only two samples from Camaçari presented detectable activity concentration of 0.06 Bq/l and 0.10 Bq/l, in Ipirá 12 samples had activities 0.06 Bq/l and 0.10 Bq/l, in Ipirá 12 samples had activities above the limit of detection varying from 0.08 to 0.69 Bq/l, and in Lagoa Real 4 samples had detectable activities varying from 0.26 to 1.00 Bq/l. In Ipirá and Lagoa Real was measured activity concentrations well above the limits for potability established by the American environmental protection agency of 11.1 Bq/l (300 pCi/l) for ^{222}Rn protection agency of 11.1 Bq/l (300 pCi/l) for ^{222}Rn and 0.11 Bq/l (3 pCi/l) for ^{226}Ra . In the Ipirá region, was also made measurements of the concentrations of major ions, electrical conductivity, pH and temperature of the 25 groundwater samples; measurements of U, Th and K concentrations in the outcrops of rocks near the wells by gamma spectrometry; profiles of Radon in the snear the wells by gamma spectrometry; profiles of Radon in the soil air in lines across the direction of fractures near the wells; and measurement of specific activity of ^{14}C of the inorganic carbon dissolved in nine groundwater samples from wells with major water extraction for supply of villages in the Ipirá county. The results indicate that most of the groundwater in the region have high concentrations of salts due to high evaporation associated to semi-arid climate of the region. The corrected activities of ^{14}C , above 100 percent modern carbon, indicate post atmospheric nuclear tests era (1952-1963) origin with a maximum estimated of around 40 years. The ^{238}U concentration in the rock outcrops near the wells from the Ipirá region varied from 0.7 to 3.7 ppm, without anomalous values and with no correlation with the ^{222}Rn in the groundwater, indicating to be other factors, as the fracture type of the aquifer and pumping conditions of the wells, what control the ^{222}Rn concentration in the groundwater what control the ^{222}Rn concentration in the groundwater of the region.

Costa, P.C. 2001. Biogeochemical alteration of minerals in the carbonatite of Catalão I complex, state of Goiás, Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Biogeochemistry, E. phoetida, Soil Remineralization, Weathering of Minerals, Cerrados, Chemical Analysis, Fractionation, Micromorphology, X-Ray Diffractometry

Instituto de Geociências - Universidade de Brasília

Reference: M158

DataBase Ref.: 218 2001 Date of presentation: 24/8/2001

Paulo César Costa

Advisor(s): Lopes Assad, M.L.R.C.

Committee: Jose Carlos Gaspar - IG/UnB
 Antônio Fernandino Bahia Filho - EMBRAPA

Subject of thesis: Mineralogy and Petrology

State: GO 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

In Cerrado areas several types of soil are found, among which Oxisols dominate. In general, this type of soil is highly weathered and, consequently, has high acidity and low natural fertility. Therefore, the agricultural production is compromised if corrective action is not taken.

Rock powder may be used as an alternative for the correction and improvement of fertility in soils, especially if the rock used is rich in minerals that contain relatively large amounts of elements for plant development. However, one of the problems involved in the use of rock powder directly on the soil is the long time required for the nutrients to become available. On the other hand, biological activity in soils has a potential to improve the release of nutrients for plant growth. Therefore, rock powder could be used as fertilizer, especially if associated with a handling technique that increases and favors biological activity.

The objective was to investigate the effect of earthworms (*Eisenia phoetida*) and added rock powder on the physical and chemical transformations of the soil.

In this dissertation, an experiment was conducted under greenhouse conditions in the Biological Station of Brasília University, in 2-liter vases, each having received five earthworms. The treatments contained mixtures of soil with variable proportions of finely grained carbonatite plus phlogopite. The soils consisted of a sandy loam Oxisol and a clay loam Oxisol. Soil and cast samples were collected periodically for 500 days and chemical analyses were carried out to determine pH and exchangeable cation content, as well as chemical fractionation of soil and cast phosphorus. Micromorphological and mineralogical analyses were carried out through optical microscopy and X-ray diffractometry.

The results show the effects of *E. phoetida* on the phosphorus and cation content availability and on the soil pH. Rock powder corrected the acidity and improved the amounts of Ca+Mg. The addition of mulch promoted an increase in the availability of elements. The soil was morphologically transformed by the earthworms, who ingested large amounts of rock powder. Some minerals were oxidized and fragmented. The mineralogical analyses indicated that the soil was strongly weathered and suggested that transformation of phlogopite in vermiculite may have occurred.

Rock powder can be used as a corrective of soil acidity and as a fertilizer, and *E. phoetida* altered positively the physical and chemical properties of the soil.

Damásio, W.L. 2001. Structural characterization of the northern border of the Serra da Canastra range, MG state. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 113pp.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR133

DataBase Ref.: 1792 2001 Date of presentation:

Wellington Leonardo Damásio

Advisor(s): Simões, L.S.A.

Committee:

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Deucher, M.T. 2001. Cadmium retention and mobility in soils : Revision and case study in tropical environment. MSc Thesis, Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2030 2001 Date of presentation: 19/12/2001

Marta Teresa Deucher

Advisor(s): Sigolo, J.B.

Committee:

Subject of thesis:

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Erazo, G.J.O. 2001. Interpretation of gamaspectrometric and magnetometric data in the Tapajós gold province. MSc Thesis, Institute of Geosciences, University of Brasília, pp.

Instituto de Geociências - Universidade de Brasília

Reference: M157

DataBase Ref.: 217 2001 Date of presentation: 13/7/2001

Gloria Josefina Obando Erazo

Advisor(s): Moraes, R.A.V.

Committee: Nilson Francisquini Botelho - IG/UnB

Francisco José Fonseca Ferreira - DG/UFPR

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Geologic studies in the block 1 of the Tapajós region began in the fifties, with emphasis on the prospecting of gold or in areas with important outcrops. The study area (block 1) comprising 48.879 km², is located in northern Brazil, where difficult access exists in thick-forest. It has a potential for gold, what made the Research Company for Mineral Resources of Brazil (CPRM) interested in detailing studies using aerogeophysical methods, such as magnetometry and gamma spectrometry. These methods allow a rapid investigation of large areas with more homogeneous spatial coverage.

The purpose of this study is: i. to apply geoprocessing techniques, as well as geophysical presentation and interpretation of magnetometric and gamma spectrometric data; ii. the geologic/geophysical reinterpretation of the Mamãe Anã and Jacareacanga quadrangles; iii. the interpretation of the geologically unmapped Rio Juruena quadrangle, iv. the pointing out of potential targets for gold prospecting.

This study also presents results of the refinements of aerogeophysical data of the block 1 of the Tapajós. Gamma spectrometry data were analyzed and interpreted based on criteria of geological cartography, using computer imagery of bidimensional maps of potassium, uranium and thorium, and total, superposed on terrain digital model. The interpretation resulted in a map with gamma spectrometric units.

The separation into magnetic domains, geologic structures and lineaments was the result of the study of false and analytical signal image. The separation of magnetically contrasting bodies was obtained from the analytical signal amplitude.

The results of the utilized technique were integrated to reach a final interpretation, which was compared with the known geologic data of the study area, and the proposition of potential targets for gold prospecting.

Espindola, R.S. 2001. Impact of the "in situ" sanitation systems in the underground waters, Itaquaquecetuba municipality (SP state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2057 **2001** *Date of presentation:* 11/9/2001

Rodrigo dos Santos Espindola *Advisor(s):* Pacheco, A.

Committee:

Subject of thesis: Hydrogeology

State: SP *1/1,000,000 sheet:*

Centroid of the area: ' - 'W

Abstract

Esteves, M.B. 2001. Application of geophysical methods to the overburden study: Case of Sorocaba do Sul-Biguaçu/SC state. MSc Thesis, University Federal of Santa Catarina, Brazil, pp.

Universidade Federal de Santa Catarina

Reference:

DataBase Ref.: 1709 **2001** *Date of presentation:* 9/11/2001

Marcelo Borges Esteves *Advisor(s):*

Committee:

Subject of thesis: Geophysics

State: SC *1/1,000,000 sheet:* SG22

Centroid of the area: ' - 'W

Abstract

Fava, N. 2001. The weathered overburden and the chemistry of pyrochlore of Catalão I (Goiás state): A preliminary study. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Carbonate; Weathered Rock Profile; Mineral Chemistry; Pyrochlore

Instituto de Geociências - Universidade de Brasília

Reference: M152

DataBase Ref.: 212 **2001** *Date of presentation:* 30/3/2001

Nelson Fava *Advisor(s):* Gaspar, J.C.

Committee: Henrique Senna Diniz Pinto - UnB

Arnaldo Alcover Neto - CETEM/RJ

Subject of thesis: Prospection and Economic Geology

State: GO *1/1,000,000 sheet:* SE23

Centroid of the area: ' - 'W

Abstract

The Catalão I Carbonatitic Complex is located in the SW from Goiás State, Brazil, 20 km to the North of Catalão district and, approximately, 300 km to the south of Brasília town, having the coordinates (48°W18°S).

It is a Cretaceous circular body, approximately 5,5 km in diameter, that intruded Pre-Cambrian rocks from the Araxá Group. The rocks from the Catalão I, Catalão II, Tapira and Serra Negra Carbonatitic Complexes are constituents of the Minas-Goiás Alkaline Province, which include, among the above cited Carbonatitic Complexes, rocks of kimberlitic origin, possibly lamproitic originated rocks and rocks of kamafugitic nature.

The study of the weathered profile was based in one drill hole core, which was characterized petrographically, with the aid of micromorphology, chemistry, and X ray powder diffraction technique. The results lead to the identification of the following weathering horizons, from the bottom to the top of the profile: a) fresh rock: classified as a magnesio碳酸岩, containing dolomite, magnetite, mica, pyrochlore and apatite. The pyrochlore found in this rock is light-yellow, have octahedral habit, and varies between 50 and 500 microns in size. Zonation is found in some of the studied grains, and are displayed according crystallographic planes; b) saprolite: the base of this horizon is the weathered rock horizon, which is in contact with the bedrock. The main characteristics of this horizon are the high amount of vermiculite and the presence of fragmented fresh rock. The carbonate disappears at 68 m of deepness. Above the weathered rock horizon, there is an anatase-rich horizon, probably originated from weathered ilmenite. Apatite is the main mineral of this horizon. It is in this horizon that the secondary phosphate is described in the first time in the profile, which is formed after the weathered apatite, mica and vermiculite. The values for CaO:P₂O₅ reach a minimum of 1,17, which indicates that CaO is leached from the system, while P became a constituent of secondary phosphate and apatite. There is a silicification process that substitute the carbonate of the parental rock, keeping its texture and structure. Quartz is the constituent of these rock matrix, which is the result of the weathered silicate minerals. The weathering of the primary mica and vermiculite of the upper horizons are the most probable source for this process. The pyrochlore that dominates the horizon is the Ba-pyrochlore. Pb,Ba-pyrochlore is found subordinately; c) lateritic cover: the base of this horizon is located at 24 m of deepness, where the phosphate that dominates is goethite which gives an ochre color to this rock, and where the value CaO:P₂O₅ reaches 1,21. The accumulation of goethite, which reach its maximum at 16 m of deepness, is a typical feature of the lateritic cover horizon. Grains of quartz have round shape and fractures, which are frequently filled with iron oxihydroxides, characterizing the plasmation process. The texture is porphyroclastic.

Pyrochlores were described in all the samples studied, from fresh rock to 10 m of deepness. The total of pyrochlore grains analysed by electron microprobe was twenty-eight, eight of them from fresh rock and twenty from weathered rock.

The type of pyrochlore that dominates the fresh rock is the Na, Ca-pyrochlore, with the following variations in some of their main oxides: Nb₂O₅ (53,38-65,12); TiO₂ (13,89-4,19); Na₂O (2,80-5,98); CaO (13,05-9,94). Fresh and weathered rock pyrochlores were analysed by electron microprobe. The frequency distribution of the Na₂O and CaO wt % in pyrochlore analysis showed, in the case of CaO, a maximum of 65% of the analysis between 10-14 wt. %. In the case of the Na₂O, there is a growing distribution, with four maximum tendencies, where 15 % of the analysis are between 4-4,5 wt. % and 25 % of the analysis are between 5,5-6,0wt. %.

After these analysis, the fresh rock pyrochlores were divided in two groups, called Group I and Group II, according to the diagram which displays the results of the monovalent cations A⁺ (Na⁺) against the bivalent ones A²⁺ (Ca²⁺, Sr²⁺, Mn²⁺, Ba²⁺), all of them filling the A crystallographic site of the pyrochlores. The Group I is defined for A⁺ varying from 0,48-0,72 (apfu), where a negative correlation can be observed between A²⁺ (1,02-0,78 apfu) and A⁺. The Group II was defined to A⁺ < 0,48 (apfu), where no kind of tendency of substitution between groups of mono and bivalent cations can be immediately observed. Due to observed tendencies for the Group I in the diagrams displayed, it is possible to write down series of idealized statements to the Group I pyrochlores, based in three points:

Point 1:

Point 2:

Point 3:

In the Group II, there is a dispersion display of A²⁺ cations (Ca²⁺, Sr²⁺, Mn²⁺, Ba²⁺) with the decreasing of A⁺ (Na⁺).

Some points of the sample L2AP01 follow, with good approximation, the extension of the linear correlation observed for the Group I, from point 1 (A²⁺ = 1,02 and A⁺ = 0,48) to A²⁺ = 1,5 e A⁺ = 0,0, that is, there is a high probability for the substitution to happen in a preceeding step of the crystalization history of this grain. The other points that are distant from this extension could be generated after the following substitutions: and/or in a next step of the crystalization history of the grain.

The sample L3BP03 is a peculiar case, because there are points from this sample that belongs to Group I and to Group II. Another characteristic from this sample is the antagonistic behaviour of the bivalent ions in the position A: Ca²⁺ and Ba²⁺. The mineral phase rich in Na and Ca has very few or none Ba, and overgrows the phase rich in Ba, with few Na e Ca. Therefore, it is possible to say that the Na, Ca-pyrochlore overgrows the bariopyrochlore phase.

The weathered grains of pyrochlore in the weathered rock show that the kind of pyrochlore that dominates statistically the weathered profile is bariopyrochlore, which analyses showed that the ranges of variations of some of the main oxides are: Na₂O (0,06-0,02); CaO (0,04-4,40); BaO (19,88-10,71); Nb₂O₅ (65,26-66,62). Subordinately, some grains of Pb-pyrochlore are found, which are, probably, originated in the fresh rock. The weight percent (wt%) of some of the main oxides of this kind of pyrochlore are: Na₂O (0,03-0,07); CaO (0,21-0,25); BaO (12,25-12,01); PbO (16,27-8,6).

The wt% frequency distributions for the oxides Na₂O and CaO for the pyrochlores of the weathered rock show that, for the biggest part of the analyses, both elements were not detected (87% for Na₂O and 83% for CaO). The BaO distribution shows that 60% of the analyses are found in the interval 14-20 wt %, and the maximum is given by the interval 16-18 wt. %, which corresponds to 36% of the total of the analyses.

Ferrer, L.M. 2001. Fixing and mobility of quicksilver in the sediment/water system of marsh area in Cubatão municipality, São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 122 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1273 2001 Date of presentation: 29/6/2001

Luciana Maria Ferrer Advisor(s): Hypolito, R.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Fierz, M.S.M. 2001. The human influence in the landscape, in the erosional and depositional processes in coastal area: a contribution to the environmental dynamics in Bertioga-SP state. MSc Thesis, Institute of Oceanography - University of São Paulo, SP, Brazil, p

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1629 2001 Date of presentation: 22/2/2001

Marisa de Souto Matos Fierz Advisor(s):

Committee:

Subject of thesis:

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Filemon, K.E. 2001. Characterization of the Brazilian diamonds typology. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 121 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR081

DataBase Ref.: 910 2001 Date of presentation: 13/6/2001

Kelusodi Eduardo Filemon Advisor(s): Haralyi, N.L.E.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Genthner, C. 2001. Application of the fluorescent tracer rhodamina-WT in the geohidrologic study of the Lajeado-Bombas carbonatic area, Betari valley, southern of São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1889 2001 Date of presentation: 18/12/2001

Claudio Genthner Advisor(s): Ferrari, J.A.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Graminha, C.A. 2001. Morphologic, chemical and mineralogical characterization of microagregates of a purple latosol of Iracemápolis, SP state and of pellets produced by termites. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2277 2001 Date of presentation:

Celso Aluísio Graminha Advisor(s): Melfi, A.J.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Gualda, G.A.R. 2001. Petrographic and mineralogical evolution of the type A granite alkaline and alluminous association of Graciosa region, PR state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1068 2001 Date of presentation: 6/8/2001

Guilherme Augusto Rosa Gualda Advisor(s): Vlach, S.R.F.

Committee:

Subject of thesis: Mineralogy and Petrology

State: pr 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Guimarães, S.B. 2001. The metadolomites of Morro Azul region - PR: Geological characteristics of the exploited ore. MSc Thesis, Department of Geology, University Federal of Paraná, pp

Departamento de Geologia - Universidade Federal do Paraná

Reference:

DataBase Ref.: 751 2001 Date of presentation:

Sandra Boeira Guimarães Advisor(s): Reis Neto, J.M.

Committee:

Aroldo Misi - IG/UFBA
Alberto Pio Fiori - DG/UFPR

Subject of thesis: Exploratory Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Guimarães, V. 2001. Distribution of heavy metals coming from the mud drain residua in lacustrine environment. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2292 2001 Date of presentation:

Valéria Guimarães Advisor(s): Sigolo, J.B.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Hager, F.P.V. 2001. Integrated management of underground and superficial hydric resources : eaemple of the Billings and Tamanduateí sub-basins, high Tiête basin, São Paulo. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2276 2001 Date of presentation:

Francis Priscilla Vargas Hager Advisor(s): Macedo, A.B.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Invernizzi, A.L. 2001. Hydrogeochemical characterization of Botucatu aquifer, in the medium sector of Mogi-Pardo hydrographic basin. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 97 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1265 2001 Date of presentation: 18/12/2001

André Luís Invernizzi Advisor(s): Oliveira, S.M.B.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Janikian, L. 2001. Palaeoenvironmental evolution of the Camaquã group in Bom Jardim region, Camaquã Central sub-basin, RS state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 145 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1195 2001 Date of presentation: 6/8/2001

Liliane Janikian Advisor(s):

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

Kaufuss, G.A. 2001. Geochronology of the Setuva, Betara and Tigre basement nucleous, northern of Curitiba city - Paraná state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 115 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1139 2001 Date of presentation: 14/9/2001

Gilberto Alexander Kaufuss Advisor(s): Siga Jr, O.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Lima, G.A. 2001. Stratiform gabbros of the São Sebastião island northern region, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 170 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1207 2001 Date of presentation: 14/8/2001

Geani Araújo Lima Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet: SG23 Centroid of the area: ' - 'W

Abstract

Marconato, L.P. 2001. Phylogenetic analysis of Mesosauridae, amniotes anapsides of the Gondwana's low Permian. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, 125 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR088

DataBase Ref.: 904

2001

Date of presentation: 31/8/2001

Leonardo de Palma Marconato

Advisor(s): Bertini, R.J.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Martins, J.C. 2001. Kinetics of phlogopite dissolution in the Catalão I carbonatitic complex. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

[weathering, phlogopite, carbonatitic](#)

Instituto de Geociências - Universidade de Brasília

Reference: M154

DataBase Ref.: 214

2001

Date of presentation: 22/3/2001

Josiane Cristina Martins

Advisor(s): Santos, R.V.

Committee:

Jose Carlos Gaspar - IG/UnB

Milton Luiz Laquintinie Formoso - IG/UFRGS

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: GO 1/1,000,000 sheet: SE23

Centroid of the area: ' - 'W

Abstract

We have studied under laboratory conditions weathering of phlogopite separated from a phlogopite and carbonatite mixture of the Complexo Carbonatítico de Catalão I-GO. The study aims to evaluate the use of this mineral as a source of potassium in soils. Dissolution of minerals has been studied in laboratory conditions, in order to understand the reaction mechanisms during weathering.

In this study we have dissolved phlogopite at 25°C in open and closed systems, as well as in contact with soil we. XRD and SEM were used to characterize the alteration products. With ICP-AES we determined K, Si, Mg, Ca, Na, Fe and Al in solution.

At the closed system, a CO₂-saturated deionized water was used as extractive solution, whereas a cationic exchange resin (H⁺ form) was used at the open system experiment. In both experiments the potassium presented a major rate of initial release, confirming the preferential withdrawal in function of the interlayer place of the potassium in the mica structure. Silicon release is much slower, indicating that its release rate is similar to the phlogopite dissolution rate.

Under closed system conditions the specific surface area increased, probably due to Fe and Al oxides and hydroxides precipitation. These elements were not detected in the solution. In the open system the pH became more acid during the experiment, providing the release of higher ions towards the solution and the appearance of an expansive mineral phase in response to the more intensive alteration process in this experiment. The phlogopite dissolution is incongruent in both experiments. Dissolution features were observed in the phlogopite grains at contact with the soil during eighty days. Ca and Mg carbonate incrustations seem to have dominated the dissolution processes at the beginning of the experiment. The selective dissolution in the lateral rims of the grains is observed in all phases of the experiment, whereas the basal surface seems do not undergo alteration except for the dissolution of the carbonate inclusions.

Martins, L. 2001. Crystallization conditions of syn- to late- orogenic granites of the central portion of Agudos Grandes batholith, SP state, based on mineral and rock geochemistry. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 133 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1067

2001

Date of presentation: 4/6/2001

Lucelene Martins

Advisor(s): Janasi, V.A.

Committee:

Subject of thesis:

State: SP 1/1,000,000 sheet: SG22

Centroid of the area: ' - 'W

Abstract

Medeiros, T.H.L. 2001. Geomorphic evolution, characterization and mode of uses of the lagoons in Natal city - RN. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 023/PPGG

DataBase Ref.: 1023

2001

Date of presentation:

Tásia Hortêncio de Lima Medeiros

Advisor(s): Amaral, R.F.

Committee:

Subject of thesis:

State: RN 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

Abstract

Mendes, M.I.P. 2001. The Earth shape in the XVIII century through hypertextual maps: A proposal of teaching supported by the History of the Sciences. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 21

DataBase Ref.: 889

2001

Date of presentation: 19/12/2002

Maria Isabel Porazza Mendes

Advisor(s): Figueirôa, S.F.M.

Committee:

Subject of thesis: Education Applied to Earth Sciences

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Monteiro, C.V. 2001. Characterization of Brazilian amethysts face to the gamma radiation effects and the thermal treatment. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, 70 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR082

DataBase Ref.: 909

2001

Date of presentation: 18/6/2001

Claudia Viana Monteiro

Advisor(s): Haralyi, N.L.E.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Moreira, F.R.S. 2001. Use and evaluation of integration techniques and data spatial analysis in mineral research applied to Poços de Caldas plateau region. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1320

2001

Date of presentation: 6/7/2001

Fábio Roque da Silva Moreira

Advisor(s): Almeida Filho, R.

Câmara Neto, G.

Committee:

Subject of thesis: Remote Sensing

State: MG 1/1,000,000 sheet: SF23

Centroid of the area: ' - 'W

SP

Abstract

Nascimento, M.C.B. 2001. Selection of sites aiming the implantation of sanitary filled land based on geologic, geomorphologic and hydrologic criteria. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2282

2001

Date of presentation:

Maria Cândida Barbosa do Nascimento

Advisor(s): Duarte, U.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP 1/1,000,000 sheet: SF23

Centroid of the area: ' - 'W

Abstract

Nóbrega, R.P. 2001. Spatial analysis ' Knowledge-driven' and data-driven: The use of boolean logics and neural nets for the generation of mineral suitability maps in the middle-east region of Bahia state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 990545

DataBase Ref.: 894

2001

Date of presentation: 31/8/2001

Rodrigo Parreira da Nóbrega

Advisor(s): Souza Filho, C.R.

Committee:

Subject of thesis: Metallogenesis

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This research focussed on the use of Geographical Information Systems to combine spatial data from different sources; to identify and describe spatial associations present in the data; and to use models for analysis and prediction of spatial phenomena related to mineral deposits (mineral potential mapping), in the central-eastern portion of the Bahia State, Brazil. Employing geological, geophysical and geochemical data, the work involved several preprocessing and processing steps, including: (i) the conversion of heterogeneous datasets to a common format and coordinate system; (ii) the development of a new technique, named the 'INR Gradient', that allows a suitable interpolation of points to an area representation; (iii) an extensive data processing of thematic data aiming to extract useful information for input in the GIS analysis; (iv) and multi-map combination and decisive assembly of mineral potential maps for the study area. Both data-driven and knowledge-driven mineral potential predictive models were investigated in this study. The prediction of Ni deposits, for which no information on occurrences were documented in the study area, was based on the knowledge-driven approach. Such analysis was made with the aid of a theoretic, descriptive metallogenetic model for Ni, which was adapted for the available geologic data. Guided by this descriptive model, the various input maps were weighted and combined using Boolean (index overlay) and Fuzzy (gamma operation) logic methods. Among the mineral potential maps yielded through such methods, those derived with the Fuzzy gamma operation proved superior, by better constraining the degree of favourability for Ni. The prediction of mineral potential for known deposits in the study area (asbestos, iron, manganese and others) was made through the data-driven approach, and the various input maps were combined using artificial neural networks analysis. The results derived from this model were interesting though inhibited by the lack of a more representative number of occurrences for each type of deposit, a critical issue for the success in any data-driven modelling.

Nunes, C.M.D. 2001. Characterization of a Palaeoproterozoic "High Sulfidation" epithermal system in Tapajós auriferous province, Pará state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 174 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1197

2001

Date of presentation: 19/3/2001

Carmen Maria Dantas Nunes

Advisor(s): Juliani, C.

Committee:

Subject of thesis: Mineralogy and Petrology

State: PA

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Oliveira Jr, J.G. 2001. Two tests using GPR imagery in problems of tropical regions environmental control: Migration of dunes and location of pipelines. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 021/PPGG

DataBase Ref.: 1025

2001

Date of presentation:

Josibel Gomes de Oliveira Júnior

Advisor(s): Medeiros, W.E.

Committee:

Subject of thesis:

State: RN

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Oliveira, F.A.N. 2001. Study of the pyroexpansion process of pegmatitic feldspars and technological characterization of the potassic feldspar. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade de São Paulo

Reference: 54

DataBase Ref.: 2397

2001

Date of presentation: 8/10/2001

Fernando Antonio Nogueira de Oliveira

Advisor(s): Pedrosa-Soares, A.C.

Committee:

Vitória Régia Peres da Rocha - IGC/UFMG

Antonio Luciano Gandini - DEGEO/UFOP

Subject of thesis: Economic and Applied Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Oliveira, M.C.A. 2001. Study of the use of slate mining rejects in view to technological applications in ceramics. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, 71 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR084

DataBase Ref.: 908 2001 Date of presentation: 18/6/2001

Maria Cristina de Almeida Oliveira, Advisor(s): Rodrigues, E.P.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Pane, E. 2001. Hydrologic, hydrogeologic and geophysics study in Itamonte municipality, MG state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1731 2001 Date of presentation: 31/8/2001

Edgar Pane Advisor(s): Pereira, S.Y.

Committee:

Subject of thesis:

State: MG 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The principal objective of this dissertation was to use hydrological, hydrogeological and geophysical techniques to study the behavior of springs in a hydrographic microbasin; a secondary objective was the verification of the usefulness of a geophysical technique for the location of bore wells in crystalline rocks in embasement areas. The area studied is located in the county of Itamonte, in the south of Minas Gerais, and is part of the area of preservation of the Mantiqueira (APA na Mantiqueira). The study was requested by the National Department for Mineral Production (DNPM) in the investigation of mineral water. Historical series from four meteorological stations in the vicinity of the area were used for the hydrological analyses, with the station of Alagoa (MG) considered the standard. The yield of springs for the period of one year was monitored at three points in the microbasin: at the headwaters, in the central part and in the lower part. Together with rainfall values from the meteorological station of Alagoa, these served as the basis for the hydrological analysis of the area. BALASC/CEPAGRI software (1995) was used to apply Thornthwaite & Matter (1995) methodology. Monthly potential evaporation and the period of the year in which excess or lack of water would be expected were calculated. Geophysical surveys of electrical resistivity were also made, using the "Schlumberger gradient array", which indicates zones of low electrical resistivity associated with underlying fracture zones. The technique proved to be of great utility for the location of bore wells in one of the zones, in which they are not located exactly were photointerpretation of the geological structure would suggest.

Pelosi, A.P.M.R. 2001. Paleogeographic evolution of Maricá and Crespos formations (Neoproterozoic III) in the northern portion of the Camaquã Occidental basin, Caçapava do Sul, RS state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2283 2001 Date of presentation:

Ana Paula de Meireles Reis Pelosi Advisor(s): Fragozo César, A.R.S.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

Peñaloza Fuentes, A.C. 2001. Evaluation of the impact caused in the saturated zone by heavy metals coming from the disposal of residual mud in the ETE of Barueri-SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2281 2001 Date of presentation:

Alejandra Carmen Peñaloza Fuentes Advisor(s):

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Pereira, A.B. 2001. Characterization of the Sn-Ta mineralized peraluminous granites and pegmatites of Monte Alegre de Goiás.. MSc Thesis, Institute of Geosciences, University of Brasília, pp.

Granites, Pegmatites, Peraluminous, Tin, Monte Alegre de Goiás

Instituto de Geociências - Universidade de Brasília

Reference: M159

DataBase Ref.: 219 2001 Date of presentation: 5/10/2001

Adriana de Brito Pereira

Advisor(s): Botelho, N.F.

Committee: Márcia Abrahão Moura - IG/UnB
Hilton Túlio Costi - Museu Em. Goeldi

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The Sn-Ta mineralized granites of the Monte Alegre de Goiás (GO) region are related to the Aurumina Suite, occurring in the context of the Tocantins Structural Province, in the outer zone of the Brasília Fold Belt. The country rocks are mica schists of the Ticunzal Formation. The most important facies in the studied area are two-micas granites, tourmaline granite, pegmatite and late barren tonalites. The main mineralizations are associated to pegmatites and greisens.

The granites are peraluminous ($ISA > 1$), with SiO_2 and Al_2O_3 contents between 63-74 wt.% and 14-17 wt.%, respectively. These rocks are also enriched in Li, Cs, Rb, Sn and Ta, with high Ta/Nb ratio and low Ti, Zr, Y and REE. Magmatic muscovite in the various facies shows high TiO_2 contents, between 0.5 and 1.7 wt.%, and is in equilibrium with a biotite indicative of peraluminous association. In the greisens, the composition of micas varies from muscovite to lepidolite of trilithionite type. Tourmaline is both magmatic or hydrothermal in origin, being abundant in the pegmatites, in some greisens and in the greisenized schists of the Ticunzal Formation. U-Pb geochronology in zircon indicates an age around 2.2 Ga for the biotite-muscovite granite. TDM value of 2.7 Ga and $\epsilon Nd(T) = -1.93$ are indicative of an old crustal source for these granite magmas, in a syn- to post-tectonic environment as indicated by field evidences and discriminant diagrams.

Mineralogical, geochemical and isotope data allow to consider the Sn-Ta mineralization of Monte Alegre de Goiás related to a boron-rich system hosted in paleoproterozoic peraluminous granites of LCT association, whereas the greatest part of the mineralizations in the Goiás Tin Province is related to fluorine-rich systems in NYF associations hosted in younger withinplate A-type granites.

Pinheiro, C.H.R. 2001. Analysis of different factors in the disposal of heavy metals in lacustrine sediments Tiête Ecological Park. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2291 2001 Date of presentation:

Cynthia Helena Ravena Pinheiro

Advisor(s): Sigolo, J.B.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Ramos Filho, W.L. 2001. Integrated data analysis in mineral exploration: The Chapada deposit (Alto Horizonte), Goiás state. MSc Thesis, Institute of Geosciences, University of Brasília, pp.

mineral exploration, mineral prospecting, isotopic analyses

Instituto de Geociências - Universidade de Brasília

Reference: M156

DataBase Ref.: 216 2001 Date of presentation: 11/5/2001

Wilson Lisboa Ramos Filho

Advisor(s): Kuyumjian, R.M.

Committee: Claudinei Gouveia de Oliveira - IG/UnB
Luiz Augusto Bizzi - CPRM

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

In the last years, mining companies have demonstrated a constant and growing interest for studies relating data integration in mineral exploration. In academia, such studies are gaining importance only recently.

This dissertation is an integrated study based on geologic and mineral prospecting data from the Chapada deposit, located in the geotectonic unit of the Goiás Magmatic Arc.

Guidelines for characterization of targets for metals in the Goiás kMagmatic Arc, and for programs of mineral prospecting and exploration and are: i) frequent occurrence of mineral deposits in arc geotectonic unit; ii) association of the mineral deposits with calc-alkaline provinces; iii) occurrence of Brasiliano regional and local fracture systems; iv) associated hydrothermal alteration. Pb isotopic analyses in galenas of the Chapada deposit indicate a TDM model age of ~1 Ga for the Cu-Au mineralization. This age, together with other geochronological regional data, indicate that the Neoproterozoic Era is of great importance for the metallogeny of the state of Goiás.

Integrated data from field geology, aeromagnetometric and satellite imagery helped define the structural framework for the study area and emphasized the structural control for the Chapada and remaining studies mineral deposits. Subsidiary fractures, associated with the Rio dos Bois fault-the most important structure in the area-are the principal structural controls for the mineral deposits. The application of the technique of anomalous potassium in areo-gammaspectrometry indicate the existence of areas with anomalous potassium concentrations, to which metal concentrations are associated. Terrestrial magnetometry and gammaspectrometry data indicate an anomalous geophysical signature for the Chapada deposit.

The setting-up of a series of geologic and indirect prospecting parameters for future mineral exploration programs in the Goiás Magmatic Arc, would be rendered incomplete, if did not mention that mineral exploration history in the Mara Rosa-Chapada region, would have had its onset from a single Cu-anomaly of a drainage-sediment analysis. This sample was collected during a reconnaissance geologic field work in the Crixás-Porangatu region.

Santos Filho, M.G. 2001. The impact in the quality of underground waters generated by inadequate disposal of urban solid residua in the Tatuí municipality-SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2287

2001

Date of presentation:

Manoel Gomes dos Santos Filho

Advisor(s): Hirata, R.C.A.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

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Abstract

Santos, C.N. 2001. Micromorphology, geochemistry and technological aspects of apatite of the Pre-Cambrian alkaline-carbonatitic association of Angico dos Dias (BA state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 131 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1272

2001

Date of presentation: 30/8/2001

Claudia Nogueira dos Santos

Advisor(s): Toledo, M.C.M.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: BA

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

Santos, J.C. 2001. Geomorfologic picture of the Parque Nacional de Sete Cidades park, Piauí state. MSc Thesis, University Federal of Santa Catarina, Brazil, pp.

Universidade Federal de Santa Catarina

Reference:

DataBase Ref.: 1708

2001

Date of presentation: 17/8/2001

Janaina Carla dos Santos

Advisor(s):

Committee:

Subject of thesis:

State: PI

1/1,000,000 sheet:

SB24

Centroid of the area:

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'W

Abstract

Santos, J.G. 2001. Wetlands areas for the treatment of free and low level aquifers contaminated by nutrients. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2295

2001

Date of presentation:

Jeane Gláucia Santos

Advisor(s): Hirata, R.C.A.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Santos, M.F.C.F. 2001. Contribution to the knowledge of the Pleistocene fossiliferous deposits of Rio Grande do Norte state. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

megafauna, fossiliferous tanks, taphonomy, fossilization processes

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 025/PPGG

DataBase Ref.: 1021

2001

Date of presentation: 16/7/2001

Maria de Fátima Cavalcante Ferreira dos Santos

Advisor(s): Lima Filho, F.P.

Committee:

Subject of thesis:

State: RN

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

This study deals with origin, sedimentary filling and fossil content of three tanks. Situated at Antonio Martins, Barcelona, Rui Barbosa, and Apodi counties, Rio Grande do Norte state. In addition, fossil materials from the Câmara Cascudo Museum UFRN Fundação Amigos do Lajedo Soledade FALS, and from private ownership were investigated. The following families were identified: Megatheriidae, Gomphotheriidae, Mylodontidae, Equidae, Felidae, Canidae, Hydrochoeridae, Camelidae, Cervidae, Dasipodidae, Glyptodontidae, Acraucheniidae, Toxodontidae, and an Edentata, pilosa. The megafauna analysis indicated that herbivore families occur mainly in tanks, whereas carnivore families occur in a vast proportion in an investigated ravine. Taphonomic analysis was limited to physical features because the vast majority of fossils were previously collected without appropriate care for kind of study. The main fossilization processes were identified during diagenetic investigation. Permineralization is the most important process and replacement is the secondary one during fossilization. The study concluded that paleoenvironmental conditions during the late Pleistocene were more humid than the current one. Tropical savanna, characterized by fields and "cerrados", was the dominant vegetation.

Saraiva, F.A. 2001. Empréstimo areas in the Caraguatatuba municipality-SP state: evaluation of actual situation, perspectives and proposals. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2279

2001

Date of presentation:

Fernando Augusto Saraiva

Advisor(s): Duarte, U.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

Scortegagna, A. 2001. Field work in disciplines of Introductory Geology: Geography courses in the Paraná state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1723

2001

Date of presentation: 30/8/2001

Adalberto Scortegagna

Advisor(s): Negrão, O.B.M.

Committee:

Subject of thesis: Education Applied to Earth Sciences

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

The research searches to analyze the activities of field in disciplines of Introductory Geology in the courses of Geography in the State of the Paraná. The data had been collected by means of interviews with the responsible professors for discipline, in the education institutions that keep the course of Geography in the State. The analysis of the results made possible to characterize the practical one of the professors in the activities of field, since the red tape until the execution, besides evidencing the different visions of education of the different professionals who act in this discipline. The depositions of the professors had been examined from two categories of analysis: the features of the field outputs and the conceptions on discipline of Introductory Geology. The

analysis demonstrated that it does not have significant differences between the professors in whom it says respect to the works carried through in field, independently of the formation, titulation and institution where they act. The diverse alternatives of field works still are distant of the practical one of the majority of the professors, whom they opt to activities directed to the recognition in the field of contents developed in classroom. However, two conceptions had shown distinct how much to the paper of it disciplines in the course and the contents that must enclose: the vision of the professor geologist and the vision of the professor geographer. Where it weighs such differences, the conceptions of both the professionals are not, general mode, compatible with the features and contents of the field works that promote.

Silva, A.H.M. 2001. Geological and stochastics model of the NE portion of Morro do Ouro mine, Paracatu (MG). MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 990542

DataBase Ref.: 890

2001

Date of presentation: 6/3/2001

Alessandro Henrique Medeiros Silva

Advisor(s): Souza Filho, C.R.

Committee:

Subject of thesis: Metallogenesis

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

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'W

Abstract

This dissertation presents a geostatistical study of a structurally-controlled, carbonaceous phyllite-hosted gold deposit with low grade/high tonnage characteristics. Gold in this mineralisation is hosted in boudinaged quartz veins that vary in size from 2 cm up to 60 cm. Larger quartz boudins are reported but only exceptionally. The boudins show maximum elongation along the regional mineral stretching lineation (N220) and an intermediate elongation perpendicular to the latter. Gold grades within zones rich in quartz boudins are known to be high, but are diluted as the phyllites comprising these mineralized veins contain little if any gold. Therefore, ore grades, though low, can vary considerably throughout the deposit. Exploitation of such ore is done in large-scale open pit mines, allowing mining to be conducted even on fairly low grade ores. However, mining selectivity, for a number of reasons, is always a concern and there is considerable interest and debate as to whether enriched ore zones that necessarily coincide with a high incidence of quartz boudins, can be detected by geostatistical tools. Using stochastic simulation and a new technique for conditional integration of the mean of the simulated ore grades, the interquartiles ranges and probabilities, this dissertation attempts to map high grade zones within the studied deposit.

Silva, E.A.J. 2001. The eolian dunes of Natal/RN: Datation and evolution. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 033/PPGG

DataBase Ref.: 1010

2001

Date of presentation: 29/11/2002

Elisangela Alves de Jesus Silva

Advisor(s): Lima Filho, F.P.

Jardim de Sá, E.F.

Committee:

Subject of thesis:

State: RN

1/1,000,000 sheet:

SB25

Centroid of the area:

' -

'W

Abstract

This work has as main objective to present a group of information to complement the sedimentary knowledge about the several eolian systems existent at the Center-South portion of the city Natal, Rio Grande do Norte State, Brazil, starting from the identification of eolian units existent, to accomplish absolute dating of eolian sediments, to analysis of geophysical profiles by Ground Penetrating Radar (GPR) Method, as well as by qualitative identification of some use types and occupation of the soil in referred area. Through a photogrametry study, a map was elaborated with separation between eolian geological units with deposicional and erosional characteristics, been then identified six main units: Unit I - Blowouts (BW), Unit II - Active dunes field (DA), Unit III - Fixed dunes field (DF), Unit IV - Parabolic dunes field (DP), Unit V - Red parabolic dunes field (DV) and Unit VI - Satiny dunes surface (SD). For dating of eolian sediments by Termoluminescence (TL) Method were analysed eight samples placed in the Units I, III, IV and V at the study area. For obtained results, the largest number of collected samples and those samples more equivalent ages to each other were those located in the Unit IV, with predominant values dating about 15.000 years. Two profiles of GPR were obtained on areas of the Dunes's Park, near the "Natal's Conventions Center". Results showed migration by a new dune generation on other older, the geologic contact with the Formação Barreiras (FB) and lines representing the groundwater level inside the dune. In a qualitative study about use and occupation of the soil aspects occurring on some fields at studied area, it was identified some use types and occupation, being the main ones: the construction of residential and commercial buildings, dunes fields cutted for construction of access roads and garbage deposition on those fields.

Silva, F.A.N. 2001. Preliminary envoronmental evaluation of old disposal areas of urban solid residua in São Paulo municipality. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2280

2001

Date of presentation:

Francisco Adrião Neves da Silva

Advisor(s): Pacheco, A.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Silva, J.G.R. 2001. Cyclostratigraphy study in the early Permian deposits of Itararé group, Paraná basin, in the Santa Catarina and Rio Grande do Sul states, Brazil, using core and gamma ray log data. MSc Thesis, Instituto de Geociências, Universidade Federal do Rio Grande do Sul, pp.

Stratigraphy; cyclostratigraphy; rhythmites; Itararé Group; Early Permian; Late Palaeozoic glaciation; Rio Grande do Sul; Santa Catarina

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 321 2001 Date of presentation: 1/3/2001

José Guilherme Rodrigues da Silva Advisor(s): Azambuja Filho, N.C.

Committee: César Cainelli -
Clóvis Francisco Santos -
Paulo Sérgio Gomes Paim -

Subject of thesis: Stratigraphy

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: 29 30 's - 50 00 'W
SC

Abstract

The end of the Neopaleozoic Glaciation is represented today in the sedimentary record of Paraná Basin by the rocks of the Itararé Group. In the State of Rio Grande do Sul and in the southeast portion of the State of Santa Catarina this glacial deposits are Eopermian, ranging in age from Asselian to Artinskian. The existence and the nature of possible astronomic forcing of cyclicity in these sediments, basically shales and rhythmites, were studied in core and gamma ray log data from two wells drilled by CPRM (Companhia de Pesquisa de Recursos Minerais) to coal research, one in Santa Catarina (7-RL-04-SC) and the other in Rio Grande do Sul (IB-93-RS). The distance between the original location of the cores (about 380 km) made it possible to test the astronomic forcing in this glacial deposits in different locations of the basin. Two methods of data sampling were used, according to data scale and the possible forcing: the gamma ray logs (191 m for 7-RL-04-SC and 71 m for IB-93-RS) were digitized and sampled at 1 cm intervals, in order to test the presence of orbital forcing at scales of 20,000 to 400,000 years or other forcing phenomena in scales of 3,000 to 10,000 years, and the cores were scanned in the intervals with rhythmites (1,2 m for 7-RL-04-SC and 38 cm for IB-93-RS) and transformed in gray scale data sampled equally (0,2538 mm), in order to search for annual to millenarian cycles. The harmonic analysis by the fast Fourier transform showed cyclicity in both scales: orbital cycles ranging from about 17,000 to 100,000 years were discovered in the log data, and solar cycles ranging from 22 to about 1,000 years were discovered in the core data. The accumulation time calculated for the well 7-RL-04-SC in log and core data (about 9,400 years for the scanned interval and about 12,600 years for the same interval in log data) showed a very high correlation, proving the efficiency of the methodology and the usefulness of cyclostratigraphy as a chronostratigraphic analysis and refining tool. The thick rhythmic sections of the Itararé Group present in the cores studied have been frequently mentioned in literature as varvites or varve-like deposits. The results showed that each pair of rhythmites were deposited during a 22 years period related to the Hale solar cycles. The analysis also permitted the study of the relations between several variables, as accumulation time and accumulation rate, and the definition in 7-RL-04-SC well section of third and fourth order depositional sequences. These fourth order sequences are related to the eccentricity orbital forcing, been similar to the Pleistocene glacial cycles, and the accumulation rates calculated for the well data, ranging from 5,2 to 9,3 cm/ka, are very similar to the Pleistocene accumulation rates. The analysis also showed that the complete sedimentary record of the Itararé Group for the well IB-93-RS corresponds to about half precession cycle (1 2,342 years). As both astronomic forcing phenomena detected, the solar and the orbital cycles, affect climate on a global scale, certainly their influence on sedimentation occurred in other locations of the basin.

Souza, M.T. 2001. Basis for the management of underground hydrologic resources of the Distrito Federal. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

the groundwater dynamics of Federal District (Brazil), regional recharge áreas, susceptibility of fissural aquifers recharge.

Instituto de Geociências - Universidade de Brasília

Reference: M153

DataBase Ref.: 213 2001 Date of presentation: 29/3/2001

Maurício Teixeira de Souza Advisor(s): Campos, J.E.G.

Committee: Uwe Tröger - UnB
Uriel Duarte - IGc/USP

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The present work contributes to the knowledge on the groundwater dynamics of Federal District (Brazil). Due to the high density of human occupation observed in the area in the 80's and 90's the groundwater assumed fundamental importance as an alternative of water supply; in addition, areas highly favorable to the recharge processes from the precipitation (regional recharge

areas) started to be occupied. The impacts caused to the groundwater system due to the increase of the exploitation rates and land occupation were not measured satisfactorily, largely because of the scarce knowledge regarding the system. A preliminary evaluation of the groundwater resources of the territory is presented, as well as qualitative analysis of the territory of the territory regarding the susceptibility of fissural aquifers recharge.

The study area corresponds to the territory of federal District (Brazil), with an area of 5791 Km², delimited by the latitudes 15° 30' 00" S, 16° 03' 00" S and by the Preto river, eastwards, and Descoberto river, westwards. The area lies over one of the highest regions of the Brazilian Central Plateau and corresponds to the water divide of three watersheds (Araguaia-Tocantins Watershed, São Francisco Watershed and Rio Prata Watershed). This position attributes to the area a regional disperse characteristic for the superficial flow as well to the groundwater. The 1500 mm annual rain precipitation is mainly distributed from October to April (75%), when the soil groundwater surplus leads to a recharge increment to higher depths.

The hydrogeology of the area characterized by the presence of fissural domain aquifers, that correspond to the low grade proterozoic metasediments of Bambuí, Araxá, Canastra and Paranoá groups, covered by different types of soils, mainly latosols and cambisols, that work as porous aquifers. In the flat higher areas, the occurrence of dry fractures below the base of porous domain saturated zone suggests a discontinuity between the porous domain groundwater storage and the fissural domain storage (the two potentiometric surfaces model). The soils of the area play a fundamental role in the recharge processes of the domain and in the superficial channels flow regulation.

Preliminary estimates of the porous aquifers regulatory resources were accomplished by the recession curves analyses of three watersheds on the area, between February and September. The results indicate that about 5% (75 mm) of the total annual precipitation can be considered as the regulatory resources of the watersheds. This percentile, reconsidered for the whole area of Federal District, results in a volume of 4,342 x 10⁹ m³. The secular resources estimated for the porous domain is about 2,14 x 10⁹ m³.

The fissural domain regulatory resources were estimated through indirect evaluations of the infiltrated volume to the fissural domain by the comparison with studies in other areas. The percentile of 0.5% of the total annual precipitation was obtained. It corresponds to a volume of 43.605.000 m³ (7,5 mm). This underestimated volume was taken as equivalent to the fissural domain exploitable resources, what results in an average safety yield of 20.833 L/day. Km². The fissural domain secular resources were estimated around 5,438 x 10⁹ m³ by the consideration of different values for the interconnected fractures index (total discontinuities free to water storage) and the saturated thickness for fissural domain hydrogeologic unit.

The Federal District territory was analyzed in the point of view of fissural domain recharge susceptibility through the integration on a geographic information system (GIS) of the porous domain hydrogeology, the fissural domain hydrogeology, the landscape declivity and the soil use and occupation maps. The analysis, considered as a qualitative one, resulted in the delimitation of four different susceptibility classes to the recharge. The final map reveals the high susceptibility of the areas with the association of highlands -P1-R3Q3- in determining the fissural domain aquifers (regional recharge areas). These areas need to be protected to guarantee minimum fissural aquifers recharge levels.

Souza, S.K.J. 2001. Geology and geotouristic aspects of Delfinópolis municipality/MG. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 90 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR077

DataBase Ref.: 915 2001 Date of presentation: 26/4/2001

Sheila Kleiner Jorge de Souza Advisor(s): Simões, L.S.A.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Toledo, C.E.V. 2001. Palaeoichthyologic analysis of Corumbataí formation in the Rio Claro region, São Paulo state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, 146 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR087

DataBase Ref.: 905 2001 Date of presentation: 24/8/2001

Carlos Eduardo Vieira Toledo Advisor(s): Bertini, R.J.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Toso Jr, E. 2001. Evaluation of the contamination and associated risk in area of industry and neighbouring, in Cotia-SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2290 2001 Date of presentation:

Eurélío Toso Júnior Advisor(s): Pacheco, A.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Truffi, S.A. 2001. Alterations and soils developed on acidic volcanic rocks of Serra Geral formation in Piraju region (SP state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 116 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1196 2001 Date of presentation: 31/1/2001

Silvia Alessandra Truffi

Advisor(s):

Committee:

Subject of thesis:

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Varnier, C.L. 2001. The effect of nitrogen coming from "in situ" sanitation systems in the quality of underground waters in free and low level aquifers. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2288 2001 Date of presentation:

Claudia Luciana Varnier

Advisor(s): Hirata, R.C.A.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Vesely, F.V. 2001. Sequences analysis in glacial successions: Case study in Itararé (C-P) group, northeastern of Paraná state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, 119 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR086

DataBase Ref.: 906 2001 Date of presentation: 23/8/2001

Fernando Farias Vesely

Advisor(s): Assine, M.L.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Weinschutz, L.C. 2001. Faciologic and stratigraphic analysis of the Itararé group (Permocarboniferous) in the Rio Negro-Mafra region, eastern border of Paraná basin. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 59 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR080

DataBase Ref.: 912 2001 Date of presentation: 10/5/2001

Luiz Carlos Weinschutz

Advisor(s): Castro, J.C.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Zambelo, F.R. 2001. Quantitative multielement analysis of soils and sediments by XRay fluorescence spectrometry. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 974563

DataBase Ref.: 892 2001 Date of presentation: 8/6/2001

Fabio Roberto Zambelo

Advisor(s): Enzweiler, J.

Committee:

Subject of thesis: Metallogenesis

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Abstract: This dissertation evaluates X-ray fluorescent spectrometry (XRF) as an analytical tool of soils and sediments, for economic geology and environmental geochemistry applications. The multi-element capacity and the analytical speed of XRF are of interest to elemental geochemical mapping projects, in mineral deposits prospects and in the evaluation of the environmental contamination by heavy metals. A difficulty found in the analysis of soils and sediments by XRF is instrument calibration, for a wide range of elemental concentration, using reference samples. Those are rarely characterised for all the elements of interest, may present inhomogeneities in some degree, mainly when the samples are simply pressed as pellets. The instrumental progress of the last years and the wide interest in the fast analysis of such matrices justify the development and the evaluation of analytical programs for this application. A quantitative analytical program for determination of major (Si, Al, Fe, Mg, Ca, K, Na, Mn, Ti and P) and trace elements (As, Ba, Cd, Co, Cr, Cu, Ga, Mo, Nb, Ni, Pb, Rb, S, Sb, Sn, Sr, Th, U, V, Y, Zn, and Zr) in pressed pellets of soils and sediments was prepared and the associated figures of merit (precision, accuracy and detection limits) were evaluated. For the two stages (calibration and evaluation) more than sixty reference materials of soils and sediments from international suppliers a sequential X-ray fluorescent spectrometer were used. The detection limits for trace elements (1-5 g/g) indicate that the analytical program is fit-for-purpose, i.e., the considered elements can be analysed in most cases in such matrices. Exceptions are Cd and Sb, whose detection limits (1,6 and 1,9 µg g⁻¹, respectively) are too high, considering their usual abundance, but would still be useful to detect anomalous concentrations. The reference samples used in the evaluation of the accuracy were others than those used for instrument calibration. Three methods were used to evaluate the results. The results of trace elements fall within the confidence interval of the certified values or are very close of the recommended values. Due to the mineralogical effects, the calibration of the major elements was more complex, but the results, in general were in good agreement with recommended values. Eventual discrepancies were useful to improve calibrations and contributed to a better knowledge of the used reference samples and as criteria to choose the calibration samples.

Zampiroli, A.P. 2001. Neocarboniferous taoflora of the Fazenda Santa Marta farm, interglacial of the Itararé subgroup, Tubarão group, Paraná basin, Itapeva region (SP state), Brazil. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1948 2001 Date of presentation: 2/7/2001

Ana Paula Zampiroli

Advisor(s): Bernardes-de-Oliveira, M.E.C.

Committee:

Subject of thesis: Palaeoecology

State: SP 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Zapparoli, A.C. 2001. The chromite deposits of the eastern border of Serra do Espinhaço Meridional range, Minas Gerais state: Petrology, chemism and genetic implications. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 133 pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR079

DataBase Ref.: 913 2001 Date of presentation: 3/5/2001

Adriana de Cassia Zapparoli

Advisor(s): Angeli, N.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Amante, A.M.S. 2002. Pb/Pb isotopic ratios obtained by LA-ICP-MC-MS: Evaluation and treatment of the results, age determination and comparison with other analytic techniques. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 993771

DataBase Ref.: 884 2002 Date of presentation: 28/6/2002

Alexandre Marcos da Silva Amante Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

New Isotopic results Pb/Pb of the UQ-Z1 standard referente and the synthetic glass standard NBS 610, obtained by Laser Ablation Inductively Coupled Plasma Multicollector Mass Spectrometry - LA-ICP-MC-MS, model ISO PLASMA TRACE, have been evaluated and systematically treated. Besides the calculation of the ages through the Pb/Pb ratios for UQ-Z1, such results have been compared with those available in literatura by other analytical techniques: ID-TIMS; monocollector LA-ICP-MS and SHRIMP. The results of treatment consisted in: 1) the mass bias correction of the equipment based on the 205Tl/203Tl ratios of NBS 610; 2) the elimination of the 204 Hg interferences on the peak of 204 Pb from the 202 Hg intensities; 3) the common lead correction based on the 204 Pb intensities; 4) the statistical treatment with rejection of up to 15% of raw Isotopic Pb/Pb ratios, considering the average ± 1 standard deviation (1s). The Pb/Pb ratios of the NBS 610 obtained in this work agree with other techniques, despite the larger uncertainty. The average age determined for the UQ-Z1 was 1144 Ma ± 34 (2s). This number is close to the value used as referente (1143 Ma ± 1 (2s)) obtained by ID-TIMS, however, approximately 30 times larger uncertainty. Compared with other techniques, the ages obtained yielded average ages closest to the referente age than the ages determined by monocollector LA-ICP-MS (1116 Ma ± 47 (1 s) (Machado & Gautier, 1996); 1146 ± 56 (1 s) (Machado et al., 1996) and 1148 ± 5 (2s) (Bruguier et al., 2001)) and by SHRIMP (1138 ± 32 (2s) (Schrank et al. 1997)). The achieved results demonstrate the advantage of the LA-ICP-MC-MS technique in relation to others, as well as in speed, in the time spent and in the lower cost of the analyses. In comparison with the ID-TIMS technique, the LA-ICP-MC-MS presents still another advantage as the measurements are made directly on the solid sample without previous chemical attacks. From these studies it can also be concluded that the LA-ICP-MC-MS is an appropriate analytical technique for studies on the provenience of detritic sediments that need a great amount of data of Isotopic ratios, to allow the identification of zircon with distinct origina.

Antunes, J.A. 2002. Structure of upper crust in Minaçu region (GO state), using the seismic refraction method. MSc Thesis; Instituto de Astronomia, Geofísica e Ciências Atmosféricas - University of São Paulo; 117 p

Instituto Astronômico e Geofísico- Universidade de São Paulo

Reference:

DataBase Ref.: 1471 2002 Date of presentation: 16/9/2002

Juliana A. Antunes Advisor(s): Berrocal, J.

Committee:

Subject of thesis: Geophysics

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

Araújo, L.P. 2002. Analysis of risk in the health publishes and quality of the potability of water of the Natal (RN) region, on the basis of geographic information system. MSc Thesis, Departamento de Geologia, Universidade Federal do Rio Grande do Norte, pp.

GIS; People Health; Hydric Resources

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference:

DataBase Ref.: 431 2002 Date of presentation: 30/4/2002

Ludmagna Pereira de Araújo Advisor(s): Petta, R.A.

Committee:

Subject of thesis: Economic Geology

State: RN 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

Abstract

The work consisted of the one development System of Management of Water (WMS), which used tool SIG to visualize and to integrate the geographic location and the gotten analytical results in the different pollutant sources (industrials and domestic) contained in the region of Natal/RN. The data had been gotten in public agencies and "in l lease", then a data base with diverse inherent information to the showed point, with photo and the profile of the wells was mounted. The data had been crossed epidemiologists, gotten in the Secretariats of the Only System of Health, to the ambient data that allowed to carry through one better understanding of the current context of the hydric system being made possible a future to monitor and management of the quality of the water in the region of Natal (RN) in view of the a improvement of offers for the human consumption. In the SIG, the

interrelated layers, they integrate inherent the space information to the quality of the water represented in the map for critical permanent points of control considered for possible taking of decision, accepting as model the values of the program of to monitor integrated for the agencies of ambient control based in the standards established for the World-wide Organization of Health and National Advice of the Environment. The SGA integrally gives shape chance of if in one only platform, the main causing problems of pollution of the water-bearing one that it integrates the aquífero Dunas/Barreiras. One searched with this work to implement a digital hidro-cartographic base of the region of Natal, with trustworthy data and that it rescued the biggest number of possible information, therefore only an extensive and systematic monitoramento, establishing techniques of control of the polluting sources and the identification of the risks to the related health human being to not the attendance of the standard of potabilidade of the water, will allow that precautions are overcome and if politics of control of the standards to establish of the quality of waters.

Bastos, R.O. 2002. Natural gamma radiation of distinct lithotypes and the estimation of the dosis to them associated in the eastern municipalities of the São Paulo state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 951487

DataBase Ref.: 887

2002

Date of presentation: 30/4/2002

Rodrigo Oliveira Bastos

Advisor(s): Pascholati, E.M.

Committee:

Subject of thesis: Metallogenesis

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

Aerial gamma spectrometric data were processed aiming to estimate outdoor gamma radiation dose for an area up to 11500 Km², located in the eastern portion of São Paulo State, Brazil. The study area comprises Campinas city and surrounding, including over fifty other municipalities. A residual analysis was carried out for grids assembled by different data interpolation methods in order to recognize which of them would better interpolate the data. The reliability of these processed data were evaluated by comparing the dose estimates obtained from aerial gamma spectrometric data for the Itu Intrusive Suite and the São Roque Granitoid Complex with available estimates yielded from ground surveys. This assessment showed a difference between the estimates of about 20%, probably due to radioelements losses along pedogenesis and attenuation due to soil moisture and vegetation cover. The gamma-ray estimates were interpreted as a function of the lithotypes mapped in the study area and consistent results were revealed. The acid igneous rocks of the region display a mean contribution of 95,9 nGy/h to the dose rate of radiation outdoors, whereas basic rocks display 56,5 nGy/h. Sedimentary rocks mean contribution to the radiation dose rate is 51,2 nGy/h. Metamorphism does not seem to affect significantly the concentration of radioelements - the mean contribution to the dose rate estimated for the Varginha Complex (metamorphosed acid igneous rocks) is 96,0 nGy/h and for the Amparo Complex (quartzites) is 31,4 nGy/h. Average radiation doses per municipality were compiled for the fifty municipalities approached in this research. Averages varied from 39,7 nGy/h in Engenheiro Coelho to 110,5 nGy/h, in Votorantim. Median values were estimated for Campinas, Itu and Paulínia (69,3 nGy/h, 66,3 nGy/h, 61,1 nGy/h, respectively). The population-weighted average radiation dose yielded for the fifty municipalities was found to be 65,2 nGy/h, which is slightly higher than the world's average (57 nGy/h). The estimated radiation doses presented in this study are similar to published data for areas comprising analogous rocks and likewise, these gamma-ray dose levels show no indication of health hazards for human beings.

Bedani, E.F. 2002. Amphibian (Anura) occurrence in Tertiary Aiuruoca Basin, Minas Gerais, Brazil. MSc Thesis, University of Guarulhos, SP, Brazil, pp

Amphibian; Anura; Tertiary; Aiuruoca; Minas Gerais

Universidade Guarulhos

Reference:

DataBase Ref.: 1694

2002

Date of presentation: 10/12/2002

Elza de Fátima Bedani

Advisor(s): Haddad, C.F.B.

Committee:

Maria Judite Garcia

- UGuarulhos

Mario Lincoln de Carlos

-

Subject of thesis: Palaeontology and Stratigraphy

State: MG

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The Aiuruoca Basin, located on the Alto Rio Grande Plateau, in the State of Minas Gerais, Brazil, has its northern and southern limits set by the Serra da Mantiqueira and the Serra de Minduri, respectively. Its sediments are assigned to the Pinheirinho and the Entre-Corregos Formations. The earlier is characterized by thick clastic facies, composed primarily of conglomerates, breccia, arkoses and polymictic conglomerates, whereas the Entre-Corregos Formation is composed of pelite, in the form of shales with argillite intercalations.

□ The sedimentary packing of the Aiuruoca Basin suggests that its thick clastic sediments represent proximal and intermediary gravity flux deposits, which were deposited directly on a terminal lacustrine system (base level).

□ The paleontological content of the Entre-Corregos formation is characterized by plant megafossils, insects, coprolites, fish, amphibians (anurans) and palynomorphs. An Eocene-Oligocene age for the outcropping section of this formation has been established primarily on plant palynomorphs, which indicate, at the time of deposition, the presence of a subtropical climate with well defined seasons.

□ This present work reports the first occurrence of very well preserved tertiary anurans in Brazil, displaying a partial bone

preservation, which in some specimens is associated to dermal carbonification.

□ A total of 154 specimens have been found in the sediments, displaying almost complete and fully articulated skeletons. Comparative studies between extant and extinct forms, together with phylogenetic analyses allowed these individuals to be assigned to the Family Pipidae.

Borges, W.R. 2002. Geophysical investigations in the border of the São Paulo sedimentary basin, using GPR and electrorresistivity. MSc Thesis, Instituto Astronômico e Geofísico - University of São Paulo/USP, pp

Instituto Astronômico e Geofísico- Universidade de São Paulo

Reference:

DataBase Ref.: 1807 2002 Date of presentation: 22/3/2002

Welinton Rodrigues Borges

Advisor(s):

Committee:

Subject of thesis:

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Borghetti, C. 2002. The influence of the calcinating industry in the distribution and concentration of heavy metals in the soils of Córrego Fundo - Pains region (State of MG). MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 57

DataBase Ref.: 2400 2002 Date of presentation: 22/3/2002

Cristiano Borghetti

Advisor(s): Horn, A.H.

Committee: Tânia Mara Dussin - IGC/UFMG
Rochel Monterio Lago - IGC/UFMG
Hubert M. P. Roeser - DEGEO/UFOP

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Bússolo Jr, G. 2002. Contribution to the morphosedimentary study of the Enseada de Ratones inlet, Santa Catarina island - SC state - Brazil. MSc Thesis, University Federal of Santa Catarina, Brazil, pp.

Universidade Federal de Santa Catarina

Reference:

DataBase Ref.: 1706 2002 Date of presentation: 29/5/2002

Geraldo Bússolo Júnior

Advisor(s):

Committee:

Subject of thesis: Coastal and Sedimentary Geology

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Cadamuro, A.L.M. 2002. Proposal, evaluation and feasibility of artificial recharging techniques in fractured aquifers for residential use in the Federal District. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Artificial recharge, hydrogeology, fractured aquifers, management of hydric resources, by residential housing condominiums, Federal District

Instituto de Geociências - Universidade de Brasília

Reference: M167

DataBase Ref.: 227 2002 Date of presentation: 16/9/2002

André Luiz de Moura Cadamuro

Advisor(s): Campos, J.E.G.

Committee: José Oswaldo de Araújo Filho - IG/UnB
Uriel Duarte - IGc/USP

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The present study proposes and evaluates the utilization of techniques of artificial recharge of fractured aquifers in areas of regional recharge in the Federal District made waterproof by residential housing condominiums. The purpose of this study is the use of management techniques of the hydric resources, in order to minimize, or even compensate for the impacts caused to the natural process of recharge of the underlying aquifers, like the generalized lowering of the potentiometric levels that leads to the exhaustion of local springs.

The present study was undertaken in the future settlement area of the housing condominium Alto da Boa Vista, located in the Chapada da Canastra, in the administrative area of Sobradinho, 20km northern of Brasília. That condominium still lacks environmental licensing, and its project predicts the occupation of about 19,000 inhabitants, in an area of approximately 7km². Two techniques of artificial recharge of fractured aquifers, using rain water, was tested as pilot systems in the study area: i) as an indirect system, which consists of maximum storage of the porous aquifer; ii) as a direct system; in which the recharge is possible through direct infiltration in fractures. In both systems, water was either captured, through roof gutters installed in experimental roofs and driven through PVC piping for injection in dug boxes in the soil (indirect system), or deeply injected through a tubular well (direct system).

In the indirect system four types of dug boxes were tested in the soil, with different coverings and fulfilling, and in the direct system a deep tubular well was used, with openings directly in the fractured rock.

Water budgets were used to calculate the available fractured aquifers recharge before urbanization conditions will take place. Therefore, data related to rainfall and other available meteorological parameters were collected from nearby meteorological stations. Control of hydric losses, run-off, base flow and interflow was undertaken, and a systematic monitoring of the spring flows of the hydrographic basin tributaries that cross the urban occupation was made.

Two hypothetical water budgets were determined based on the relationships between green areas and waterproof ones prior to occupation. One budget considered the conditions of urban occupation of the area without the use of techniques of artificial recharge, and the other considered the technique of artificial recharge proposed in this study. The budgets were used to compare the calculated volumes of recharge in these hypothetical situations with those calculated in pre-urbanization conditions, in order to evaluate the impact of occupation in the natural recharge and the efficiency of the systems of artificial recharge proposed.

Simulation of high intensity pluviometric precipitation demonstrated that, for the indirect system of artificial recharge, the best dug box is the one filled out by washed gravel, with a minimum of 40% effective porosity. Some constructive adaptations for minimization of geotechnical risks must be observed. In the direct system, the results are feasible, despite limitations such as rain intensity, transmissivity of the well used for injection, high cost associated with the location and drilling of wells.

Comparison of water budgets demonstrate that, if urban occupation occurs, with no utilization of the proposed techniques, a strong impact will take place, causing a complete interruption of the natural recharge in the fractured aquifers. One must consider that the meteorological conditions are identical to those observed during the period of the research. So, the exploitation of these aquifers would cause a continuous lowering of the potentiometric levels, drying out the springs that feed the tributaries of the neighboring hydrographic basins. However, in case occupation happens with the use of the indirect system of artificial recharge proposed, the recharge will be 150% larger than in occupation conditions without the accomplishment of artificial recharge, and 10% larger than the natural recharge in the pre-urbanization stage.

I emphasize that the success of the application of this technique, as a tool of management of the hydric resources, depends on the precision of construction and maintenance of the system, based on demand, and on the effective consumption of water availability in the housing condominium after its installation. Much will depend on the success of administration methodology, as well as in a strong and an efficient project of environmental education by the resident population. The control of the consumption and the quality of water used, will certainly depend on the contribution and correct stance toward saving clean and potable water by the condominium population.

Castro, A.F. 2002. Modelling and development of a geographic data bak: Application in the execution of environmental sensibility to oil spilling maps in the coastal area between Galinhos and São Bento do Norte - RN state. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 032/PPGG

DataBase Ref.: 1011

2002

Date of presentation: 6/9/2002

Angélica Felix de Castro

Advisor(s): Vital, H.

Aloise, D.J.

Committee:

Subject of thesis:

State: RN

1/1,000,000 sheet:

SB24

Centroid of the area:

' -

'W

Abstract

Cesarino, A. 2002. Selection of materials for remediation of aquifers contaminated by nitrate using reactive barriers. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2298

2002

Date of presentation:

Alessandro Cesarino

Advisor(s): Hirata, R.C.A.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Chimpliganond, C.N. 2002. Characterization of induced seismicity in Nova Ponte reservoir, Minas Gerais state, Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Reservoir-induced seismicity, Nova Ponte, hypocentral distribution, velocity model, duration magnitude, b-value

Instituto de Geociências - Universidade de Brasília

Reference: M165

DataBase Ref.: 225 2002 Date of presentation: 29/8/2002

Cristiano Naibert Chimpliganond Advisor(s): Marza, V.I.

Committee: João Willy Corrêa Rosa - IG/UnB
Marcelo Sousa de Assumpção - IAG/USP

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: MG 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The case of Reservoir Induced Seismicity (RIS) at Nova Ponte, Minas Gerais, Brazil has been investigated since its initiation (that is, 1994). The need to offer clarifications to the population and to the local authorities, besides the scientific aim to search for its origins and features, have motivated these studies during the time.

This work has aimed at determining some characteristics of this RIS analyzing the special distribution and, in subsidiary, the temporal one, together with the magnitude changes in the seismicity during the period 1994-2000.

For a thorough study of the seismicity variations, first were relocalized the events using the computer package HYPO71. For this, it has been worked out a local velocity model composed by two layers ($V_p=5.0$ km/s and thickness of 0.3 km; $V_p=5.7$ km/s and thickness 5.7 km/s) overlaying a half-space ($V_p=6.1$ km/s) and a V_p/V_s ratio of 1.70, all defined in this study.

The analysis of the space-time hypocentral distribution has been done using epicentral maps and vertical cross-sections for different seismogenic areas in consecutive yearly time-windows. In such a way it was inferred the differential hydro-mechanical behavior of the rocks in each area.

Next, it has been done a uniform size quantification of the RIS at Nova Ponte, through the development and calibration of magnitude duration scales for two selected seismographic stations (NP3 and NP4). Moreover, based on these consistent magnitude determinations it was computed (using the method of maximum likelihood) the b-parameter of the frequency-magnitude distribution for this earthquake population, whose value (1.37 ± 0.07) has proved to be higher than the corresponding b-value for the natural seismicity in the neighboring area.

Both the space and time traits of the seismic events, as well as their size quantification, inferred in this study, do validate and bring new insights on the observed reservoir induced seismicity at Nova Ponte.

Christ, M. 2002. Application of direct and indirect techniques in the evaluation of hydrocarbon contaminants in fuel stations. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 852 2002 Date of presentation: 19/12/2002

Marcelo Christ Advisor(s): Ronchi, L.H.

Committee:

Subject of thesis: Earth Sciences and Environment

State: RS 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

Cipriano, R.A.S. 2002. Mineralogia fosfática dos pegmatitos do Distrito Pegmatítico de Conselheiro Pena, Minas Gerais. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 56

DataBase Ref.: 2399 2002 Date of presentation: 21/3/2002

Ricardo Augusto Scholz Cipriano Advisor(s): Karfunkel, J.

Committee: Antônio Wilson Romano - IGC/UFMG
Antonio Luciano Gandini - DEGEO/UFOP

Subject of thesis: Economic and Applied Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Corrêa Silva, R.H. 2002. Characterization of a epithermal low-sulfidation system (adularia-sericite) mineralized in Au-Cu-Mo in paleoproterozoic volcanics from the Tapajós auriferous province: Metallogenetic and tectonic implications. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1841 2002 Date of presentation: 26/4/2002

Rafael Hernandes Corrêa Silva Advisor(s): Juliani, C.

Committee:

Subject of thesis: Mineralogy and Petrology

State: PA 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Cunha, E.R.S.P. 2002. Radar, geologic, airborne gamma ray and Landsat TM digital data integration for geological mapping of the Estrela granite complex (PA). MSc Thesis. Instituto Nacional de Pesquisas Espaciais - INPE; pp

Estrela Granite Complex; Parauapebas - Pará- Brazil; Airborne Gamma Ray; Radar; Digital Data Integration

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 916 2002 Date of presentation: 25/3/2002

Edson Ricardo Soares Pereira da Cunha Advisor(s): Santos, A.R. Paradella, W.R.

Committee: Raimundo Almeida Filho - INPE
Paulo Veneziani - INPE
Carlos Eduardo de Mesquita - CG/UFPA

Subject of thesis: Remote Sensing

State: PA 1/1,000,000 sheet: SB22 Centroid of the area: 06 12 's - 49 44 'W

Abstract

This work is focused on the geotectonic context of the Carajás Mineral Province, Amazon Craton, which represents the most important Brazilian Mineral Province and hosts iron, copper, gold, manganese and nickel deposits. At the end of Archean age, during the tecno-metamorphic evolution, moderated alkaline granitoids were generated, such as, Estrela Granite Complex (EGC). This work has used digital integration products with the purpose of study the granite suite, its host rock, and the surrounded area. The digital integrated data were gamma-ray and geological data with satellite images (SAR-SAREX e TM-Landsat). The geophysics data, originally in 32 bits and grid format, were interpolated and converted to 8 bits images. The geological data (facies map) was digitalized and converted to a raster format. The remote sensing images were geometrically corrected to guarantee an accuracy on the geological mapping. On the data processing phase, SAR images were digital i ntegrated with gamma-ray data, TM-Landsat image and the raster facies map. The IHS transformation was used as the technique to integrate the multi-source data. On the photogeological interpretation, SAR data were extremely important to permit the extraction of the main tectonic lineaments which occur on the following directions: +/- N45W, +/- N70W, +/- NS, +/- N20E, +/- N45E e +/- N75E. This procedure was done both in analogic and automatic form, being the automatic process more useful to complement information in the extracting process. Among the digital products generated, SAR/GAMA products (uranium, thorium and total count) were the ones that give the most important contribution. The interpretation of the SAR/GAMA's products added to the field campaign have allowed to map the limits of units that occur in the region and four facies of the Estrela Granite Complex were detected. The origin of the granite suite might be related to a magmatic differentiation or to distinct in trusion pulses. The use of the digital integrated products has showed to be extremely useful for basic geological mapping, especially to aid field campaign and the selection of key areas for detailed verification. As a final result, this research has allowed to propose obtained a geologic map of the Estrela Granite Complex area.

Dávila, C.A.R. 2002. Geotectonic environment, geochronology and gold mineralizations in the erosional windows from São Domingos (Goiás state) and Correntina (Bahia state). MSc Thesis, Institute of Geosciences, University of Brasília, pg.

São Domingos; Correntina; Transamazônico, paleoproterozoic magmatic arc, orogenic lode-gold deposits

Instituto de Geociências - Universidade de Brasília

Reference: M169

DataBase Ref.: 229 2002 Date of presentation: 20/12/2002

Carlos Alberto Rendón Dávila Advisor(s): Kuyumjian, R.M.

Committee: Nilson Francisquini Botelho - IG/UnB
Francisco Egidio Cavalcante - DG/UFMT

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W
BA

Abstract

This study presents data on geology, lithogeochemistry, geochronology and gold mineralizations for the volcanic-sedimentary sequences and associated plutonic rocks from the São Domingos area, state of Goiás, and Correntina area, state of Bahia, located at the border of the São Francisco Craton. These sequences and the plutonics were emplaced during the Paleoproterozoic in an oceanic island-arc tectonic environment. They are partially covered by rocks from the Bambuí

(Neoproterozoic) and Urucua (Cenozoic) groups and are in tectonic contact with (archaeo?) migmatite, gneiss and calc-silicate rocks. The metasedimentary rocks from the sequences display different phases of deformation related to the Transamazônico orogeny, reactivated during the Brasiliano orogeny only in the Correntina region. The plutonic rocks are meta-aluminous, display calc-alkaline chemical affinity and are weakly deformed. The sequences studied and the oceanic island-arc from the Almas-Dianópolis Terrane suggest a paleoproterozoic magmatic arc at the western border of the São Francisco Craton. The gold mineralizations are hosted by quartz veins which are fillings of Transamazonic fractures. In the São Domingos area, the quartz veins occur in phyllite and tonalite and are bordered by hydrothermal alteration zone, mainly kaolinization, while in the Correntina area, the veins crosscut tonalite and basic-ultrabasic rocks and are bordered by hydrothermal alteration zone enriched in biotite and carbonate. Gold generally occurs as millimetric grains and pyrite is the only sulphide present in the auriferous quartz veins. Fluid inclusion studies in vein quartz from São Domingos revealed the presence of aqueous and carbonic fluids, minimum fluid trapping temperature and pressure of about 300°C and 2 kb, respectively, and low salinity, which suggests a metamorphic origin for the fluid. Trace element composition of the hydrothermal alteration zones indicates that granitoids and pyrite-rich carbonaceous phyllite in the São Domingos area, and tonalite and basic-ultrabasic rocks in the Correntina area, were the main sources of gold to the hydrothermal metamorphic fluids. The gold mineralizations of the São Domingos and Correntina areas and also those of the paleoproterozoic Almas-Dianópolis Terrane, indicate a very good potential of the paleoproterozoic magmatic arc in the western border of the São Francisco Craton for orogenic lode-gold deposits.

Domingueti, C.A. 2002. Reorientation of faults occurring in drill cores of Campo de Xaréu/Ceará basin. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 031/PPGG

DataBase Ref.: 1012 2002 Date of presentation: 18/7/2002

Cristina Aparecida Domingueti

Advisor(s): Medeiros, W.E.

Jardim de Sá, E.F.

Committee:

Subject of thesis:

State: CE 1/1,000,000 sheet: SA24 Centroid of the area: ' - 'W

Abstract

A research project is being developed by PPGG/UFRN and PETROBRAS in the Xaréu Oil Field located in Ceará Basin, Northeastern Brazil. The objective of the research is to characterize a fractured carbonate reservoir, the Trairi Limestone, in order to drill a borehole with two horizontal "legs" taking advantage of the natural fracture system to enhance the oil recovery. The present master thesis is part of this research and its contribution is to estimate fault orientation from unoriented cores, using the method proposed by Hesthammer & Henden (2000).

In order to orient a fault cutting a bed observed in the core, the bed should be previously oriented. As additional constraint to orient the bed, we use regional bedding orientation obtained from structure maps of Trairi Limestone. Because the number of cores drilled from the Trairi Limestone was too small, we analyzed all cores from the field. As geologic constraint, we admit that all faults were formed as result of the South America and Africa separation, in the context of a regional dextral strike-slip fault formation. In this context, secondary faults are mainly "T" and "R" faults according to Riedel's classification.

We analyzed 236.5 m of cores. The dip of bedding varies from 0° to 8°, being the most frequent value equal to 2°. We interpret this result as evidence that the deformation process was mainly ruptile. 77 faults were identified in the cores. These faults strike mainly to NW and NE with dips, in general, inside the interval 700 - 900. We suggest that the horizontal "legs" of the borehole should be oriented to NW and NE in order to improve the probability of intercepting open fractures and faults.

Donatti, L.M. 2002. Faciology, provenance and paleogeography of the Pirambóia and Botucatu formations in the Paraná state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2038 2002 Date of presentation: 14/8/2002

Leandro Menezes Donatti

Advisor(s): Giannini, P.C.F.

Committee:

Subject of thesis: Stratigraphy

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Garin, Y. 2002. Mineralogy and petrology of the Corupá massif (SC state) type A syenites and granites alkaline association. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 168 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1130 2002 Date of presentation: 18/9/2002

Yuri Garin

Advisor(s): Vlach, S.R.F.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Grangeiro, M.E. 2002. Biogenic structures in the discharge area of Peixe lagoon (Mostardas, RS): A model similar to Ichnofacies Psilonichnus. MSc Thesis, Department of Geology, University UNISINOS; pp

ichnocoenosis; Psilonichnus; coastal environment

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 854

2002

Date of presentation: 20/2/2002

Marcelo Engelke Grangeiro

Advisor(s): Guimarães Netto, R.

Committee:

Subject of thesis: Sedimentary Geology

State: RS

1/1,000,000 sheet:

SH22

Centroid of the area:

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'W

Abstract

The Peixe Lagoon (Rio Grande do Sul State, southernmost littoral of Brazil) has an ecotone equivalent to those represented by the Psilonichnus Ichnofacies. The analysis of the ichnofauna from the lagoon seaward area revealed this modern analogue to be a good case study to refine paleoecologic and paleoenvironmental interpretations made by the presence of the ichnofacies in the fossil record. Y- and J-shaped crab burrows dominate the ichnocoenosis, followed by bird trackways, on the lagoon margins. Insect trails and burrows and vertebrate tracks and trackways also occur, associated to mangrove grasses, chiefly in the dune/interdune zone. Horizontal and vertical burrows of polychaetes, and resting, crawling and escape traces of crabs dominate the benthic ichnocoenosis of the lagoon. The frequency of insect trails and burrows suggests that they are an important component of the whole ichnocoenosis, despite their low preservation potential. When preserved, can be an indicative of the ichnofacies, even where Psilonichnus is absent. Galleries of Psilonichnus with distinct deep ths in the same suite suggest groundwater level variation and, consequently, a relative distance or proximity of the water level. The Ichnofacies Psilonichnus showed to be a secure indicator of regional to global relative sea-level changes. Burrows generally are produced during stillstand intervals and preserved after significant marine flooding events followed by a trasngressive system tract. Otherwise, during valley incision and lowstand system tracts establishment, its record is partial or completely deleted.

Hidalgo, R.L.L. 2002. Micropaleontologic analysis of the Tamengo and Guaicurus formations, Corumbá group (MS state), and Araras formatio (MT stte), transition Neoproterozoic- Fanerozoic. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2297

2002

Date of presentation:

Renata Lourenço Lopes Hidalgo

Advisor(s): Fairchild, T.R.

Committee:

Subject of thesis: Sedimentary Geology

State: MS

1/1,000,000 sheet:

SE21

Centroid of the area:

' -

'W

MT

Abstract

Ishimine, V. 2002. Hydrogeological and hydrogeochemical evaluation in contaminated area by manganese in Suzano region - SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 98 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1266

2002

Date of presentation: 19/4/2002

Vinicius Ishimine

Advisor(s): Oliveira, E.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

Jacobsohn, T.M.C. 2002. Application of the magnetic susceptibility anisotropy in the cinematic analysis in high grade metamorphic rocks: Juiz de Fora and Paraíba do Sul Complexes - MG/RJ state boundary. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 121 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1206

2002

Date of presentation: 7/8/2002

Tânia Marize de Castro Jacobsohn

Advisor(s): Egydio-Silva,M.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W
MG

Abstract

Jesus,A.P. 2002. Geomorphological, geological and geotechnical characterization of the Dunas Park (Natal city). MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 027/PPGG

DataBase Ref.: 1019

2002

Date of presentation: 4/3/2002

Ana Patrícia de Jesus

Advisor(s): Amaral,R.F.

Committee:

Subject of thesis:

State: RN 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

Abstract

This work studied and analyzed the main geologic, geomorphologic and geotechnical features of a sand dune body placed between Natal city (RN) and the Atlantic Ocean, as well as the main features located nearby. This sand dune body is occupied by the "Parque Estadual das Dunas do Natal" (PEDN) in its Southeastern part and by the "Bairro de Mae Luíza" (BML) in the Northeastern part. This research is focused on environmental assessing and monitoring of the PEDN for its preservation. Geotechnical tests in laboratory and field works were carried out in order to collect sedimentary samples and ground control points (GCP). Digital elevation models (DEM) were generated from topographic charts at the scale of 1:10000 and 1:2000 and from these data layers of slope were constructed and spatial analysis was carried out. The main geologic and geomorphologic features of the area were visually interpreted by using images of Landsat-ETM sensor, aerial photographs and some features were mapped directly on the work fields and its limits were defined by using a handle GPS. It was made a registration of mass movement risk at the BML's slope based on field observing criteria. Using the layers of slope, aspect, panoramic view and distance from the ocean and the analysis of the present and potential use of the sand dune body was generated the potential coastal development map. A map was constructed by using the main geologic and geomorphologic units and the main buildings observed in the studied area. Observation of linear features on the western flank of the sand dune body suggests that the erosion is more conspicuous at its northeastern extremity. The main clay outcrops mapped were the result of human activities. The BML's risk study showed that important areas of that region present medium to high risk of slope instability and it leads to the need of avoiding the same occupation process on the PEDN. All the spatial data collected are stored in a geographical information system.

Joko,C.T. 2002. Hydrogeology of São Sebastião region – DF: Implications on the water supply management. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

[São Sebastião, Karstic Aquifer, Water Resource Management](#)

Instituto de Geociências - Universidade de Brasília

Reference: M163

DataBase Ref.: 223

2002

Date of presentation: 29/5/2002

Caio Tadao Joko

Advisor(s): Campos,J.E.G.

Committee:

Detlef Hans-Gert Walde - IG/UnB

Roberto Ventura Santos - IG/UnB

Alberto Pacheco - IGc/USP

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The geologic and hydrogeologic study are very important for the development of the São Sebastião region (Federal District, Brazil), once the public water supply is exclusively from groundwater source using the exploration of deep wells. The geology is the basis for the definition of the environment different characteristics; therefore, it conditions the morphologic, pedologic and hydrogeologic features. The rocks of the region are meso/neoproterozoic age, and the structural configuration is related to the evolution of the Brasília Fold Belt (Brasiliano Orogenesis) associated to neotectonic events developed during the Cenozoic. The rock types are attributed to the Canastra and Paranoá groups, the first one represented by the Serra do Landin Formation and the second one by the R3, Q3 and R4 units. Two aquifer domains represent the hydrogeologic context: the Porous and the Fractured. The first one is subdivided into the P1, P2, P3 and P4 systems and the second into the Paranoá System, with the R3/Q3 and R4 subsystems, and the Canastra System with the F and F/Q/M subsystems. The São Sebastião City region is located over the F/Q/M Subsystem. In this area the geologic and hydrogeologic characteristics are anomalous when it is compared with all other regions of the Federal District. The São Sebastião Graben, formed by neotectonic reactivation, is the main responsible for these anomalous characteristics, because it preserves the marbles lenses in depth. The carbonate bearing rocks are the main control of the local hydric dynamic. The

fractures in the marble lenses control the dissolution processes and they favour groundwater flow. These features can be verified by the well discharge and by the local hydrochemistry anomaly. The wells show an average water discharge of 37 m³/h and their waters are calcium carbonated, alkaline and mineralized, in contrast with all other regions of the Federal District, which wells show an average 8 m³/h discharge and low mineralized and acid waters.

The aquifers are heterogeneous and anisotropic. The groundwater flows in the direction of the confluence of the Mato Grande and the Santo Antônio da Papuda streams. In this area the water flow is interrupted by a strong hydrogeologic contrast in the fault edge of the graben, causing accumulation and mixture of waters. The potentiometric gradient increase induced by the groundwater exploration reinforces these characteristics.

The recharge areas had been defined as indirect regional, direct regional and direct local. Direct regional recharge is the most important and it contributes with the main exploitable reserves. Local direct recharge may cause the contamination of the aquifers, as the water levels are shallow and the soil covers show high hydraulic conductivity. It is demonstrated by calculated reserves of the F/Q/M Subsystem aquifer that present explored water volume must be reviewed. Otherwise, the current water exploration will compromise the permanent water reserves.

Lara, P.D. 2002. Aspects of the Paleo/Neoproterozoic geologic evolution of the region between Itabira and Ipatinga (state of MG): Implications on the genesis of the berilliferous mineralizations. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 58

DataBase Ref.: 2401 2002 Date of presentation: 25/3/2002

Patrícia Duarte Lara Advisor(s): Dussin, T.M.

Committee: Carlos Maurício Noce - IGC/UFMG
Joel Jean Gabriel Quémèneur - IGC/UFMG
Rogério Noal Monteiro -

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Leme, J.M. 2002. Systematic revision of the conulatae collins et al. 2000, Ponta Grossa formation, Devonian (?Lochkovian-Frasnian), Paraná basin, Brazil: paleobiogeographic implications and comments on the filogenetic relationships between the conulatae. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2304 2002 Date of presentation:

Juliana de Moraes Leme Advisor(s): Simões, M.G.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Lima, W.S.G. 2002. Geology and geomorphology of the Maracajaú-RN reefs and shallow adjacent shelf. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 029/PPGG

DataBase Ref.: 1017 2002 Date of presentation: 31/5/2002

Williams da Silva Guimarães de Lima Advisor(s): Amaral, R.F.

Vital, H.

Committee:

Subject of thesis:

State: RN 1/1,000,000 sheet: SB25 Centroid of the area: ' - 'W

Abstract

Maciel, S.L. 2002. Technological characterization of steatites from Santa Rita de Ouro Preto, Acaiaca e Furquim. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 64

DataBase Ref.: 2407 2002 Date of presentation: 8/10/2002

Stael Lustosa Maciel Advisor(s): Rosière, C.A.

Committee: Antônio Gilberto Costa - IGC/UFMG

Maria Lourdes Souza Fernandes - IGC/UFMG
 Marcos Tadeu de Freitas Suito - DEGEO/UFOP

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Martins, M.S. 2002. Geology of the Rio Macaúbas basin (State of MG) with emphasis on diamond occurrences.. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 55

DataBase Ref.: 2398 2002 Date of presentation: 7/3/2002

Maximiliano de Souza Martins Advisor(s): Karfunkel, J.

Committee: Alexandre Uhlein - IGC/UFMG
 Friedrich Ewald Renger - IGC/UFMG
 André G. Banko -

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Menezes, J.T. 2002. Artificial feeding of the beach segment Navegantes/Gravatá, SC state. MSc Thesis, University Federal of Santa Catarina, Brazil, pp.

Universidade Federal de Santa Catarina

Reference:

DataBase Ref.: 1705 2002 Date of presentation: 2/10/2002

João Thadeu de Menezes Advisor(s):

Committee:

Subject of thesis: Coastal and Sedimentary Geology

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Moreira, R.C.A. 2002. Regional geochemical reference applied to the interpretation of chemical elements concentrations in sediments of the Lago Paranoá-DF basin. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

[geoaccumulation index; sediment enrichment index; organic matter, normalization](#)

Instituto de Geociências - Universidade de Brasília

Reference: M164

DataBase Ref.: 224 2002 Date of presentation: 1/8/2002

Ricardo Cosme Arraes Moreira Advisor(s): Boaventura, G.R.

Committee: Roberto Ventura Santos - IG/UnB
 Edmilson Santos de Lima - DG/UFPE

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The present study aimed at determining a regional geochemical reference value for sediment samples from Lago Paranoá watershed through the formulation of geoaccumulation indexes. The need for obtaining information from areas representing environment without human interferences was the basis of this work. Thus, geochemical studies were carried out in two protected areas: Brasília National Park and Botanical Garden. The historical evolution of environmental impacts within the watershed of Lago Paranoá, since the transference of the Capital to Central Brazil, was the main parameter for evaluating the efficiency of geoindexes obtained from background reference values.

In this context, a variety of items were investigated (use and land occupation, water quality, mineralogy, granulometry, weathering, geology, geochemical patterns, anomalies, analysis of chemical elements from sediment). Different granulometric fractions of bottom sediment (0,212-0,150mm; 0,150-0,045mm and <0,045mm) were analyzed through techniques of Inductive Coupled Plasma Atomic Emission Spectrophotometry (ICP/AES), Atomic Absorption Spectrophotometry (AAS) and Spectrophotometry VIS to determine of Zn, P, Al, Na, K, Ca, Ti, Ni, Cr, Be, Cu, Y, Ba, V, Sr, La, Ce, Nd, Sm, Eu, Gd, Dy, Ho, Er, Yb and Lu, in addition to analytical techniques of X-Ray Diffraction, Gravimetry, Redox Titrimetry and Grain-Size Separation. The results were statistically treated for identifying background levels and possible geochemical anomalies.

The adsorption capacity of those interesting chemical elements in sediment samples was controlled through the variation in the amounts of organic matter, the mineralogical composition and the grain-size variation.

By creating the Sediment Enrichment Index (IES) through the normalization of analytical data it was possible to establish the magnitude of this enrichment relatively to naturally occurring concentrations all over the region of interest. Normalized values with organic matter were especially useful for the evaluation of lithic systems.

The geoaccumulation index indicated as Class 2 regions (moderately polluted), those areas placed so much in the Santa Maria Lake as in the Lago Paranoá.

The major factors for enrichment for the element P were obtained in samples LP A5, which receive the influence of sewage inflow from Southern Wastewater Plant (ETEB-Sul) and the sample LPC which represents the main place of accumulation of sediments in Lago Paranoá.

Therefore, it can be concluded that this work can be used as a methodological basis for identification of concentrations and relations of reference needed for the interpretation of the concentrations of chemical elements in this or other regions. Systematic evaluations of sediment from Lago Paranoá will bring valuable information regarding the potential risk that this layer represents for aquatic organisms.

Moura, C.L. 2002. Distribution of heavy metals (Cr, Cu, Ni e Zn) in bottom sediments of the Embu-Mirim river - SP state. MSc Thesis, Institute of Geosciences, University of São Paulo, 96 pg.

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 275 2002 Date of presentation: 22/8/2002

Claudia Lucia de Moura Advisor(s): Sigolo, J.B.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The Embu-Mirim River is one of the main tributary streams which constitutes the basin hydrographic of the Guarapiranga Reservoir which is the water supply of most population in the Metropolitan Region of São Paulo State. This place was used for the development of my research based on heavy metals, such as Cr (Chromium), Cu (Copper), Ni (Nickel) and Zn (Zinc), found on the bottom sediments of this very river. Such study considered the total amount of the heavy metals along this basin for each subsample (the top and the basin of core sediments) and the influence of the physicochemical properties, the organic matter content and the granulometric content have on the chemical behavior and in the distribution of those metals.

The ten sampling points were collected from the upstream to the downstream of the basin until its discharge into the Guarapiranga Reservoir. Each sample, collected during the rainy and dry period, were subdivided in top sample (the first three centimeters of the core sediments) and base sample (The last three centimeters of the core sediments). For each subsample, were defined the values of pH and Eh, and in the same field, the organic matter content, the heavy metals total content and the granulometric sediments.

The results obtained so far suggest the granulometric of the sediments influence the chemical behavior of the metals Cr and Ni, over the dry and rainy season, and Cu only in the dry season.

During both collection periods the organic matter contents showed a strong tendency of influencing the chemical behavior of Cr as well as Cu and Ni over the rainy season.

For the physicochemical parameters, the pH results, obtained from the collection of the bottom sediments, showed an influence on the distribution of the heavy metals such as Cr, Cu and Zn. The Zn also showed a strong tendency to change its chemical behavior due to the values obtained from the Eh of the sediments. In addition Zn has numerical inversion between the pH value and Eh value.

According to the contamination level we have, in decreasing order Ni > Cr > Cu > Zn, what were based regarding the quality limits attributed by ISQG (Interim Sediment Quality Guideline) and PEL (Probable Effect Level) sediments, since there was no other pattern available to evaluated the sediments collected, for the conclusion of this essay.

This data suggests that the studying area deserve a special care for the heavy metal contents analysis, so the quality of the bottom sediment won't present considerable decline, triggering a series of problems to the others hydric resources which can be jeopardized by the low quality of the bottom sediments of the Embu-Mirim River.

Nascimento, S.C. 2002. Influence of solid residue containing Mn, Zn, Cr and Pb in the quality of the water/soil/sediment system of the Córrego da Anta stream- São José do Rio Preto - SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2300 2002 Date of presentation:

Silvia Cremonez Nascimento Advisor(s): Hypolito, R.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Navarro, G.R.B. 2002. Metamorphic/structural characterization of the metagabbroic bodies of the Mairipotaba-Cromínia and Pontalina region (GO state). MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 103 pp..

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR138

DataBase Ref.: 1789

2002

Date of presentation:

Guillermo Rafael Beltran Navarro

Advisor(s): Zanardo,A.

Committee:

Subject of thesis: Regional Geology

State: GO

1/1,000,000 sheet:

SE22

Centroid of the area:

' -

'W

Abstract

Nunes da Silva,A.C. 2002. Geoprocessing and remote sensing as an aid to the territorial planning of the Iporanga municipality- SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2299

2002

Date of presentation:

Alexandre Carnier Nunes da Silva

Advisor(s): Macedo,A.B.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Nunes,A.R. 2002. Analysis of geological, geophysical and remote sensing data for the generations of prospective models to the Serra Leste region, Carajás (PA). MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 213

DataBase Ref.: 885

2002

Date of presentation: 31/10/2002

Alfredo Rossetto Nunes

Advisor(s): Souza Filho,C.R.

Committee:

Subject of thesis: Metallogenesis

State: PA

1/1,000,000 sheet:

SB22

Centroid of the area:

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'W

Abstract

The, Serra Leste region, located in the northeast portion of the Carajás Mineral Province (State of Pará, Brazil), hosts several mineral deposits and mineralisations that are related to different geological settings. The Companhia Vale do Rio Doce holds the majority of the property claims in the region and motivated by its prospectiva potencial, the company has built a vast data set, including geologic maps at various scales, high resolution airborne geophysical data and passiva (multispectral) and active (radar) remote sensing imagery. The aim of the present work is to integrate these information, via digital data processing and analysis, in order to create a regional prospectiva modal for PGE mineralisations in Carajás. The data set comprises a regional geological map, airborne geophysics (magnetometry, radiometry and time domain electromagnetics), Landsat 7/Enhanced Thematic Mapper Plus (including the 15m resolution panchromatic band) and RADARSAT (8m resolution fine path) imagery. Geological and geophysics data analysis indicate a good correspondent between areas with mafic-ultramafic rocks and low values in gama spectrometry, particularly in the thorium channel. The ultramafic units of the complexas, the main host rock of the mineralisation, are soundly mapped by the analytic signal froco the residual magnetic field and by the apparent conductance anomalias yielded through the GEOTEM system. The ETM Plus images processed by an adapted algorithm of the Feature Oriented Principal Component Selection (FPCS) technique, highlighted the hydroxyl minerals, generated through weathering of ultramafic rocks, and iron oxide-rich areas. The combination of the products of digital processing and data analysis, with updated geological data of the Serra Leste region and the Luanga deposit, supported the assembly of a regional prospectiva modal for PGE and allowed the selection of new targets within the studied area.

Nunes,M.G. 2002. Morpho-sedimentary study of the beach-lagoonal system of Ponta das Canas, Santa Catarina island, SC state. MSc Thesis, University Federal of Santa Catarina, Brazil, pp.

Universidade Federal de Santa Catarina

Reference:

DataBase Ref.: 1704

2002

Date of presentation: 22/2/2002

Maurício Gentil Nunes

Advisor(s):

Committee:

Subject of thesis: Coastal and Sedimentary Geology

State: SC

1/1,000,000 sheet:

SG22

Centroid of the area:

' -

'W

Abstract

Oliveira, A.A.K. 2002. Structuration and metassomatic alteration of the Açucena ortogneis (Borrachudos Suite) in the Ipatinga region, State of Minas Gerais. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 61

DataBase Ref.: 2404 2002 Date of presentation: 12/4/2002

André Azevedo Klumb de Oliveira Advisor(s): Noce, C.M.

Committee: Maria Lourdes Souza Fernandes - IGC/UFMG
Marco Antônio Fonseca - DEGEO/UFOP

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Oliveira, J.S. 2002. Sedimentary analysis in coastal zones: Subsides to environmental diagnostic of the Lagoa do Peri lagoon, Santa Catarina island - SC state, Brazil. MSc Thesis, University Federal of Santa Catarina, Brazil, pp.

Universidade Federal de Santa Catarina

Reference:

DataBase Ref.: 1707 2002 Date of presentation: 27/6/2002

João Sergio de Oliveira Advisor(s):

Committee:

Subject of thesis: Coastal and Sedimentary Geology

State: SC 1/1,000,000 sheet:

SG22

Centroid of the area: ' - 'W

Abstract

Oliveira, L.A. 2002. The Bauru aquífer system in Araguari/MG region: Dimensional parameters and management proposals. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

[Aquifer, Bauru Group, Araguari/MG](#)

Instituto de Geociências - Universidade de Brasília

Reference: M166

DataBase Ref.: 226 2002 Date of presentation: 30/8/2002

Luiz Antônio de Oliveira Advisor(s): Campos, J.E.G.

Committee: Detlef Hans-Gert Walde - IG/UnB
Ernani Francisco da Rosa Filho - DG/UFPR

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: MG 1/1,000,000 sheet:

SE22

Centroid of the area: ' - 'W

Abstract

The present work introduce the results of hydrogeologic study in the Bauru Aquifer System in the Region of Araguari, state of Minas Gerais, Brazil. In the studied area the Bauru Group is composed by a sandy-conglomeratic succession. The rudites are matures, clast-supported and because of their permo-porous features they show great local hydrogeologic importance. Once the conglomeratic sequence is not presented in the formal stratigraphy of the Upper Cretaceous, it is defined as the Araguari Member of the Marília Formation. The Bauru Aquifer System shows the following values for the dimensional parameters: saturated thickness of 33 meters, thickness of the vadose zone from 7 up to 36 meters, effective porosity of the conglomerates of 19,5%, effective porosity of sandy portion of 12,7%, hydraulic conductivity ranging from 5×10^{-6} to $1,6 \times 10^{-4}$ m/s, with average of $3,10 \times 10^{-5}$ m/s, medium transmissivity of $9,6 \times 10^{-4}$ m²/s, average well discharge of 18,7 m³/h and average specific capacity of the 1,3 m³/h/m. The explored volume of water is over the renewable reserve of the aquifer, however the pumping rates are in the sustainable limits, because it was considered 10% of the permanent reserve to the calculation of the safety yield. The major problems related to the exploration of the groundwater are concerned to the inadequate construct of wells and to the bad operation of the public water supply system (distribution and reservation). It is important that management of groundwater techniques are implemented so that the system can be optimized.

Pimenta, V.B. 2002. Systematics of geological investigation in the exploration and characterization of ornamental rocks and the case deo Giallo Califórnia – Dores de Guanhões, State of MG. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 62

DataBase Ref.: 2405 2002 Date of presentation: 23/4/2002

Vitor Brugnara Pimenta Advisor(s): Costa, A.G.

Committee: Adolf Heinrich Horn - IGC/UFMG

Henrique Dayan - DG/UFRJ

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Queiroz, W.P. 2002. The Macaúbas group in the neighbourhood of Couto de Magalhães de Minas, State of Minas Gerais, with emphasis on the lithologic and faciologic characterization of the glaciogenic deposits. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 59

DataBase Ref.: 2402 2002 Date of presentation: 26/3/2002

Wander Pawlowski Queiroz Advisor(s): Renger, F.E.

Committee: Luiz Guilherme Knauer - IGC/UFMG
Detlef Hans-Gert Walde - IG/UnB

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Ramos, J.I. 2002. Geologic characteristics of iron ores of the Quadrilátero Ferrífero and their influences in the granulometric degradation during reduction under conditions of low temperatures (550oC – 600oC). MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 63

DataBase Ref.: 2406 2002 Date of presentation: 8/10/2002

Jordão Isaac Ramos Advisor(s): Rosière, C.A.

Committee: Armando Corrêa de Araújo - IGC/UFMG
Marcos Tadeu de Freitas Suito - DEGEO/UFOP
Paulo Santos Assis - DEGEO/UFOP

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Rêgo, A.P.M. 2002. Characterization and provenance of sediments in suspension from the paulista region of the Paraíba do Sul river basin. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

[Sediment provenance - Sm-Nd isotopic geochemistry - X-ray Diffractometry – Funil Reservoir - Paraíba do Sul river](#)

Instituto de Geociências - Universidade de Brasília

Reference: M168

DataBase Ref.: 228 2002 Date of presentation: 29/11/2002

Augusto Pinheiro de Moraes Rêgo Advisor(s): Walde, D.H.G.

Committee: Márcio Martins Pimentel - IG/UnB
Sílvia Jorge Coelho Simões - IGCE/UNESP

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Considering growing need to maintain and recover water resources, hydrosedimentological studies have been important to constrain environmental conditions of watersheds.

This work presents an integrated study involving the grain size, mineralogical and Sm-Nd isotopic characteristics of the suspended sediment drained out of the São Paulo portion of the Paraíba do Sul river watershed. The results of X-ray Diffractometry and Sm-Nd isotopic geochemistry analyses aiming at assessing the main source areas of the suspended sediments are also presented. For this purpose the São Paulo portion of the Paraíba do Sul river watershed was divided into 11 sub basins based on water discharge, draining area and geology.

The suspended sediment drained out of the study area is characterized by a grain size of silt (in 68,83%) and clay (in 20,95%), and is basically composed of kaolinite with some important traces of quartz, illite and gibbsite. The concentrations of Sm are between 5,2 and 10,3 ppm while Nd varies from 30,7 to 64,6 ppm. The model ages (TDM) vary from 1718 to 2131 My and all samples are characterized by low $\epsilon_{\text{Nd}}(0)$ values (between -16,86 and -21,93).

The results has shown that Sm-Nd isotopic analyses represent a powerful tool in studies of sediment provenance. The X-ray Diffractometry analyses allowed the characterization of the suspended sediment but, due to the high homogeneity of the weathering

processes in the study area, they provided little information on the sediment provenance.

Of all the studied sub basins those drained by the Piquete, Guaratinguetá, Bocaina, Una, Buquirinha and Parateí rivers showed the greatest contribution to the suspended sediment flow in the Paraíba do Sul river. Of those, the Piquete's and Guaratinguetá's rivers represented the most important contributor considering the suspended sediment reaching the Funil reservoir (end point of the study area). The geological units of the Piracaia Complex are the most influential for the Sm-Nd isotopic composition of the suspended sediment that reaches the Funil reservoir.

Rodrigues, C.L. 2002. Influence of the domestic solid residua disposal and infiltration of the chorume in the region of the Ilhabela dunghill- SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2301

2002

Date of presentation:

Cristiane Lorena Rodrigues

Advisor(s): Taioli, F.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP

1/1,000,000 sheet: SG23

Centroid of the area:

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'W

Abstract

Rodrigues, S.C. 2002. Compared taphonomy of the Conulatae collins et al.2000, Ponta Grossa formation, Devonian (?Lochkovian-Frasnian), Paraná basin: paleoautoecologic and paleoenvironmental implications. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2303

2002

Date of presentation:

Sabrina Coelho Rodrigues

Advisor(s): Simões, M.G.

Committee:

Subject of thesis: Sedimentary Geology

State: PR

1/1,000,000 sheet: SG22

Centroid of the area:

' -

'W

Abstract

Saito, M.M. 2002. The potential of application of sand mining barren, in Mogi das Cruzes (SP state), as ceramic and pozolanic raw material. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2302

2002

Date of presentation:

Marcia Mika Saito

Advisor(s): Sant'Agostino, L.M.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP

1/1,000,000 sheet: SF23

Centroid of the area:

' -

'W

Abstract

Santarosa, C.S. 2002. Geological and engineering parameters for the elaboration of environmental directive planning. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 853

2002

Date of presentation: 30/8/2002

Cristian Sartori Santarosa

Advisor(s): Gomes, L.P.

Committee:

Subject of thesis: Earth Sciences and Environment

State: RS

1/1,000,000 sheet: SH22

Centroid of the area:

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'W

Abstract

Sardinha, A.S. 2002. Petrology, geochemistry and geochronology of the Serra do Rabo granite, Carajás Mineral Province. MSc Thesis, Centro de Geociências, Universidade Federal do Pará, Belém, Brazil, 112p.

Serra do Rabo granite; Geology, Petrography; Geochemistry. Geochronology, Archean; Carajás Mineral Province

Centro de Geociências - Universidade Federal do Pará

Reference:

DataBase Ref.: 1519 2002 Date of presentation: 25/3/2002

Alex Souza Sardinha Advisor(s): Barros, C.E.M.

Committee: Maria de Fátima Aparecida - IG/UFRGS
Roberto Dall'Agnol - CG/UFPA

Subject of thesis: Geochemistry and Petrology

State: PA 1/1,000,000 sheet: SB22 Centroid of the area: ' - 'W

Abstract

The Serra do Rabo granite (SRG) is located in the southeast of the Pará State, to south of the Curionópolis village, next to the east wedge of the Carajás Fault. The SRG is composed of two granite stocks that are elongated in the E-W direction and concordant to the regional structures.

The SGR is constituted of leucomicrocline granite, hornblende-microcline granites, biotite-hornblende-microcline granites and hornblende syenogranites, and subordinates aplites. These rocks display coarse to medium grain-sized, pink-grayish color, faneritic, hypidiomorphic and granular texture. Rocks with micrographic texture may be locally found. The accessories minerals are represented by ilmenite, apatite, zircon, allanite and, rarely, pyroxene. The secondary minerals are represented by chess-board albite, titanite, sericite-muscovite, clay-minerals, opaque minerals, biotite, stilpnomelane, epidote and, rarely, chlorite.

The rocks of the SRG present both isotropic structure and a continuous foliation S1 (E-W/subvertical), slightly anastomosed and marked by the preferred orientation quartz and mafics minerals. Locally decimeter- to metric-wide mylonite/ultramylonite bands (S1m) follow the E-W foliation. The foliation S1 was developed in higher temperatures than those of the mylonites S1m. This progressive deformation in decreasing temperature regime denotes the syntectonic nature of the SRG.

The U-Pb zircon dating furnished an age of $2743 \pm 1,6$ Ma to the GSR. This age marks the SRG zircon crystallization as well as the granite emplacement and deformation.

The SRG presents relatively elevated SiO₂, K₂O and Na₂O concentrations; high FeO*/(FeO* + MgO) ratios, high Zr, Ba, Nb and Ga values and very high rare-earths elements concentrations. The chemical signature of SRG is alkaline metaluminous, comparable to signature of A-type, A2 and ALK-3 granites. A likely petrogenetic model could be related to partial melting of crustal sources such as calc-alkaline metagranitoids.

The SRG crosscut supracrustal rocks where it promotes low-pressure / high temperature metamorphism. The sum of regional compressive stresses and ballooning effect promoted the localized flattening of the aureole.

Silva, D. 2002. Estimation of Fe and Mg distribution between clinopyroxenes and orthopyroxenes of granulitic facies from Guaxupé-MG using Raman spectroscopy. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 845449

DataBase Ref.: 886 2002 Date of presentation: 9/10/2002

Dailto Silva Advisor(s): Chouduri, A.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Raman spectra for both Cpx and Opx result from Si-Onb vibrations, Si-Ob-Si stretching, and from lattice vibrations, Onb and Ob being non-bridging and bridging oxygens in the pyroxene structure. Spectral peaks from the first two are around 1011. cm⁻¹. And 665 cm⁻¹ for Cpx, and around 1009 cm⁻¹ and 650-700 cm⁻¹ doublet for Opx. The spectral peaks show shifts expected from the mg numbers of the pyroxenes, and therefore provide a rapid method for estimating their Fe-Mg ratios. There is a good correspondence between Fe-Mg ratios obtained from EPMA (electron microprobe) analysis and the Raman shift. The distribution coefficients for Fe-Mg between Cpx and Opx (K) also from microprobe analysis are in good agreement with those from literature for granulite facies pyroxenes. Considering the good agreement of Raman shift and the XMg of the pyroxenes, this could be used for checking the distribution coefficient. There is a clear linear relation between spectral peak shifts (312-327 cm⁻¹ for Cpx, and 662-684 cm⁻¹ for Opx) and the mg numbers. The results of Raman scattering measurements are presented in the form of linear equations relating spectral shift and XMg of the pyroxenes.

Silva, F.K.M. 2002. Analysis of geoscientific images in Earth didactic books. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 941267

DataBase Ref.: 883 2002 Date of presentation: 20/9/2002

Fernanda Keila Marinho da Silva Advisor(s): Compiani, M.

Committee:

Subject of thesis: Education Applied to Earth Sciences

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Silva, M.S. 2002. Risk of contamination and hydrogeologic evaluation of the aquifers in the Simões Filho region - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1549

2002

Date of presentation: 16/5/2002

Marcelo Santos Silva

Advisor(s): Lima, O.A.L.

Committee:

Subject of thesis: Geophysics

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

In this work a detailed geophysical study was conducted, using the electroresistivity technique, in an area of approximately 63,5 km² around the city of Simões Filho-Bahia. Its main objective was to evaluate the potential groundwater resources of an area located at the border of the sedimentary Recôncavo basin. This includes the definition of the aquifer productivity and the quality of its water, as well as the determination of the possible influences of the cemetery and the garbage deposit of the city, in the contamination of the available groundwater. 51 vertical electrical soundings were made and interpreted using the Schlumberger array of electrodes up to a maximum spacing AB/2 of 500m. The geoelectric characterization of the area shows that three aquifer systems are interrelated in the area: (i) a free aquifer, on the south of Salvador fault, composed by the sediments of Barreiras Group and the altered rocks and locally fractured crystalline basement; (ii) a confined system, in the northwest part of the area, represented by layers and lenses of fine and very fine grained shaly sandstones, distributed within thick shales that comprise the Pojuca formation; and (iii) a mixed, free and semi-confined system, in the northeast part, composed by shaly sandstones interlayered with shales that constitute the São Sebastião formation. These three systems are interconnected through the set of faults and fractures that cross the area. The main aquifer intervals were mapped in to São Sebastião formation. In terms of pollution, the results evidenced that the disposition of domestic garbage of Simões Filho, located over the São Sebastião formation, is a serious polluting source that can contaminate the best water resources of the area.

Silveira, I.M. 2002. The evolutionary study of environmental conditions of the Coastal Area of the municipal district of Guamaré - RN. Dissertation of Master's degree (Master in Geodynamics). Program of Masters degree in Geodynamics and Geophysics of the Federal University of Rio Grande do Norte. Natal: UFRN, april, 2002; 161 pp*Coastal zone, Erosion, Hydrodynamic, Morphology, Vulnerability and Sensibility*

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 028/PPGG

DataBase Ref.: 1018

2002

Date of presentation: 30/4/2002

Iracema Miranda da Silveira

Advisor(s): Vital, H.

Committee:

Subject of thesis: Geodynamics

State: RN 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The work concerns on the evolutionary study of the environmental conditions of the coastal area of Guamaré-RN, where was investigated the geo-environmental transformation occurred in this region, whose primordial purpose was to diagnose the changes verified in the temporary space of five decades (1950 to 2001). With the objective of evaluating the action of the active coastal processes (currents, waves, tides and winds), in order to understand the generating mechanisms of the erosion/sedimentation, evidenced by constant morphologic changes. The adopted methodological procedure consisted of a succession of stages, involving bibliographical and cartographic study, aerial photographs study, digital treatment of images, field work (sample collection, beaches profiles, characterization of the beach environment and morfodynamics), mapping correction and laboratory analyses (granulometry). The evolutionary study of the morphologic features indicated significant variations in the studied period, mainly, in the dunes, sea terraces, variation of the shore line and tidal flat, evidencing the largest transformations in the temporary space between 1988 and 2001. The analyses of the beach profiles showed a sedimentation tendency in the area of the profiles P1, P2 and P3, however in the monitored period, it was observed in the referred profiles, erosive and depositional intervals evidencing a need of more effective monitoring. The results of the granulometric analyses indicate a predominance of mean to coarse sand in the back-shore and estirancy area, as in the shoreface, the analyses indicated medium to fine sand. The morfodynamic state, showed that beach of Minhoto is intermediate state, with alternancy to reflective. The areas of larger vulnerability and sensibility are the tidal flat, shore line, barrier island and mobile dunes, that actually is suffering great environmental impact with expansion of the carcinoculture, urban presence and natural impacts (erosion of the shoreline).

Slavec, G.B. 2002. Gravimetric study of the Poços de Caldas alkaline massif - Minas Gerais state. MSc Thesis; Institute of Astronomy, Geophysics and Atmospheric Sciences, University of São Paulo, São Paulo, 117 pp

Instituto Astronômico e Geofísico- Universidade de São Paulo

Reference:

DataBase Ref.: 1477

2002

Date of presentation: 5/8/2002

Gabriela de Brito Slavec

Advisor(s): Mantovani, M.S.M.

Committee:

Subject of thesis: Geophysics

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Soares Filho, F. 2002. Hydrogeology of the Rio São Miguel river basin, Pains - State of MG. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 60

DataBase Ref.: 2403 2002 Date of presentation: 8/4/2002

Frederico Soares Filho

Advisor(s): Velásquez, L.N.M.

Committee: Alexandre Uhlein - IGC/UFMG
Adelbani Braz da Silva -

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Stellfeld, M.C. 2002. Geographic information system applied to ecotourism at Chapada dos Veadeiros, Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Geographic Information System, Ecotourism, Environmental Information. "Chapada dos Veadeiros"

Instituto de Geociências - Universidade de Brasília

Reference: M162

DataBase Ref.: 222 2002 Date of presentation: 28/3/2002

Maria Carolina Stellfeld

Advisor(s): Campos, J.E.G.

Committee: Paulo Roberto Meneses - IG/UnB
Eduardo Salamuni - DG/UFPR

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: GO 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

This work shows an in ordered and georeferenced way informations about the "Chapada dos Veadeiros" and surroundings, located in the São Jorge Vilagge, county of Alto Paraíso, state of Goiás - GO. This information intends to contribute to the transformation of the contemplating tourism now a day developed in the region into a more active and informative model. The region offers a great ecoturism potential and represents an alternative for the development of the area. The study region is located geologically in the Brasília Fold and Thrust Belt, and the predominant litology consists of meta-sediments of low metamorphism grade, related to the Araí and Paranoá groups. The area is divided into four geomorphological compartments. The soil is mostly acid neosoil and the vegetation is the typical Cerrado (Savannah). Eight trails and seventeen geotouristic sites form are described in a non-technical way for majority of public and technical language. All information on the region can be filed on a geographic information system called SIG Veadeiros. The system was created by ArcView 3.2 geoprocessing software, and uses tools for connecting text documents and images with geographic data, and moreover it uses tools for classifying, identifying, consulting, crossing and selecting attributes from the tables.

Tabosa, W.F. 2002. Coastal surveillance of the São Bento do Norte and Caiçara do Norte beaches - RN state. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 026/PPGG

DataBase Ref.: 1020 2002 Date of presentation: 26/2/2002

Werner Farkatt Tabosa

Advisor(s): Vital, H.

Committee:

Subject of thesis:

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

This dissertation the results of a research developed in the area of São Bento do Norte and Caiçara do Norte, northern coast of the State of Rio Grande do Norte, during the period of June of 2000 to August 2001, in the ambit of the projects MAMBMARÉ (CNPq/CTPETRO) and PROBRAL (CAPES/DAAD). The objective principal of this research was the characterization of the sedimentary dynamics of this coast, with base in data of coastal process (winds, currents, waves and tides), with topographical risings (beach profiles and dunes), satellite images and sedimentary analyses. The more specific objectives were accomplished the coastal monitoring of this coast, to verify the maintenance of an erosive tendency or progradacional after the groynes construction for contention of the erosion in the beach of Caiçara do Norte, as well as to verify the influence of the features of

bottom of the platform interns adjacent on the pole petroliferous of Guamaré. The executed monitoramento allowed to identify that the movement of the sediments, along the year, in that area, is cyclical, reaching the largest oscillations during the months of winter (deposition) and they will summer (erosion). The sedimentologic studies indicated a general tendency for sands quartzosas, with gravel presence, moderately to good selected, with asymmetry predominantly negative. In agreement with the parameter of Dean (1957), used in the identification of the state morfodinâmico of the beaches, monitored beaches, are basically reflectivas with tendency to middlemen, what frames that space of the coast norte-riograndense, as a space strongly vulnerable to erosive processes. The studies developed in the platform, it interns of this area, allowed to visualize for the first time, in large scale, the distribution of the features of the submarine bottom to the batométrico coat of 25 meters. Being pointed out the presence of a high one topographical submerged, with about 5 meters of height, 1 km of width and more than 24 meters of extension, located in the platform it interns in front of São Bento do Norte; coincident with the trend of the system of flaws of Carnaubais. This feature relay an important paper on the control of the sedimentary processes and oceanographic, as well as in the coastal evolution of this area of the RN state, and they affect the area of the pole petroliferous of Guamaré directly. These results contribute to a better knowledge of the processes in the area, and consequently as subsidies implantation of measures of coastal and environmental protection for the cities of São Bento do Norte and Caiçara do Norte, as well as to understand how the geological-sedimentary processes and oceanographic, in this area, are influencing the characteristics geoambientais of the pole petroliferous of Guamaré.

Tognoli, F.M.W. 2002. Stratigraphic and palaeoichnologic analysis of the Guatá group in the eastern of PR state. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 90pp..

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR137

DataBase Ref.: 1790

2002

Date of presentation:

Francisco Manoel Wohnrath Tognoli

Advisor(s): Davies, R.R.

Committee:

Subject of thesis: Regional Geology

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

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'W

Abstract

Torronteguy, M.C. 2002. Joaquina-Morro das Pedras system and neighbour beaches of the Santa Catarina island eastern coast: Morphodynamics, Sedimentologic aspects and constraint factors. MSc Thesis, University Federal of Santa Catarina, Brazil, pp.

Universidade Federal de Santa Catarina

Reference:

DataBase Ref.: 1703

2002

Date of presentation: 22/3/2002

Maurício de Carvalho Torronteguy

Advisor(s):

Committee:

Subject of thesis: Coastal and Sedimentary Geology

State: SC

1/1,000,000 sheet:

SG22

Centroid of the area:

' -

'W

Abstract

Trosdorf Jr, I. 2002. Glacial permo-carboniferous geology (Itararé subgroup) in the southern flank of the Ponta Grossa Arc, PR state. MSc Thesis, Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2293

2002

Date of presentation:

Ivo Trosdorf Júnior

Advisor(s): Rocha-Campos, A.C.

Committee:

Subject of thesis: Sedimentary Geology

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

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'W

Abstract

Viana Jr, O. 2002. Hydrochemistry, hydrology and isotopic (O e H) geochemistry of the autogenic vadose percolation facies, Santana cave, Iporanga municipality, São Paulo state. MSc Thesis, Institute of Geosciences, University of São Paulo, 113 pg.

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 276

2002

Date of presentation: 4/6/2002

Oduvaldo Viana Jr

Advisor(s): Karmann, I.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

The main purpose of this research are the hydrochemistry and O and H stable isotope geochemistry of the autogenic vadose seepage water of the Santana limestone cave system, which is an underground tributary of the Betari river, in the context of the Upper Ribeira River Valley, Iporanga municipality, Southern São Paulo State. The chemical and isotopic data of the rain water and vadose seepage, together with stalactite drip discharge rates were applied in order to establish the dynamics of the water-rock interaction of the autogenic vadose fissure and conduit flow.

The studied system, with coordinates of 24° 33' South and 48° 41' West, lies in a humid subtropical environment (annual precipitation ranging from 1500 to 2000 mm and mean annual temperature of 18°C) covered by rain forest in a transition between the highland of the Paranapiacaba range (up to 1100m in altitude) and the lowlands of the Ribeira Valley, with altitudes up to 600m.

The research outline was based on a one hydrological year monitoring of several stalactite drip discharges, surface and cave temperature and relative humidity, precipitation gauging and systematic sampling of rainwater, soil water, cave drip and pool waters. The samples were analyzed for the main ions and O and H stable isotopes. The conductivity, pH, Eh, and Dissolved Oxygen were measured during the sampling.

The cave sampling sites showed extremely constant air temperature and relative humidity along the year, contrasting with large daily and annual variations on the surface. The recharge process of the vadose seepage system has been studied based on the variations of the discharge of the different drips, showing that some physico-chemical parameters, as the saturation index in calcite, as well as, the $\delta^{18}\text{O}$ of the drip waters have an immediate response to the precipitation events. On the contrary, the drip discharge increments due to precipitation have a typical delay. The relationship between the mean annual $\delta^{18}\text{O}$ of the rain water and that of the vadose seepage has been established showing a fractionation of up to 2 % of the drip water with respect to the rain. The modern calcite and the drip water $\delta^{18}\text{O}$ values are fitting Craig's equation of the cave temperature dependence showing that the sampled calcite is being deposited in isotopic equilibrium between with the corresponding drip water. Based on the mean total hardness equivalent to CaCO_3 of stalactite drip waters, the measured annual precipitation, and the catchment area of a closed depression, an estimate of 4.5 cm/1000 years has been calculated for the epikarst chemical denudation rate over the Santana cave system, which is similar to other estimates for this karst system obtained by previous authors.

Vilca, C.E. 2002. Seismic tomography of superior mantle below southeastern and middle west of Brazil. MSc Thesis; Institute of Astronomy, Geophysics and Atmospheric Sciences, University of São Paulo, São Paulo, 74 pp

Instituto Astronômico e Geofísico- Universidade de São Paulo

Reference:

DataBase Ref.: 1476 2002 Date of presentation: 14/8/2002

Christian Escalante Vilca Advisor(s): Assumpção, M.S.

Committee:

Subject of thesis: Geophysics

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Almeida, C. M. 2003. Genesis of the hydrothermal massif sulfide bodies and associated platinoids associados in the Fortaleza de Minas deposit (MG state). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m104

DataBase Ref.: 2474 2003 Date of presentation: 10/10/2003

Carolina Michelin de Almeida Advisor(s): Ebert, H.D.

Committee:

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Almeida, L. 2003. Hydrogeologic characterization of the upper Rio Claro basin in the state of Goiás: Assistance for the hydric resources management. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Groundwater management, Guarani Aquifer System, Paraná Basin

Instituto de Geociências - Universidade de Brasília

Reference: M182

DataBase Ref.: 1421 2003 Date of presentation: 8/12/2003

Leonardo de Almeida Advisor(s): Campos, J.E.G.

Committee: Detlef Hans-Gert Walde - IG/UnB
Edson Cezar Wendland - IGc/USP

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: GO 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The aim of the present study is to contribute to the management of the water resources of the Claro River Basin, in the State of Goiás, Brazil. The area was chosen based on many factors such as: scarcity of detailed hydrological study in the area, predominance of sedimentary rocks associated to the Paraná Basin, preliminary information of an excellent quantitative and qualitative potential of the aquifers; restrict knowledge of the Guarani Aquifer System in the area; the increase of water resources demand related to the continuous growing and economic development of the area.

The main rock outcrop in the area is associated to the Botucatu and Serra Geral formations and to the Bauru Group. Sediments correlated to the Irati, Corumbataí and Cachoeirinha formations and to the Aquidauana Group are also present in minor areas. According to the water dynamics, in surface, three groups of soils were characterized: Group 1, composed of Sandy Neosols and Sandy Latosols; Group 2, associated to Clay Latosols, Podzolic and Cambisols; and Group 3, composed of an association of Fluvial Neosols and Gleisols. The climatic pattern of the region is seasonal, presenting annual pluviometric averages varying around 1.500 mm and also an intense rain concentration between November and March and a decrease of rain between May and September, with small water deficit in this period. In the region, four distinct aquifers with different types of porosity and differentiated dimensional and potential parameters were identified and related to the Guarani, Serra Geral, Bauru and Aquidauana Aquifer Systems. For the Guarani Aquifer System, three groundwater flow models were proposed, considering regional, local and mixed water flow regimes. The results of the chemical water analysis show that these waters do not present any problem from the hydrochemical point of view and in general low TDS. The application of a Geographic Information System – GIS was fundamental to obtain parameters as the Soil Lost Potential, Groundwater Recharge Potential and the Contamination Risk Potential. The result shows that the region presents a low soil lost potential, a high groundwater recharge potential and a moderate contamination risk potential.

The improvement of actions aiming the sustainability of the local water resources is fundamental for the development of the region, and the implementation of those actions represent the basis for the sustainable management of the high regional water resource potential. The maintenance of that potential depends exclusively on the prevention actions and the present study may be seen as a source of information for the development of public policies to the integrated management of the water resources.

Alvarado, B.P. 2003. Petrographical and geochemical characterization of host rocks and gold ore of Morro Velho mine (Mina Velha) - Nova Lima District - Minas Gerais state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 6461

DataBase Ref.: 878 2003 Date of presentation: 22/8/2003

Bienvenido Palacio Alvarado Advisor(s): Schrank, A.

Committee:

Subject of thesis: Metallogenesis

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Alves, A.D. 2003. Vocanoclastic rocks of the Poços de Caldas alkaline complex- MG/SP states. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1861 2003 Date of presentation: 9/9/2003

Artur Deodato Alves

Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W
MG

Abstract

Amaral, P.G.C. 2003. Palinologic contribution to the study of the Rio Itanhaém river mangrove evolution, southern of São Paulo state litoral. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1905 2003 Date of presentation: 18/6/2003

Paula Garcia Carvalho do Amaral

Advisor(s): Ledru, M.

Committee:

Subject of thesis: Sedimentary Geology

State: SP 1/1,000,000 sheet: SG23 Centroid of the area: ' - 'W

Abstract

Amorim Jr, V. 2003. Hydrogeologic evaluation of the Urucuia aquifer in the Rio das Fêmeas basin using IP-Resistivity. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1547 2003 Date of presentation: 30/4/2003

Vicente Amorim Junior

Advisor(s): Lima, O.A.L.

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The main objectives of this work are to define geometry and the lithologic variability within the Urucuia Aquifer, in the Rio das Fêmeas sub-basin, which is part of Rio Grande basin, Bahia state. The studied area represents 42% of São Desidério County. A total of 80 vertical electrical soundings (VES's) of resistivity and time domain induced polarization (IP), has been performed, along the roads centered at points equidistant by about 6 km. The Schlumberger electrodes array was used with a maximum spacing AB/2 of 1000 m. Some soundings were made near existing wells to control the unicity of the interpreted uni-dimensional models. The automatic quantitative interpretation of the VES's were made using a public domain program, developed by Vander Velpen (1988), available at CPGG/UFBA. Maps of log(rho_a) and ma functions were built from the observed values of rho_a and ma for selected values of AB/2. Other maps were constructed, such as, the depth of the aquifer substratum, the topography of the phreatic surface, the log(rho_a) function (a mean weighed resistivity of the aquifer), and the ms function (aquifer mean polarizability). The aquifer consists of sandy layers of variable resistivities overlaying a more conductive regional substratum, dominated by argillaceous lithologies. The high values of rho and m, in the aquifer layer indicates that the Urucuia Formation is characterized by the dominance of sandstones containing disseminated clays, but saturated with very fresh water. The reservoir thins from west to east, varying from approximately 400 m of thickness at the edge of the mountain range, to less than 100 m in the middle of the county. The groundwater flow is also directed from west to east, except in the zone near the Serra Geral scarp. The combined interpretation of ip-resistivity data was useful to define precisely the static level and to reduce the ambiguities in the geoelectric interpretation. The achieved results will be of great value for the planning of sustainable water usage in the that region, which is having an accelerated agricultural development

Anjos, C.W.D. 2003. Study of thermal influence of igneous intrusions on rocks from the Irati formation in Goiás state. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Irati Formation, metamorphic contact, clay minerals, X-rays, trioctahedral smectite

Instituto de Geociências - Universidade de Brasília

Reference: M181

DataBase Ref.: 1420 2003 Date of presentation: 28/11/2003

Camila Wense Dias dos Anjos

Advisor(s): Guimarães, E.M.

Committee:

Carlos José Souza de Alvarenga - IG/UnB

Daisy Barbosa Alves - CENPES/Petro

Subject of thesis: Mineralogy and Petrology

State: GO 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

The Irati Formation, a sedimentary Upper Permian unit, is made of organic-matter-rich shales and carbonatic rocks, that are intruded by cretaceous basaltic rocks. In the SUCAL quarry – Perolândia, GO - the thermal effect of the intrusion over the minerals of sedimentary rocks has been studied through whole rock chemical analyses, optical petrography, X-rays diffraction, electronic microprobe and scanning electronic. Wherever lacking the intrusion, the pelites are constituted mainly by smectite and subsidiary quartz, dolomite, illite, while kaolinite and zeolite are rare. Except the last two minerals, the other ones are also present in rocks under thermal influence, with varied quantities of talc, calcite, serpentine, sepiolite and pyroxene. The whole rock chemical analyses showed that pelite has a high content of magnesium (more than 6% wt oxide), a low amount of aluminum (less than 4% wt oxide) and potassium (less than 1.1% wt oxide). The smectite is a trioctahedral specie. Their content of magnesium is high (more than 4.2), the iron is variable, while aluminium and alkalis are low (less than 0.92 and 0.89, respectively). Illite occurs far from the sill, with a mica-like composition, indicating a detrital origin. Talc has a broad reflection and differs from the ideal structural formulae by its higher contents of aluminium and alkalis (less than 0.27 and 0.29, respectively). Near the base of the sill, the shale is constituted by smectite, talc, serpentine and calcite, but over it, the smectite is associated to calcite and pyroxene. Wherever lacking the intrusion, the carbonatic rocks are constituted mainly by dolomite and quartz and rare illite, feldspar, trioctahedral smectite and kaolinite. This carbonatic rocks containing calcite and talc are found from 6,5 to 1,3 meters under the intrusion while calcite and serpentine occur closer to the sill. Over the intrusion oolitic limestone are silicified, and claystone and marl contain pyroxene, respectively, at 0,3 and 1,0 meter

Araújo, L.M.B. 2003. Petrologic, Geochemical and Geochronological (U/Pb e Ar/Ar) characterization of the Sararé Nova Lacerda massif/MT state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m106

DataBase Ref.: 2475 2003 Date of presentation: 15/10/2003

Larissa Marques Barbosa de Araújo Advisor(s): Godoy, A.M.

Committee:

Subject of thesis: Regional Geology

State: MT 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Barbosa, R. 2003. Geo-School project: Computational resources to support earth sciences teaching in fundamental and medium levels. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 871008

DataBase Ref.: 877 2003 Date of presentation: 21/2/2003

Ronaldo Barbosa Advisor(s): Carneiro, C.D.R.

Committee:

Subject of thesis: Education Applied to Earth Sciences

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This dissertation describes a model called Geo-School Project which aims to evaluate possible connections between teaching of Geoscience contents in the fundamental and high-school levels with new educational opportunities offered by computers. The Geo-school Project stimulates the use of didactic materials supported by the computer; it is modular and allows teachers to get closer to geologic concepts, images and maps of a specific region. The described pilot-module comprises, between Jundiaí and Atibaia, the schools of the Atibaia, Cajamar, Campo Limpo Paulista, Franco da Rocha, Francisco Morato, Jundiaí, Jarinu, Mairiporã and Várzea Paulista municipalities. The inquiry tool was asking professors to choose what are the most interesting subjects to fundamental and high-school levels, from a list constructed from introductory texts, documents, maps and resulting data from a recent project of geologic mapping and academic research. The good receptivity is reflected in the participation of about 30% of the consulted schools. The principal subjects as prioritized by the professors were: (1) Water and Hidrological Cycle; (2) Nature Cycles; (3) Natural Accidents and (4) Fieldwork (or studies on the environment) in the region of Jundiaí-Atibaia. After these results, a didactic material was produced and distributed in CD-ROM. It is composed by slide-show sequences; an open editor of sequences so that the professor and/or pupil can create its own support materials and a bank of images composed by information on particular geologic aspects presented there. The election of contents, besides indicating a clear demand on basic knowledge of Geoscience and a satisfactory degree of availability of computational resources in the schools, disclosed sensible divergences that reflect two groups of interests: the professors of Geography and Science. Although the computer can be a useful tool for the diffusion of Geoscience contents as long as the project revealed a great expectation of the professor, the complexity of the task is bigger than the one it has been foreseen. The difficulties and challenges involve context, ordering of themes, format of the application and increase of interaction with institutions and professors. A problem to be decided in further steps is the qualification of the professor, not only for the treatment of Geoscience subjects but for the use of the computer in education as well.

Benevides, T. 2003. Geothermobarometry and metamorphic evolution of the central segment of Dom Silvério group, MG state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 116 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 197 2003 Date of presentation: 25/4/2003

Thatyana Benevides Advisor(s): Juliani, C.

Committee:

Subject of thesis: Mineralogy and Petrology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Bonato, D. 2003. Structuration of a geographic information system to monitorate water bodies. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 849 2003 Date of presentation: 26/3/2003

Daltro Bonatto Advisor(s): Erba, D.

Committee:

Subject of thesis: Earth Sciences and Environment

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Cagnon, F.A. 2003. Origin and hydrogeochemistry of nitrate from the underground waters of the Adamantina aquifer in Urânia, SP state. MSc Thesis, Instituto de Geociências, Universidade de São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 210 2003 Date of presentation: 6/5/2003

Fabiana Alves Cagnon Advisor(s): Hirata, R.C.A.

Committee:

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Carvalho, M.J. 2003. Structure of the Serra Grande group in the Santana do Acaraú region/CE state and the reactivation of the Sobral-Pedro II lineation: Integration with geophysical data. MSc Thesis - Post-Graduation in Geodynamics and Geophysics, Universidade Federal do Rio Grande do Norte, p.

Gravimetry, seismic, Serra Grande Group

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 037/PPGG

DataBase Ref.: 1876 2003 Date of presentation: 26/6/2003

Marcelo José de Carvalho Advisor(s): Lins, F.A.P.L.

Committee:

Subject of thesis: Applied geology and geophysics

State: CE 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

The study area is located in the NW portion of the Ceará state nearby the city of Santana do Acaraú. Geologically it lies along the Sobral-Pedro II lineament which limits the domains of Ceará Central and Noroeste do Ceará, both belonging to the Borborema Province.

The object of study was a NE trending 30km long siliciclastic body (sandstone and conglomerate) bounded by transcurrent dextral faults. The sediments are correlated to the Ipú Formation (Serra Grande Group) from the Parnaíba basin, which age is thought to be Siluro-Devonian

□ Existing structural data shown that bedding has higher but variable dips (70-45) near the borders faults and much lower to subhorizontal inward the body. The brittle deformation was related to a reactivation, in lower crustal level, of the Sobral-Pedro II lineament (Destro (1987, 1999; Galvão, 2002).

The study presented here was focused in applying geophysical methods (gravimetry and seismic) to determine the geometry of the sandstone/conglomeratic body and together with the structural data, to propose a model to explain its deformation.

- ☐ The residual anomalies maps indicate the presence of two main graben-like structures. The sedimentary pile width was estimated from 2D gravimetric models to be about 500-600 meters.
- ☐ The 3D gravimetric model stressed the two maximum width regions where a good correlation is observed between the isopach geometry and the centripetal strike/dip pattern displayed by the sediments bedding.
- ☐ Two main directions (N-S and E-W) of block moving are interpreted from the distribution pattern of the maximum width regions of the sedimentary rocks.

Carvalho, M. J. 2003. Estruturation of the Serra Grande group in the Santana do Acaraú region/CE state and the reactivation of the Sobral-Pedro II lineament: Integration with geophysical data. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Gravimetry, seismic, Serra Grande Group

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 037/PPGG

DataBase Ref.: 1803

2003

Date of presentation: 26/6/2003

Marcelo José de Carvalho

Advisor(s): Lins, F.A.P.L.

Committee:

Subject of thesis:

State: CE

1/1,000,000 sheet:

SB24

Centroid of the area:

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Abstract

The study area is located in the NW portion of the Ceará state nearby the city of Santana do Acaraú. Geologically it lies along the Sobral-Pedro II lineament which limits the domains of Ceará Central and Noroeste do Ceará, both belonging to the Borborema Province.

The object of study was a NE trending 30km long siliciclastic body (sandstone and conglomerate) bounded by transcurrent dextral faults. The sediments are correlated to the Ipú Formation (Serra Grande Group) from the Parnaíba basin, which age is thought to be Siluro-Devonian

☐ Existing structural data shown that bedding has higher but variable dips (70-45) near the borders faults and much lower to subhorizontal inward the body. The brittle deformation was related to a reactivation, in lower crustal level, of the Sobral-Pedro II lineament (Destro (1987, 1999; Galvão, 2002).

The study presented here was focused in applying geophysical methods (gravimetry and seismic) to determine the geometry of the sandstone/conglomeratic body and together with the structural data, to propose a model to explain its deformation.

☐ The residual anomalies maps indicate the presence of two main graben-like structures. The sedimentary pile width was estimated from 2D gravimetric models to be about 500-600 meters.

☐ The 3D gravimetric model stressed the two maximum width regions where a good correlation is observed between the isopach geometry and the centripetal strike/dip pattern displayed by the sediments bedding.

☐ Two main directions (N-S and E-W) of block moving are interpreted from the distribution pattern of the maximum width regions of the sedimentary rocks.

Casimiro, E.M. 2003. Geologic and mineralogic aspects of the K3 kimberlitic intrusion Fazenda Araçatuba, Paranatinga municipality - MT state. MSc Thesis; Department of Geology, University Federal of Ouro Preto, Minas Gerais, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1872

2003

Date of presentation: 16/7/2003

Elias Maria Casimiro

Advisor(s): Schultz-Güttler, R.A.

Committee:

Subject of thesis: Mineralogy and Petrology

State: MT

1/1,000,000 sheet:

Centroid of the area:

'

-

'W

Abstract

Costa, D.D. 2003. Flooding in estuarine zones: Case study of the Cubatão municipality, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2308

2003

Date of presentation:

Denise Daleva Costa

Advisor(s): Suguio, K.

Committee:

Subject of thesis: Sedimentary Geology

State: SP

1/1,000,000 sheet:

SG23

Centroid of the area:

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'W

Abstract

Cruz, C. 2003. Comparative analysis of the boçorocas evolution in the Pompéia and Oriente municipalities - SP state. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 105 pp.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR110

DataBase Ref.: 1793

2003

Date of presentation:

Carla da Cruz

Advisor(s): Sigolo, J.B.

Committee:

Subject of thesis: Regional Geology

State: SP

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Cury, L.F. 2003. Geochronology and lithogeochemistry of the granitic stocks of the Apiaí Belt southeastern portion, Paraná state. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 125 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1693

2003

Date of presentation: 21/11/2003

Leonardo Fadel Cury

Advisor(s): Siga Jr, O.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

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'W

Abstract

Faleiros, F.M. 2003. Ribeira shearing zone: Deformation, metamorphism and thermobarometry of syn-tectonic veins. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 146 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1204

2003

Date of presentation: 12/6/2003

Frederico Meira Faleiros

Advisor(s): Campanha, G.A.C.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

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'W

SP

Abstract

Ferreira, M.E. 2003. Analysis of spectral mixing linear model in the phytofacies discrimination in the Brasília National Park (Cerrado biome). MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M172

DataBase Ref.: 232

2003

Date of presentation: 20/5/2003

Manuel Eduardo Ferreira

Advisor(s): Sano, E.E.

Committee:

Paulo Roberto Meneses

- IG/UnB

Yosio Edemir Shimabukuro

- INPE

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF

1/1,000,000 sheet:

SD23

Centroid of the area:

15

40 's

-

48

00 'W

Abstract

The savanna biome, locally known as Cerrado, comprises a vertically structured mosaic of herbaceous, arbustive, and arborescent strata. This ecosystem covers approximately 25% of Brazil and 45% of South America, playing an important role in the energy, water and carbon fluxes on region. It is estimated that about 40% of the Cerrado land cover has already been converted into cultivated pastures, agricultural crops, and urban areas. This research evaluated the usefulness of the Spectral Linear Mixing Model (SLMM) for mapping the major Cerrado physiognomies (Cerrado grassland, shrub Cerrado, wooded Cerrado, and Cerrado woodland). The specific goals were: to evaluate a different set of endmembers and the impact of atmospheric contamination on the model output. The study was conducted at the Brasília National Park (BNP), an area of approximately 30,000 hectares, located in the northern Federal District, Brazil (15°35' and 15°45' south latitude and 47°53' and 48°05' west longitude). The SLMM was performed over a Landsat ETM+ scene (path 221; row 71), obtained on July 20th 2001 (dry season), with and without atmospheric correction. Two models were applied: one representing a general model (endmembers = green vegetation, soil and shade, in this case, replaced by water), and the other, representing a specific model (endmembers = Cerrado grassland, shrub Cerrado and Cerrado woodland). The endmembers were acquired from both the image

and aerial spectroradiometer over the BNP (July 2001). The visual analysis showed a good agreement between the ground truth data (vegetation map) and the fraction images, which were capable of discriminating the major Cerrado domains, with proportions ranging from 0.7 to 1.0. The statistical analysis demonstrated a spectral confusion between Campo Sujo and Campo Cerrado for all data set because of their similarity in terms of structure and green cover. The SLMM presented a higher separability than NDVI or ETM+ data set (bands 1-5 e 7). The SLMM capability to discriminate the Cerrado vegetation did not increase with the atmospheric correction. However, there were considerable differences in the average values for each class in their respective fraction images, showing that the atmospheric correction is important when multitemporal mixture analysis is performed.

Freitas,D.M. 2003. Underground water in the Baixada Campista (Campos dos Goytacazes, RJ state): Geometry, quality and dynamics in the quaternary deltaic aquifer. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1729

2003

Date of presentation: 27/8/2003

Diogo Macedo de Freitas

Advisor(s): Pereira,S.Y.

Committee:

Subject of thesis: Metallogenesis

State: RJ

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract

Located in Campos dos Goytacazes municipality, northern region of Rio de Janeiro State, comprising approximately 440km² of the coastal plain (continental portion of Campos Sedimentary Basin), the area under study comprises the most important districts of the municipality – Goytacazes, Tocos, Donana e Ururai – such as its headquarters. The Campos's slope has plenty of brooks and artificial channels, in addition to greater bodies such as Paraíba do Sul river to the north and Feia lagoon to the south. However, the climatic conditions engenders a regional hydric deficit. That is an agricultural land traditionally based on the sugar cane monoculture and more recently its economy has depended on gas and oil production royalties. The object of study is the Deltaic Quaternary Aquifer, which was formed by residual soils, sands, gravels, clays and silts arising from integration of sea, river-sea, river and river-lake accumulation environments; a typical deltaic sedimentation on an area subject to tectonic movement and sea level transgressions and regressions. Nowadays, the sedimentary package which spreads from NW to SE can reach until 120 meters in thickness. That is an unconfined aquifer fed by Paraíba do Sul river, with discharge area on Feia lagoon, and in an almost homogeneous behaviour, excepting from the anomalous strip of the Paraíba do Sul paleochannel. All the wells drilled on this preferential strip gained excellent discharge output, which reached until 300m³/h (discharge output very much above the ones found on the remaining area). The specific capacity varies from 0,01 to 139,24m³/h/m, the transmissivity values vary from 0,678 to 9023,00m²/dia, and the hydraulic conductivity values vary from 0,012cm/s to which can exceed 0,16cm/s. As it is a big alcohol producer, there is a suspicion that bad agricultural practices engender or increase quality problems on that area. Indexes of ions such as potassium, iron and sodium are above the limits in all over the area of study. The total nitrogen values are above the limits just under urban concentration areas. Analyses of little deep sample collections (approximately 3 meters) were classified with regards to agriculture use and medium to high salinity and powerless sodium waters. The tropical climate (hot and dry throughout the year), together with agricultural processes and marine influence, increased groundwater and soil saltness, in general, the southern / south-eastern region of the area of study, which presents the worst saltness situation from the qualitative point of view. Following the groundwater variation tendency on the discharge area, the studied indexes are subjected to changes of concentrations in the course of the water cycle.

Friedrich,A. 2003. Geostatistics modelling of actual saturation of fluids in a Mature Field. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 11818

DataBase Ref.: 1146

2003

Date of presentation: 25/7/2003

Anelise Friedrich

Advisor(s): Remacre,A.Z.

Committee:

Subject of thesis:

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Fries,M. 2003. Study of the structural and tectonic features of the northeastern of São Paulo state and southwestern of Minas Gerais state through gravimetry. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m109

DataBase Ref.: 2477

2003

Date of presentation: 15/12/2003

Maximilian Fries

Advisor(s): Malagutti Filho,W.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W
MG

Abstract

Gomes, A.B. 2003. Petrogenetic characterization of the Ibiúna granitoid massif, in the southeastern region of São Paulo state. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 93pp..

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m102

DataBase Ref.: 1791 2003 Date of presentation: 12/5/2003

Adenir Batista Gomes Advisor(s): Godoy, A.M.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: SG23 Centroid of the area: ' - 'W

Abstract

Gomes, P.J.P. 2003. Underground water exploration in the Tucano Sul sedimentary basin using electrical methods. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1545 2003 Date of presentation: 22/7/2003

Paulo José Pereira Gomes Advisor(s): Lima, O.A.L.

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

In this work we use surface electrical geophysics and well logging results to examine two aquifers systems in north part of the South Tucano basin-Bahia, enclosed in the Marizal Formation and in the Ilhas and Massacara Groups, up to a depth of the order of 500 meters. Geological and geophysical data of two oil and two groundwater wells were used for stratigraphic and petrophysical purposes. In addition, nineteen vertical electrical soundings were measured along some selected centers in the area using Schlumberger electrode arrays. Basic geological and hydrological informations provided by the Brazilian Geological Services-CPRM was used in integrating the geophysical and the hydrogeological informations. From this combined analysis it was possible to find the physical and geometrical parameters to evaluate the groundwater resources of this important area of the state. Such parameters include the sand-body geometrics and clay content, their porosities and permeabilities and the salinity of their groundwaters. These are essential informations both to implement a rational aquifer exploration, as well as to protect the underground reservoirs against eventual pollution problems. The results are represented in resistivity and structural maps for the main aquifer in the area, as well as geological cross-sections depicting the structural-hydrogeological model for the area within the investigated depth.

Grandchamp, C.A.P. 2003. Study of the Cauê aquifer recovering and the trench filling in the Mina de Águas Claras mine, Serra do Curral, municipality of Nova Lima, State of MG. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 65

DataBase Ref.: 2408 2003 Date of presentation: 21/3/2003

César Augusto Paulino Grandchamp Advisor(s): Velásquez, L.N.M.

Committee: Uriel Duarte - IGc/USP
Walter Duarte da Costa - IGC/UFGM
Antonio Carlos Bertachini -

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Gravina, E.G. 2003. Mineral chemistry of perovskite and rock geochemistry in sandstones from Bauru group, Triângulo Mineiro, Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

[perovskite, Uberaba Formation, provenance](#)

Instituto de Geociências - Universidade de Brasília

Reference: M170

DataBase Ref.: 230 2003 Date of presentation: 17/2/2003

Érica Gonçalves Gravina

Advisor(s): Brod, J.A.

Committee: Jose Carlos Gaspar - IG/UnB
Excelso Ruberti - IGc/USP

Subject of thesis: Mineralogy and Petrology

State: MG 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

The Bauru Basin includes part of the Mato Grosso do Sul, Goiás, Minas Gerais, São Paulo and Paraná States in Brazil, and comprises the Caiuá and Bauru Groups. Only the latter occurs in the Triângulo Mineiro region, represented by the Uberaba and Marília Formations. The large amounts of clastic material derived from alkaline rocks in some units of the Bauru Group (e.g. the Uberaba Formation) has drawn the attention of researchers, since these rocks could potentially be diamond-bearing. In addition to other alkaline rock-derived clastic components the Uberaba Formation sandstones and conglomerates are distinguished by large amounts of perovskite, which makes them an ideal source material for crystallographic and chemical studies of perovskite. Sandstones from the Uberaba and Marília Formations were investigated during this research. A diamond-bearing conglomerate of unknown stratigraphic position, from the Garimpo do Bandeira locality, was included in the study, in order to investigate a possible correlation of this rock with diamond-bearing conglomerates of the Uberaba Formation such as those in the Romaria region of Minas Gerais.

The Uberaba Formation, was studied near the cities of Uberaba and Conceição das Alagoas. It is composed of conglomerates, conglomeratic sandstones and sandstones containing large amounts of lithic fragments of volcanic origin (basalts and alkaline rocks), perovskite (up to 25%), diopside, olivine, garnet (melanite) e Ti-magnetite.

The studied outcrop of the Marília Formation comprises conglomerates, conglomeratic sandstones and sandstones. All rock-types are strongly cemented by carbonate. Where cementing was more extensive a calcrete level developed, leaving rare remnants of the original rock. The main clastic components are quartz and feldspars, with subordinate amounts of fragments of basement (quartzite, schist) rocks and basalt. The contribution of clastic material from alkaline rocks is very small. Perovskite and pyroxene occur only in trace amounts and the garnet is almandine-type.

The results of structure refinement by single crystal x-ray diffractometry indicate that the perovskite from the Uberaba Formation is orthorhombic (P b n m), with a distorted unit cell whose parameters are $a = 5,3740 \text{ \AA}$, $b = 5,4480 \text{ \AA}$ e $c = 7,6320 \text{ \AA}$, $\alpha = \beta = 90^\circ$ e $\gamma = 90,000 (3)^\circ$. Electron microprobe analyses show that this perovskite is composed of more than 90 mol % CaTiO_3 , where rare earth elements (REE) are the main substitution cations. The sum of the light REE (La, Ce, Nd e Sm) ranges from 6704 to 56694 ppm, whilst the Y content ranges from 78,74 to 818 ppm. The results of LAM-ICP-MS analyses on selected perovskite grains demonstrate the strongly fractionated character of the REE, whereby the sum of the light REE ranges from 9143 to 11798 ppm, and the sum of the heavy REE varies from 42,98 to 60,80 ppm. Mutual correlation between the probable substituting cations show that the main solid solution in place is between perovskite (CaTiO_3) and REEFeO_3 , with minor participation of the taunsonite (SrTiO_3), loparite $[(\text{Na}_0,5\text{Ce}_0,5)\text{TiO}_3]$ and lueshita (NaNbO_3) end-members.

The perovskite from the Uberaba Formation is similar in composition to that of kamafugites and plutonic alkaline rocks associated to carbonatite complexes of the Alto Paranaíba Igneous Province (APIP), suggesting that the sedimentary rocks derived, to a considerable extent, from the erosion of the alkaline rocks of that province. This is consistent with the Alto Paranaíba Arch being a structural high during the Late Cretaceous, and with paleocurrent directions reported in the Uberaba Formation.

Samples from the Uberaba e Marília Formations, and from the Garimpo do Bandeira, were analysed for major, trace and rare-earth elements by ICP-AES e ICP-MS, and their mineralogy in the < 200 mesh and clay fractions was determined by X-ray diffractometry. The results obtained demonstrate that the source area for the Uberaba Formation contained important amounts of alkaline rocks, especially kamafugites and plutonic rocks associated to the APIP carbonatite complexes. The source area for the Marília Formation had a less important contribution of alkaline rocks, and was possibly dominated by basement and the Paraná Basalts (Serra Geral Formation). No chemical evidence of alkaline rock contribution in the source area for the Garimpo do Bandeira rocks was found. The clay mineral content of the Uberaba Formation rocks is consistent with derivation from mafic rocks under little chemical weathering, which agrees well with the arid climate conditions thought to have prevailed during the Late Cretaceous in the region. The Marília Formation appears to have formed still under dry, but perhaps attenuated climatic conditions. The mineralogical content in the fine-grained fraction of the Garimpo do Bandeira rocks indicates extensive chemical weathering and, therefore, wet climatic conditions, suggesting that these rocks postdate the Late Cretaceous and should not be correlated with the Uberaba or Marília Formations.

The results of this research have implications for the long-term controversy on the origin of the Western Minas Gerais alluvial diamond. At least in the case of Garimpo do Bandeira, it was not possible to establish a direct relationship between the diamond-bearing conglomerate and the Late Cretaceous alkaline rocks of the APIP. This suggests that: either 1) the diamond in Garimpo do Bandeira comes from older primary sources or 2) successive sedimentary reworking cycles between the end of the Late Cretaceous and the deposition of the conglomerate were able to successfully wipe out the chemical and mineralogical signature of the APIP magmatism.

Grigio, A.M. 2003. Application of remote sensing and geographic information system to the determination of the natural and environmental vulnerability of the Guimarães municipality (RN state): Simulation of risk to petroleum industry activities. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 034/PPGG

DataBase Ref.: 1805 2003 Date of presentation: 28/3/2003

Alfredo Marcelo Grigio

Advisor(s): Amaro, V.E.

Committee:

Subject of thesis:

State: RN

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The activities regarding this work were developed inside the context of the MARPETRO (FINEP/PETROBRÁS/CTPETRO) and GERCO – IDEMA projects. The State of Rio Grande do Norte comprises two different environmental areas: the terrestrial and the marine, that are characterized as homogeneous areas in relation to the natural resources. In these panoramas is inserted the Municipal district of Guamaré, located in the North littoral and presents wide petroleum and salt exploration, with great expansion of the carcinoculture. This work has for general purpose, to identify, to map and to interpret the evolution of the use and occupation of the soil and the environmental vulnerability of the Municipal district of Guamaré (RN), having as base the use of a methodology for the multi-time interpretation of images of remote sensing and field recognitions, integrated in a Geographical System of Information (GIS) environment. It was executed a preliminary trial on the vulnerability of the surrounds with relation to accidents in the installations and ducts of the Guamaré Petroleum Pole. The period from 1996 to 2001 verified a more significant alteration in the use and occupation of the soil provoked by the appearance of classes no existent in the past (carcinoculture, dam and people establishment) and for the drastic reduction of the areas of salt beds. In the analyzed years, the appearance of the activity of the shrimp creation in the municipal district didn't affect the system of mangroves significantly, since there was the utilization of the old salt beds. Probably the mangrove already suffered that impact in previous times when of the installation of the salt beds. In terms of the use and occupation of the soil, in the municipal district of Guamaré, the presence of the Guamaré Petroleum Pole didn't demonstrate direct influence on the municipal dynamics. The local economy seems to be more affected for variables macro- economic (state and federal), in spite of the royalties payed by Petrobrás to the municipal city hall. In relation to the evolution of the coast line, during the period from 1989 to 1998, the contribution of the accretion processes and erosion was equitable (49,9% and 50,1%, respectively); in the period from 1998 to 2000, the accretion process was of significant importance contributing with 91,2% of the affected area for the processes and, in the period from 2000 to 2001, an inversion of the contribution of the processes happened, prevailing the one of the erosion with 78,1%. It was verified that 96,77% of the area of the municipal district are classified inside of the categories of environmental vulnerability very low, low and medium. The areas that comprehend the carcinoculture activities contribute with 93,84% of the total of the category of very high vulnerability. Of the crossings tested for the making of vulnerability maps to different accidents, for the surround of the facilities of the petroleum industry, the areas that were more outstanding and deserving special attention are: Guamaré Petroleum Pole, Cajarana and De Baixo ponds, of activities of carcinoculture close of the Pole, "people establishment" De Baixo and all of the areas inside of the limit of 200 m to each side of the ducts lines. The work made clearly explicit that the antropic activities participate actively in the Municipal district of Guamaré, not just in their economical and cultural aspects, but also impregnating their marks in the local landscape.

Guarnieri, L.B. 2003. Precambrian geology of the Nova Era region, far NE of the Quadrilátero Ferrífero region- MG state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1858

2003

Date of presentation: 10/9/2003

Lúcia Baroni Guarnieri

Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis: Mineralogy and Petrology

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

' -

'W

Abstract

Guimarães, P.J. 2003. Gold mineralization in the Chapada da Natividade lineament, Staate of Tocantins, with emphasis on the hydrothermal and geochemical alteration. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 67

DataBase Ref.: 2410

2003

Date of presentation: 16/5/2003

Paulo José Guimarães

Advisor(s): Lobato, L.M.

Committee:

Maria José Maluf de Mesquita - DG/UFPR

Luís Antônio Rosa Seixas - DEGEO/UFOP

Hardy Jost - IG/UnB

Subject of thesis: Economic and Applied Geology

State: TO

1/1,000,000 sheet:

SD22

Centroid of the area:

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'W

Abstract

Gutierrez, A.S. 2003. Hydrogeochemical model of the Adamantina Aquifer in Urânia - SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2306

2003

Date of presentation:

Angélica Souza Gutierrez

Advisor(s): Hirata,R.C.A.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP 1/1,000,000 sheet: SF22 Centroid of the area: ' - 'W

Abstract

Jacintho,L.R.C. 2003. Geographical Information System and Remote Sensing as tools for Conservation Units Environmental Management: Capivari-Monos Environmental Protection Area case (São Paulo-SP). MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Conservation Units; Environmental Management; Geographical Information System; Remote Sensing

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1082 2003 Date of presentation: 20/3/2003

Luiz Roberto de Campos Jacintho

Advisor(s): Almeida,T.I.R.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Through the application of Geographical Information System and Remote Sensing it was elaborated a chart diagnosis for Capivari-Monos Environmental Protection Area. This Conservation Unit is located in the south end of São Paulo city where important Atlantic Forest fragments and strategic water spring still exist. With the support of a Digital Terrain Model it was produced a Geomorphologic map. Applying Map Algebra the data on Geotechnics and Geomorphology had been integrated for mapping the fragility of physical environment. Relief and hidrography conditions pointed indications of neotectonic movements in this region. Employing change detection techniques in Landsat-7 images the deforestation between 1991 and 2000 was evaluated. A land use and land cover map was produced trough Landsat-7 image classification (supervised per region method). The results show that the urban growth concentrates on the basin of Billings, mainly at the Cratera de Colônia sub-basin where the fragility regarding to phisical environment was considered very high.

Karniol,T.R. 2003. Geometry and kynematics in the Baixo Rio Doce region between Aimorés (MG state) and Colatina (ES state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, 89 pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1255 2003 Date of presentation: 10/9/2003

Tiago da Rocha Karniol

Advisor(s): Machado,R.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: MG 1/1,000,000 sheet: SE24 Centroid of the area: ' - 'W
ES**Abstract**

Leão,M.R.C. 2003. Aspects of the water circulation in the São Sebastião aquifer. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1548 2003 Date of presentation: 14/4/2003

Marilene Regina Caruso Leão

Advisor(s): Azevedo,A.E.G.

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SE24 Centroid of the area: ' - 'W

Abstract

An isotopic tracers study has been done in order to understand some aspects of the groundwater dynamic in São Sebastião aquifer, in Camaçari region, Bahia. The aims were to evaluate the water residence time in the aquifer and its discharge in the hydrographic basins that flow on the East limit of the Sedimentar Basin, nearby the Salvador Fault. Ten samples of groundwater from producing wells were collected to obtain the determination of the ¹⁴C specific activity existent in dissolved carbonates and the ²²²Rn concentration, and also 19 surface water samples from the hydrographic basin of the Capivara Grande, Capivara

Pequena e Imbassai streams, where the ^{222}Rn concentrations were measured. For all samples, pH, temperature, electric conductivity and concentration of major ions (Ca^{2+} , Mg^{2+} , Na^{+} , K^{+} , Cl^{-} , SO_4^{2-} e HCO_3^{-}) were also determined. The calculated range of the specific activities of ^{14}C in the groundwater samples varies from 71,5 to 7,0% of modern carbon, corresponding from recent to about 20.000 years old the residence time of waters. This denotes stratification within the aquifer, with residence time increasing in depth. The ^{222}Rn concentration in the samples varies from 100 to 690 dpm/L. Temperature and hydrochemical data also show a stratification in the aquifer, results correlated to dissolved salts, that grow as increases the extraction depth. The ^{222}Rn concentration in the surface water is similar to the characteristics groundwater values only in the upper part of the streams investigated. In the segment where the Capivara Grande stream flows close to the Salvador Fault, the Reconcavo Basin East border, these values are very low, and don't indicate discharge from São Sebastião aquifer in that region. The hydrochemical analysis in the samples collected in the Capivara Pequena indicates high concentration of dissolved salts, due to discharge in this course of wastewater coming from the Camaçari Petrochemical Pólo.

Lima, B.E.M. 2003. Evaluation of the Sensor ASTER images for the spectral discrimination of faciológic variations in the Serra Branca granite, Goiás state. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1698

2003

Date of presentation: 10/10/2003

Bruno Eustáquio Moreira Lima

Advisor(s): Almeida Filho, R.

Galvão, L.S.

Committee:

Subject of thesis: Remote Sensing

State: GO

1/1,000,000 sheet:

SD22

Centroid of the area:

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'W

Abstract

Lima, V.S. 2003. Spectral signatures of gossans associated with Pb-Zn-Ba mineralization in Irecê basin (BA): A study based on TM and ASTER sensors data. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 6870

DataBase Ref.: 882

2003

Date of presentation: 25/8/2003

Venissa de Souza Lima

Advisor(s): Souza Filho, C.R.

Committee:

Subject of thesis: Metallogenesis

State: BA

1/1,000,000 sheet:

SC22

Centroid of the area:

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Abstract

The aim of this work was to develop strategies for detection of gossans associated to Pb-Zn-Ba deposits in the Irecê basin (BA), as well as their distinction from generic laterites, using remote sensing data and techniques. Samples of gossans collected in the study area were analysed by reflectance spectroscopy methods, using a high resolution FieldSpec FR spectrometer covering nanometric wavebands within the 350nm-2500nm interval. Goethite, limonite and hematite were identified by interactive and software-driven automatic interpretation as the gossan's main minerals, based on their diagnostic spectral features. Using data available in the literature combined with lab-measured reflectance data convolved to TM and ASTER sensors, it was possible to realize a spectral signature for both genuine and false gossans in terms of multispectral resolution. Using these data, gossans are clearly distinct from laterites by the lack of absorption bands around $2.2\mu\text{m}$ (linked to the presence of kaolinite) and by the lack of important emissivity features around $10\mu\text{m}$ (akin to a mixture of kaolinite and silica). Using this notion, the main spectral intervals employed to detect and differentiate these two materials were defined as followed: 0,350-1,00 μm , covering visible (VIS) and near-infrared (NIR) wavebands, to detect iron oxides and hydroxides; 1,00-2,50 μm , covering shortwave infrared (SWIR) wavebands to map kaolinites; and 8,00-14,00 μm , covering the thermal infrared (TIR) to map kaolinite- and -silica-rich surfaces (only possible with ASTER thermal multispectral data). The detection of gossans, on the basis of the conceptual model, was made by 'exclusion' of variables not typically linked to these surfaces, using the following corollary: "iron-rich surfaces that are deficient in kaolinite and silica loads (typical of laterites), are probably genuine gossans, to which metal deposits are also potentially linked". Image processing techniques applied to data gathered in the VIS, NIR and SWIR portion of the spectrum comprised a rigorous procedure for atmospheric correction of the data using the Atmospheric CORrection Now (ACORN) software. A radiative transfer model (MODTRAN) was applied to ASTER and TM calibrated data. Several image processing techniques were functional for the VIS-SWIR data, including color composites, band ratios, principal component analyses and hyperspectral image processing techniques adapted to multispectral data, such as Spectral Angle Mapper (SAM) and Mixture Tuned Matched Filtering (MTMF). ASTER TIR data were converted to emissivity and enhanced via color composites, decorrelation stretch, adapted pseudo-ratios, Minimum Noise Fraction and by hyperspectral image processing (SAM e MTMF) techniques. The integration of the conceptual model and image processing techniques tailored to detect genuine gossans, isolating them from other representative surfaces in the Irecê basin, proved very successful and the results were substantial using ASTER imagery. These achievements using ASTER multispectral data in the Irecê basin demonstrate these data can offer detailed mineralogical information, from which abundance maps of key mineral endmembers used in exploration for base-metal deposits can be derived, even under tropical conditions.

Longhim, M.E. 2003. Palinology of the Itararé group in Salto, São Paulo state (Paraná basin, Upper

Carboníferous). MScThesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 127 pp..

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR140

DataBase Ref.: 1787

2003

Date of presentation:

Márcia Emília Longhim

Advisor(s): Davies,R.R.

Committee:

Subject of thesis: Regional Geology

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

Luvizotto,G.L. 2003. Metamorphic characterization of the Araxá group rocks in the São Sebastião do Paraíso region, southwestern Minas Gerais state. MSc Thesis - Instituto de Geociências e Ciências Exatas, Universidade Estadual Paulista, Rio Claro, 2003.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m108

DataBase Ref.: 2443

2003

Date of presentation: 11/11/2003

George Luiz Luvizotto

Advisor(s): Simões,L.S.A.

Committee:

Subject of thesis: Regional Geology

State: MG

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

Maas,M.V.R. 2003. Data integration of aerial geophysical and geological data applied to mineral exploration at the southwest of Orós-Jaguaribe cupriferous belt. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Airbone Geophysics, mineral exploration, copper occurrences, anomalous potassium, hydrothermal alteration

Instituto de Geociências - Universidade de Brasília

Reference: M176

DataBase Ref.: 236

2003

Date of presentation: 15/8/2003

Marcos Vinícius Rodrigues Maas

Advisor(s): Oliveira,C.G.

Committee:

Roberto Alexandre Vitória de - IG/UnB

Clóvis Vaz Parente - DG/UFCE

Subject of thesis: Prospection and Economic Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

Mineral deposits like those of the Cu-Fe-oxides class are commonly associated with hydrothermal alteration zones that are detectable by airborne geophysical methods. In The Pão de Açúcar, São João del-Rei and Fronteiras region (Piauí State), and Campos Sales region (Ceará State) there are copper occurrences in Eo-cambrian molassic basins, and others associated with fault breccias in hydrothermal alteration zones due to Post-Brasiliano granites (550 My) intruded in Mesoproterozoic orthogneisses and metavolcanic rocks of the Orós Group. This region is covered by the airborne geophysical survey called "Projeto Borda Leste da Bacia do Maranhão" (Magnetometry and Gamma-spectrometry with flight line spacing of 1 km).

The processing and interpretation of these data are presented here, with an aim to help geological mapping and mineral exploration. The magnetic images of anomalous field, first vertical derivative, analytical signal amplitude and phase, and 3D Euler deconvolution maps were used to delineate the structural framework and the magnetic bodies. The RGB ternary image (K:Th:U) was used to delineate the gamma-spectrometric domains. The integration of the magnetic and gamma-spectrometric interpretation yielded a geological-geophysical map. The anomalous potassium and uranium images were used to identify probable zones of potassic hydrothermal alteration that suggest targets for future follow-up works.

The field check of the anomalous zones and the description of the hydrothermal breccia yielded the proposal of a preliminary metallogenetic model. The Mandacaru deposit and the studied copper occurrences may be included in the Cu-Fe-oxides class due their association with potassic-hematitic alteration zones in post-Brasiliano granites in an orogenic collapse setting during the Cambrian period.

Maia,P.D. 2003. Geochemical study of metals in sediments of Paranoá lake - DF. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Paranoá Lake, metals, sediment

Instituto de Geociências - Universidade de Brasília

Reference: M179

DataBase Ref.: 1008

2003

Date of presentation: 12/9/2003

Poliana Dutra Maia

Advisor(s): Boaventura,G.R.

Committee:

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

Geochemical studies of bottom sediments of the Paranoá Lake (D.F., Brazil) located in the Brazilian capital, is of great importance to evaluate the potential risk this compartment is representing for the aquatic food chain. Modifications of the near environment or the action of the wind in the shallow water part of this system can induce a remobilisation of pollutants, such as heavy metals associated within the sediment, in the adjacent column water.

The objective of this work is to study the distribution of the trace elements (Sr, V, Cu, Cr, Mn, Ba, Zn, Hg) and major elements (Ca, Mg, Fe e Al) in bottom sediments of the Paranoá Lake, and to correlate their concentrations with its potential sources, from natural origin or coming from human activities. During the rainy season, were collected 41 samples of the superficial sediment distributed all over the Paranoá Lake and 13 in its tributaries, close to their mouth.

All the chemical elements were analysed in fine fraction (< 0,045mm). The determination of Sr, V, Cu, Cr, Mn, Ba, Zn, Ca, Mg, Fe and Al was realized by ICP/AES and Hg was determined by CV-AAS.

According to the results and statistic analysis it appears that the Sr, V, Cr, Ba, Mg, Fe and Al are mainly associated to the geology and are due to erosion and weathering processes in mainly of the black shale (slates), the most commonly observed rock in the Paranoá formation in this area. In few points, were observed anthropogenic sources for some elements like the Fe, used for the recent building of the city, the Al, employed for urban water treatment, the Cr, in metallic alloys, the V, which composes some petroleum derivatives, or the Ba, used in insecticides.

The Ca, Mn, Cu, Hg and Zn are mainly associated with human activities developed in the area, like the soil white-washing, some agricultural practices, and the waste water treatment respectively.

In seven points (17%) sampled within the lake, were observed elevated "Geoaccumulation Index" (>2) for the Cr, Zn, Ba, Hg and Cu, which indicate a moderate contamination risk, and in two samples, was found an important contamination risk compared to the natural sources. But regarding the Hg distribution, any pollution has been observed in the bottom sediments of the Paranoá Lake.

Marcelino,E.V. 2003. Mapping of landslides susceptible areas in the Caragatatuba municipality (SP) Using Remote Sensing Techniques and GIS. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1696 2003 Date of presentation: 26/9/2003

Emerson Vieira Marcelino

Advisor(s): Formaggio,A.R.

Committee:

Subject of thesis: Remote Sensing

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Marques,J.F. 2003. Pb, Zn and Cu ions behaviour in impacted areas by scoria, product of batteries recycling acidic-lead. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2309 2003 Date of presentation:

Janaina Ferreira Marques

Advisor(s): Hypolito,R.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Meyer,A.P. 2003. The influence of petrography in the technological behaviour of ornamental rocks from the Socorro complex (SP state) and Pedra Branca massif (MG state). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m107

DataBase Ref.: 2476 2003 Date of presentation: 16/10/2003

Ana Paula Meyer

Advisor(s): Artur,A.C.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

MG

Abstract

Moraes, M.P.G. 2003. Heavy metals determination in waste loam by X ray fluorescence spectrometry. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 880

2003

Date of presentation: 21/8/2003

Maira Priscila Gumiero de Moraes

Advisor(s): Eznweiler, J.

Committee:

Subject of thesis: Metallogenesis

State: SP

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The application of sewage sludges on soils is a common practice, but the heavy metals should be determined before disposal. Sewage sludges composition is mainly organic and the content in heavy metals is variable. Usual methods for heavy metals determination in sludges are based on sample dissolution. The results depend, partially, on the efficiency of the dissolution, which may vary from sample to sample. We studied the feasibility of analyzing pressed pellets of sludges by wavelength dispersive X-ray fluorescence spectrometry (WD-XRF), using fundamental parameters for matrix effects corrections. Several ways of introducing the carbon content during calculation of results were tested. Accuracy was evaluated by analysis of four international certified reference materials. Results were within or very close to the confidence interval of the available certified values for most elements (Al, As, Cr, Cu, Fe, Mn, Ni, Pb, S, Se, Si, V, Zn). Other metals, like Cd and Hg were below the detection limits (15 and 9 mg kg⁻¹, respectively). Eight samples of sewage sludges were analyzed by one conventional method (oxidative acid digestion and atomic absorption spectrometry) and by the proposed method. Results of elements determined by both methods compare favorably. The advantages of using XRF in sewage sludge analysis are the simultaneous determination of other elements, beside heavy metals, the speed of analysis, which is done without aggressive chemical reagents.

Narciso, M.G. 2003. Environmental management in Serra das Areias - Spatial and temporal analysis of the influence area of the Serra das Areias aquifer. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 850

2003

Date of presentation: 26/2/2003

Mônica Gonçalves Narciso

Advisor(s): Gomes, L.P.

Committee:

Subject of thesis: Earth Sciences and Environment

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

Nunes, J.R.S. 2003. Tafonomic characterization of fossiliferous concentration of the Calcário Esperança Limestone, Piauí formation (Upper Carboniferous), Parnaíba basin, and their palaeoecologic and palaeoenvironmental implications. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1910

2003

Date of presentation: 30/6/2003

Juliana Rodrigues da Silva Nunes

Advisor(s): Anelli, L.E.

Committee:

Subject of thesis: Palaeontology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

Oliveira, R.F.G. 2003. Petrological and petrophysical analysis of Angico member, Riachuelo formation, sandy lithologies, in outcrops of the Riachuelo region, Sergipe-Alagoas basin, Sergipe state-Brazil. MSc Thesis, Department of Geology, University UNISINOS; pp

Departamento de Geologia - Universidade Vale do Rio dos Sinos

Reference:

DataBase Ref.: 851

2003

Date of presentation: 12/2/2003

Rita F. G. de Oliveira

Advisor(s): Garcia, A.J.V.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Pereira, V.C.A. 2003. Metallogeny of gold in banded iron formations of the Rio das Velhas Greenstone Belt, Quadrilátero Ferrífero, State of Minas Gerais, based on geographic information systems. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 68

DataBase Ref.: 2411 2003 Date of presentation: 19/9/2003

Viviane Cristina Alves Pereira Advisor(s): Lobato, L.M.

Committee: Alvaro Penteadó Crósta - IG/UNICAMP
José Carlos Sícoli Seoane - DG/UFRJ

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Perez, Y.A. 2003. Characterization of the sedimentary deposits geometry at the southwestern border of the Potiguar basin. MSc Thesis, Department of Geology, University Federal of Rio Grande do Norte; pp

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference: 035/PPGG

DataBase Ref.: 1804 2003 Date of presentation: 31/3/2003

Yoe Alain Reys Perez Advisor(s): Lima Filho, F.P.

Committee:

Subject of thesis: Applied geology and geophysics

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This study focuses on the potential of several techniques used to identify depositional geometries and paleogeographical investigation on the SW border of the Potiguar Basin. Three areas were selected for an integrated geological, geophysical and geochemistry study. The main used techniques were facies analysis, remote sensing, ground penetrating radar (GPR) and gamma-ray in outcrops, as well as petrographic microscope observations and the using of scanning electronic microscopic (SEM), and Carbon and Oxygen Isotopic study in the carbonate tufa. These methodological approaches were very efficient in the facies analysis of 2D geometries. The GPR profiles carried out in Quixerê identified important geological reflectors which allowed to the identification of depositional geometries of tufa. However, GPR profiles were not able to identify geological reflectors in the Apodi and Olho d'Água da Bica outcrops. Gammaray profiles also presented good results, which justify their use in 1D and 2D geometric analysis. Carbon and Oxygen Isotopic analyses were also used to investigate paleoenvironmental setting of tufa deposits. It is important to remark the excellent results of GRP using in the identification of depositional geometries of tufa and their contact relationships with the underlying rocks. Field analysis of faults indicate a vertical sigma-1 orientation which was associated to normal faults.

Prado, A.C.A. 2003. Clays from Formação Corumbataí formation as base to obtain porcelanate gres by anhydrous way. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 155 pp..

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR143

DataBase Ref.: 1786 2003 Date of presentation:

Ana Cândida de Almeida Prado Advisor(s): Zanardo, A.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Ribeiro, M.C.S. 2003. Tectonic history and exhumation of the Serras da Bocaina and Mantiqueira ranges (SP/RJ states). MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 124 pp..

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m103

DataBase Ref.: 1785 2003 Date of presentation: 1/7/2003

Marli Carina Siqueira Ribeiro

Advisor(s): Hackspacker, P.C.

Committee:

Subject of thesis: Regional Geology

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W
SP

Abstract

Rocha, G.A. 2003. Petrology and genesis of alexandrite mineralization in the southern border of the Serra Dourada granitic massif (GO). MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Serra Dourada Granite, Serra da Mesa Group, Mineralization of Alexandrite, Braslano orogenic cycle

Instituto de Geociências - Universidade de Brasília

Reference: M171

DataBase Ref.: 231 2003 Date of presentation: 16/5/2003

Gustavo Adolfo Rocha

Advisor(s): Moura, M.A.

Committee: Claudinei Gouveia de Oliveira - IG/UnB
Júlio César Mendes - DEGEO/UFOP

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

The alexandrite mineralization from the southern border of the mesoproterozoic Serra Dourada granitic Massif (GO), within-plate, is host in metasedimentary rocks from the Serra da Mesa Group, in the contact region with the biotite granite of the massif. The biotite granite of the mineralized area is pink, quite foliated, medium to fine-grained, with granoblastic texture, and is constituted of quartz, microcline, biotite, plagioclase, ilmenite, fluorite and zircon. The metasedimentary rocks of the Serra da Mesa Group in the mineralized area comprise plagioclase-biotite-muscovite-quartz schist, garnet-plagioclase-biotite-quartz schist, plagioclase-biotite-quartz schist, garnet-staurolite-kyanite-biotite-quartz schist and garnet-amphibole-quartz schist. They have alternation of mafic and felsic bands. The biotite granite is metaluminous to peraluminous (ASI between 0.9 and 1.3), with values of SiO₂ between 67.71 and 76.79 wt%, MgO/TiO₂ between 0.23 and 2.66; K₂O/Na₂O > 1; 11-13 wt% Al₂O₃, high Rb (80.8 - 508 ppm), Zr (153 - 291.9 ppm), Y (227.5 ppm), Nb (58.9 ppm), Ta (7 ppm), Ga (27 ppm) and REE (REE = 1192 ppm) and moderate values of Ba (295 ppm). REE are strongly fractionated (La/Yb = 45), with expressive negative anomaly of Eu (Eu/Eu* = 0.10). The metasedimentary rocks of the Serra da Mesa Group are enriched in MgO, Al₂O₃, Ga, W and Rb. They have moderate Fe₂O₃, Nb, Cr, REE and Zr values and low contents of Sc, V and Y. The patterns of REE of these rocks are moderately fractionated, with important negative anomaly of Ba. The garnet-amphibole-quartz schist is enriched in Al₂O₃, Fe₂O₃, SiO₂, W, V and Cr, has medium values of Sn and Zn, and low values of Ba, Ni, Zr and Y. REE pattern is slightly fractionated, with little negative Eu anomaly. The granite biotite is green and falls in the domain of magmatic biotites in specific diagrams, while the border biotite falls in the domain of reequilibrated biotites. The schists biotite is reddish brown and also falls in the domain of reequilibrated biotites. The fluid inclusions study in quartz from a pegmatite of the mineralized area revealed 3 types: aquocarbonic (LC); three-phase inclusion (L+V+S), with cubic saturation crystals, V_s = 30%-50%, interpreted as NaCl; aqueous monophasic and two-phase (L1), secondary inclusions, modeled by the system H₂O-NaCl. The primary fluid inclusions host in alexandrite are colorless and were modeled by the system H₂O-NaCl-CO₂. Secondary fluid inclusions are monophasic and two-phase, colorless and belong to the system H₂O-NaCl. The microthermometric data indicate that the fluids that composed the pegmatite are magmatic, hot and saline, and didn't interact with the late, more oxygenated, colder meteoric fluids, of low salinity. The crysoberyl of alexandrite variety of the studied area is dark green, rich in mineral inclusions and exhibits cyclic twinning. According to microprobe analyses the alexandrite has 80.34wt% Al₂O₃, 0.62wt% FeO(t), 0.50wt% Cr₂O₃ and traces of SiO₂, V₂O₅, MnO and Cs₂O. The isochores intersection, obtained from the study of fluid inclusions in alexandrite, with the temperature limits calculated for the pair garnet-biotite of the garnet-staurolite-kyanite-biotite-quartz schist, mineralized, resulted in temperature and pressure intervals of 450°C - 550°C and 4.1 kbar - 5.4 kbar for the formation of the alexandrite, P-T conditions of metamorphism from amphibolite facies - kyanite zone. According to the data obtained from field geology, petrography, mineral chemistry, geochemistry and fluid inclusions, it can be concluded that the metasedimentary rocks from the Serra da Mesa Group were intruded by the Serra Dourada Massif. The minerals staurolite, kyanite, garnet and alexandrite, that comprise metamorphic paragenesis of amphibolite facies, are restricted to the metasedimentary rocks in contact with the granite, evidencing a halo of contact metamorphism. The alexandrite mineralization is associated to mafic bands from the Serra da Mesa schists, specifically in the garnet-staurolite-kyanite-biotite-quartz schist. The ore genesis is related to the existence of beryllium, aluminum and chrome in the system. The granitic magma supplied beryllium and aluminum, crystallizing the mineral beryl. Because of the contact metamorphism due to the intrusion of the biotite granite, around 1.6 Ga, beryl was decomposed, generating crysoberyl. The garnet-amphibole-quartz schist that occurs intercalated with the Serra da Mesa Group schists is the most probable source of chromium. The rocks of the studied region were later affected by the Braslano orogenic cycle (ca. 0.6 Ga), which gave rise to green schist paragenesis and caused deformation and cracking of the garnet, kyanite, staurolite and alexandrite of the mineralized rocks.

Rocha, M.P. 2003. Extension of Upper Mantle Seismic Tomography in Southeast and Central Brazil using P-waves. MSc Thesis, Instituto Astronômico e Geofísico- University of São Paulo, 71 pg.

Seismic Tomography, Upper Mantle, P-waves, São Francisco Cratón, Paraná Basin, Nazca Plate, Tristan da Cunha plume, Trindade plume

Instituto Astronômico e Geofísico- Universidade de São Paulo

Reference:

DataBase Ref.: 1007 **2003** Date of presentation: 20/8/2003

Marcelo Peres Rocha

Advisor(s): Assumpção, M.S.

Committee: Joaquim Mendes Ferreira -
Renato Luiz Prado -

Subject of thesis: Geophysics

State: SP 1/1,000,000 sheet: SF22 Centroid of the area: 21 00 's - 49 00 'W

Abstract

Variations of P and PKP travel times were used for seismic tomography of the upper mantle beneath southeast and central Brazil. Our principal objectives were: To improve the resolution obtained by the previous studies (carried out by VanDecar et al., 1995; Escalante, 2002; Schimmel et al., 2003 between 1992 and 2001) with inclusion of new data and stations, to map areas not covered by previous stations, to show the consistency of the database, mainly of the related to the new stations and to verify the robustness of the detected anomalies. The influence of the stations located in the anomalous areas was studied through secondary inversions (removing stations). The new data set includes recent records of 2002 and also new records from 2000 and 2001 for events used in the previous works. Our results confirm the structures observed in the previous works and also revealed new anomalous regions, particularly in the south of the Mato Grosso state.

We confirmed the anomalies observed in the previous works: The São Francisco cráton has as a high-velocity anomaly, with roots down to 250 km depth, the low velocity anomaly interpreted as a fossil remnant of the Tristan da Cunha plume (VanDecar et al. 1995), the good correlation of the shallow low velocity anomalies with the alkaline intrusions of the Late-Cretaceous (Schimmel et al. 2003), the low velocity anomaly inferred by Escalante (2002) in the Iporá igneous province in Goiás (possible area of the initial impact of the plume of Trindade), a high-velocity anomaly under the Paraná Basin (shallow depths) interpreted initially by Schimmel et al. (2003) as possible cratonic nucleus of the Paraná Basin and also, in this same area (larger depths), a high-velocity anomaly interpreted as the slab of the Nazca Plate (Schimmel et al., 2003 and Escalante, 2002).

The new data set allowed the expansion of the study area and the imaging of low velocity anomalies in the igneous province of Poxoréu in Mato Grosso, which are consistent with the model of lithospheric thinning proposed by Thompson et al. (1998).

Rodrigues, S.W.O. 2003. Geological and structural context of the Liberdade shearing zone (MG state). MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1825 **2003** Date of presentation: 17/9/2003

Sérgio Wilians de Oliveira Rodrigues

Advisor(s): Campos Neto, M.C.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: MG 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Rosada Jr, J. 2003. Análise faciológica e de de rochas-reservatório do Grupo Itararé (Permocarbonífero) no sudeste do Estado de São Paulo. MSc Thesis, Institute of Earth and Exact Sciences, State University of São Paulo, Rio Claro, 74 pp..

Instituto de Geociências e Ciências Exatas - UNESP

Reference: M-GR139

DataBase Ref.: 1788 **2003** Date of presentation:

Jurandir Rosada Júnior

Advisor(s): Castro, J.C.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: SF22 Centroid of the area: ' - 'W

Abstract

Rosas, C.F. 2003. Structural model of the NI-CU-CO sulfides and PGM deposit, Fortaleza de Minas, MG state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m105

DataBase Ref.: 2473 **2003** Date of presentation: 10/10/2003

Claudio Fabián Rosas

Advisor(s): Ebert, H.D.

Committee:

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Sallun, A.E.M. 2003. Cenozoic deposits of the region between Marília and Presidente Prudente (SP state). MSc Thesis, Instituto de Geociências, University of São Paulo, 171 pg.

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 273 2003 Date of presentation: 24/6/2003

Alethéa Ernandes Martins Sallun Advisor(s): Suguio, K.

Committee:

Subject of thesis: Sedimentary Geology

State: SP 1/1,000,000 sheet: SF22 Centroid of the area: ' - 'W

Abstract

Cenozoic deposits occur extensively between Marília and Presidente Prudente (São Paulo State, Brazil), unconformably (with basal concentration of ferricretes and/or stonelines) or transitionally superimposed to Bauru Group cretaceous rocks. They are irregularly distributed throughout the study area, and have been grouped into colluvio-elluvial and alluvial deposits, according to sedimentological, genetical and morphological criteria. The colluvio-elluvial deposits are characterized by dominance of sands and clayey sands, with high mineralogical maturity. The thickest deposits are characterized by dominance of fine sands.

□ Thermoluminescence (TL) datings indicated Pleistocene age for colluvio-elluvial ($10,000 \pm 1,200$ to $1,118,000 \pm 130,000$ years) and alluvial ($12,700 \pm 1,500$ to $349,800 \pm 28,000$ years) deposits. These deposits have been installed on four peneplained surfaces shaped during the Quaternary: I ($1,200,000$ to $400,000$ years), II ($400,000$ to $120,000$ years), III ($120,000$ to $10,000$ years) and IV ($10,000$ until today).

□ During the Quaternary erosion and sedimentation pulses of colluvial, colluvio-elluvial and alluvial deposits occurred, which were intercalated with soil development phases on cretaceous rocks. These events could be related to paleoclimatic changes and/or neotectonic activities, which caused baselevel changes with consequent relief transformations.

Santos, C.P.L. 2003. Geophysical analysis of the hydraulic characteristics of the Salvador Fault in the Arembepe region - Bahia state. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1546 2003 Date of presentation: 30/6/2003

Christian Pereira Lopes dos Santos Advisor(s): Lima, O.A.L.

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

The studied area is part the coastal zone of Salvador, included in the Camaçari country and extending from the Jauá beach to the Arembepe village. It is geologically characterized by quaternary deposits, the tertiary deposits of the Barreiras Formation, the cretacic deposits of São Sebastião Formation and the crystalline basement. The Salvador Fault divides the Salvador metropolitan area into two geologic domains: The crystalline structural high and the Recôncavo sedimentary basin. This area is being submitted to an accelerated urban development that demands an intensive use of surface and underground waters. On the other hand, the absence of a sewage drainage network and the presence of industries in the area put in serious risks the quality of those waters and indirectly the health of the population. To preserve the quality of the waters resources and for their rational use, were need to know not only the stored reserves but also informations about the aquifer vulnerability, which can be done effeciently through geophysical methods. Two geophysical methods were used for a geological and waters resources evaluation of the area. A total field magnetic map allows to recognize the underground fresh crystalline basement, whereas resistivity soundings were used to define a geo-structural model for the whole area. Sixteen magnetometric profiles and fifty two vertical electrical soundings were distributed in the area. The results allows to map the aquifer geometry and to infer some of their hydraulic characteristics, as well as to define the depth of the water level, and the presence of a fresh water - salt water interface close to the beach. In addition, it was possible to evaluate the hydraulic characteristics of Salvador Fault, the main lateral boundary of the Recôncavo aquifer system.

Santos, S.P. 2003. Analysis of materials in water suspension by X Ray fluorescence spectroscopy: Evaluation of the method. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 931223

DataBase Ref.: 881 2003 Date of presentation: 26/8/2003

Shirley Pereira Santos Advisor(s): Eznweiler, J.

Committee:

Subject of thesis: Metallogenesis

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Typically, analyses of waters in natural systems are carried out after filtration on membranes with diameter of pore of 0.45 μ m. The suspended particulate material retained during the filtration, which is discarded without analysis in most cases, is of great interest because it can be used to evaluate important parameters of aquatic media. The most important are the quantity and composition of transported sediments. A characteristic of suspended particulate material is its great capacity of retention of chemical species and for this reason these sediments control the fate of metals in aquatic systems. In this work, a method was developed to analyze the suspended particulate material deposited on filters, directly by wavelength X-ray fluorescence spectrometry (WD-XRF). Matrix corrections were based on the so called fundamental parameters. A dedicated calibration was prepared, using as standards certified materials of sediments and soils, deposited on filters. In the same way, the accuracy of the method was evaluated and results show that major elements can be determined quantitatively while for results of trace elements should be considered semi-quantitative. The method is simple and fast, and is indicated for aquatic environment studies. Samples of suspended particulate material from waters collected in two rivers were been analyzed. The final results depend on the global composition of the sample, that is, of the type and concentration of the elements (C, H, N) present in the suspended particulate material and not measured by XRF. If these components are known, they can be informed during the calculations. The method also can be adapted to analyze small amounts of insoluble powdered materials.

Sawakuchi, A.O. 2003. Quaternary eolian depositional system in the centre-southern coast of SC state: Relationships with the sea level. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2305

2003

Date of presentation:

André Oliveira Sawakuchi

Advisor(s): Giannini, P.C.F.

Committee:

Subject of thesis: Sedimentary Geology

State: SC

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

Senna, J.A. 2003. Characterization of clays used in ceramics industry by reflectance spectroscopy. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 6865

DataBase Ref.: 879

2003

Date of presentation: 28/8/2003

Juliano Alves de Senna

Advisor(s): Souza Filho, C.R.

Committee:

Subject of thesis: Metallogeneses

State: SP

1/1,000,000 sheet:

Centroid of the area:

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Abstract

Clays are among the very important primary, raw materials due to their broad spectrum uses in the industry. In the specific case of the ceramic industry, clays are used in many fields, including the manufacturing of porcelains, pottery, chimney-flue tile, roofing tile, conduit, light-weight aggregate, floor tile, sewer pipe, drain tile and so on. The characterization of clays from the physical, chemical, and ceramic standpoint in pre- and -within mining stages is a must in modern industry. However, succinct mining planning, lack of industry-oriented standards and the usual bond to empirical discrimination of clays as regards their use, put chemically and technologically different materials as similar standards, with serious consequences to the mining and manufacturing industry. Considering the intrinsic complexities involved in characterizing ceramic industry-aimed materials by conventional methods, this work aims: (i) to evaluate the potential of reflectance spectroscopy as a relevant, expedite method to define types and purity of clays; (ii) to study the possibility to relate clays' spectral variables and parameters to their specific uses in the ceramic industry, with emphasis on the materials employed in the manufacturing of porcelains and floor tiles. Two clay deposits were investigated in this study: One, named 'Cruzeiro', is located in Limeira (São Paulo), and is a source of clays to the tile industry; the other, named São Simão, is located in the analogous town, hosts important ball clay-type deposits and it is an important source of primary materials to the porcelain industry. The Cruzeiro deposit comprises clay-rich sediments of the Irati, Serra Alta and Corumbataí Formations (Paraná Basin stratigraphic units), although the Corumbataí strata are the main source of clays. Using reflectance spectroscopy methods and data, it was possible to built a 'spectro-lithological' column, where every compartment (Formation) and sub-divisions of the Corumbataí Formation show an unambiguous spectral signature. This signature can be directly related to clay composition and possible uses (or not) for these clays in the tile manufacturing industry. The São Simão clays are associated to the Tamandua river alluvium deposits, where three types of clays were spectrally distinguished on the basis of reflectance spectroscopy methods and data. The white clays comprise kaolinite with several degrees of crystallinity, expansive clay minerals, micas and lepidocrosite (an unique finding in Brazilian alluvium deposits). The gray clays, also kaolinite-rich, display an intrinsic relation between organic matter and expansive clay minerals. The brown clays show the highest content of well-ordered, highly crystalline kaolinites; they contain expansive clay minerals, which occur in an ideal proportion to kaolinite, conferring more plasticity to the clays; and they also host some amounts of siderite (first time found in this alluvium). Each of these clay groups characterized in the São Simão deposit coincidentally has a specific application in the fine ceramics industry. In view of the exploratory nature of this research, the results using reflectance spectroscopy to characterize particular industry-aimed clays proved very promising.

Silva, A.A.C. 2003. Processing, interpretation and integration of geological and geophysical data of the Tapajós Mineral Province. MSc Thesis, Institute of Earth Sciences, University of Brasília, pg.

Amazonic Craton, Tapajós-Parima Province, Magmatic Arc, Gold Mineralization.

Instituto de Geociências - Universidade de Brasília

Reference: M178

DataBase Ref.: 1315 2003 Date of presentation: 5/9/2003

Alexandre Augusto Cardoso da Silva

Advisor(s): Silva, A.M.

Fuck, R.A.

Committee:

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

This thesis describes the role played in geological mapping and interpretation by regional geophysical data with flight line spacing of 1 and 2 km at the Tapajós Mineral Province (TMP), the largest gold province in Brazil. The geology mapped at 1:250.000 scale comprises Archean to Phanerozoic rocks that part of them host primary deposits and others of Quaternary alluvium provenance. The geophysical data sets of each type were processed and interpreted individually using state-of-the-art techniques. A great number of products were produced during the magnetic interpretation: amplitude and phase of the analytic signal, vertical and horizontal derivatives, Euler deconvolution for depth estimation, yielding the interpretation of magnetic units and structures. Similarly for the gamma spectrometry interpretation various maps were created: individual channels (4), ternary maps in RGB and CMY alone and over digital terrain models and the interpretation of gamma-ray units and structures. The interpretations in terms of the structure and lithologies of the target blocks were derived from these geophysical maps, as well as the information used in the final digital interpretation.

In all Tapajós Mineral Province, the old and the new airborne magnetic and gamma-ray spectrometric data have resulted in better definition of both geological structure and lithological boundaries than indicated on previous maps. Comparisons of the geophysical multiple signatures and known mining occurrences lead to models for them which were searched over the area to find places of similar. Thus, locations of targets of interest for further local geologic investigations were marked on the digital and printed maps, in terms of their similarity to the working model for these gold deposits.

This research shows by the geophysical derivative products and interpolation with the geological data, the usefulness of geophysical over a wide range of mapping in support of geological studies as well as the mineral industry.

The interpretation of geophysical data showed bodies with characteristics radiometric signatures of determined suites are included in others suites indicating that those could be mapped wrongly.

The identified domain at the northeast of the province is interpreted as an answer to the association of the oldest crustal material that was formed, by partial crustal melting, the rocks of the Uatumã Supergroup. The western limit of this domain is close to limit that divides the Central Amazon and Ventuari-Tapajós Province. This can be useful in limit confirmation between the provinces.

The large structure marked by a high of amplitude at the west part of the province was interpreted as a record of the oceanic crust subduction and formation of the Cuiú-Cuiú arch.

The model of Vasquez et al (2002) seems take is more compatible with the interpretation of the geophysics data in this thesis and suggests the formation of only one island arc colliding with a cratonic area and generating the Cuiú-Cuiú Intrusive Suite with subsequent formation of the of the Creporizão Intrusive Suite in a post-collisional event and formation of the Parauari and Maloquinhas Suites in post-orogenic event in extensional regime.

Bodies with gamma spectrometric signatures showing high concentration of K (25 and 22 classes) can be mineralized targets close to Pacu's district.

A batholith mapped as Parauari Intrusive Suite at the southeast region of the studied area shows interesting characteristics to potential mineralized targets, and it is cut by straight magnetic lineaments with spots having high concentration of K and high amplitude in the analytic sign amplitude. This occur around intrusions of the Maloquinha Intrusive Suite showing the hidrothermal enrichment in K. Hidrothermal enrichment is common in many types of PMT's mineralization and the granitoids of this suite could have supply the needed heat to the hidrothermal fluids circulation, like suggested by Santos et al. (2001). The geophysical data characteristics lead to Ila type mineralization.

The basic dike, oriented in E-W direction, localized at the northeast part of the province, can be a interesting potential target to gold prospection seen that mineralization associated to structures of the same direction were identified inside of bodies with similar composition.

Silva, C.A. 2003. Surface geophysics in the Americano do Brasil complex, Goiás state: Interpretation and data integration. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Instituto de Geociências - Universidade de Brasília

Reference: M175

DataBase Ref.: 235 2003 Date of presentation: 18/7/2003

Cláudia Arantes Silva

Advisor(s): Moraes, R.A.V.

Committee: Raul Minas Kuyumjian - IG/UnB

José Domingos Faraco Gallas - IGc/USP

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: GO 1/1,000,000 sheet: SE22

Centroid of the area: ' - 'W

Abstract

The Americano do Brasil mafic-ultramafic complex, State of Goiás, is located at the eastern limit of the Goiás Magmatic Arch, consists of a differentiated body of ca. 610 My and is hosted by granite-gneiss terranes of ca. 860 My. The complex hosts

massive and disseminated sulfide deposits.

□ In order to evaluate the geophysical characteristics of the complex and its use as an aid to geological mapping, recognition of discontinuities and lineaments, response of the known sulfide deposits and identification of promising patterns, ground magnetic, eletromagnetic, induced polarization and gravimetric surveys were carried out in the area.

□ The magnetometric data allowed the identification of magnetic sources related to the sulfide deposits and magnetic lineaments. The interpretation of the 3D eletromagnetic physical model is coherent with the geological characteristics of the complex and suggests that it is about 1,200 m thick. The gravity survey, restricted to places where sulfide bodies occur (S1, S2 and S3), did not detect density differences between the mafic and ultramafic units. However, differences observed in laboratory density measures suggest that detailed and more accurate field surveys may be able to detect different layers of these rocks and aid to detailed geologic mapping of the complex. The electrical methods, with IP and resistivity profiling using dipole-dipole array, also restricted to the sulfide occurrences, were efficient in identifying chargeability anomalies and several discontinuities. The anomalies result from the ultramafic unit, host of the most important sulfide body of the complex. Discontinuities are compatible with mapped faults.

□ The applied geophysical methods and the interpretation of old geophysical data used in this research showed their potential for mineral exploration in this kind of environment, even considering the limited extent and, in some cases, the shallow investigation depth. It is concluded that geophysics may give important responses about particularities of the complex and its mineralization if systematically, precisely and broadly planned to cover the entire complex and its surroundings.

Silva, M.D. 2003. Characterization of the physical environment of Águas Lindas de Goiás region: Subsidies for the management of underground hydric resources. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

fractured aquifer, groundwater, environmental and urban management, geographic information system

Instituto de Geociências - Universidade de Brasília

Reference: M173

DataBase Ref.: 233 2003 Date of presentation: 23/5/2003

Marcos Dutra Silva Advisor(s): Campos, J.E.G.

Committee: Edi Mendes Guimarães - IG/UnB
 Itabaraci Nazareno Cavalcante - DG/UFCE

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: GO 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The Águas Lindas de Goiás city locates in the Goiás State, close the border west of Federal district. Nowadays, is considered the largest city in around of Federal District and the water supply has as only source the groundwater.

Since foundation of the city has precarious urbanization conditions, sewerage system sanitation inexistence and the system of water supply is fragmented in 12 companies deprived with monopoly characteristics by section.

The study of the landform features of the area is essential for the administration of the natural resources, mainly the groundwater. The climate is considered tropical, characterized by the high concentration of rains in the period among October to April and high evaporation rates between May and September. The relief was divided in five different geomorphologic compartments: plateau, high, intermediate plains, edges, scarps and dissected valley. The geomorphologic compartment of high plane has high rates of rain and covered for red latossolos in the central portion and latossolos red-yellow in the borders and in more restricted way for humid soil, plintossolos and sand soil.

The study area can be framed in the model hydrogeologic of two potentiometric surfaces. Such a model presents aquifer divided in two domains, a fractured and other porous. The Porous Domain receives the water rain that it infiltrates and it is transported for the Fractured Domain, underlying. The Porous Domain of the area presents aquifers systems P1, P3 and P4, being P1 composed by latossolos, also the largest is considered and more important in the local and regional extent, for its extension, saturated thickness and high hydraulic conductivity. The subsystem R3/Q3 is very important in the local and regional extent, for the continuity lateral, high conductivity hydraulic, big capacity of water in the reservations and privileged location under the most inhabited portion of the city.

The geographical information system can be excellent tools for qualitative estimates of the potential of loss of soils, of the potential of recharge of the deep aquifer and of the risk to the contamination of the aquifer. The map of potential of loss of soils of the area shows that in general, the area presents a low natural potential the moderate, but that the disordered occupation elevates that potential. The potential of recharge of the deep aquifer is low to very high. The potential of recharge of deep aquifer is high and very high. The areas of biggest potential are related to the top of the plateau, to the system P1 and subsystem R3/Q3. The hydraulic aptitude of the system P1 and subsystem R3/Q3 generates a high potential of contamination of the largest reservations of groundwater of the region.

Soares, J.A.C. 2003. Digital processing and integration of SAR (RADARSAT/SCANSAR) and Multispectral (LANDSAT/TM) Images with Aeromagnetic data directed to Geological studies in the Carajás mineral province - PA state. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 1697 2003 Date of presentation: 1/10/2003

João Almiro Corrêa Soares Advisor(s): Santos, A.R.

Paradella, W.R.

Committee:

Subject of thesis: Remote Sensing

State: PA 1/1,000,000 sheet: SB22 Centroid of the area: ' - 'W

Abstract

Souza, C.C.S. 2003. Ornamental rocks - the importance of the technological characterization in the processes of application and conservation - architecture optics. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 66

DataBase Ref.: 2409 2003 Date of presentation: 15/4/2003

Cristina Calixto Silveira de Souza Advisor(s): Costa, A.G.

Committee: Eleonora Saad de Assis - IGC/UFMG

Adejardo Francisco da Silva Filho - DG/UFPE

Subject of thesis: Economic and Applied Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Souza, E.A. 2003. Water quality and soil use in the Ribeirão Serra Azul basin (MG state). MSc Thesis, Institute of Geosciences, University of São Paulo, 74 pg.

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 274 2003 Date of presentation: 7/5/2003

Elxander Amaral de Souza Advisor(s): Macedo, A.B.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

The Serra Azul watershed is located in the Metropolitan Area of Belo Horizonte and it supplies about 500 thousand inhabitants. Its main economical activities are the agriculture and the mining. Through the surface water quality monthly monitoring data, this work analyzed the dynamics of the variables listed to Class 1 Watershed according to 20/86 CONAMA Resolution, in relation to the hydrological cycle and to the land use. The diffuse sources of pollutant associated with rains period, became Coliformes, Total and Soluble Iron, Color, Total Manganese and Total Phosphorus, the main cases of non-conformity. It was not possible to establish a qualitative relationship among the evolution of the land use and DBO, pH, Nitrite and Soluble Iron variables.

Spigolon, A.L.D. 2003. Palynofacies and organic faciology of Alagamar formation (Aptian of Potiguar basin, Brazil): Palaeoenvironment and thermal maturation. MSc Thesis, Institute of Earth Sciences, University of Brasília, pg.

Potiguar basin, Alagamar Formation, Aptian, palynofacies, transitional paleoenvironment, thermal maturation

Instituto de Geociências - Universidade de Brasília

Reference: M180

DataBase Ref.: 1316 2003 Date of presentation: 17/10/2003

André Luiz Durante Spigolon Advisor(s): Do Carmo, D.A.

Committee:

Subject of thesis: Regional Geology

State: RN 1/1,000,000 sheet: SB24 Centroid of the area: ' - 'W

Abstract

This study on the Alagamar Formation is comprised by the characterization of the kerogen with palynofacies focusing on paleoenvironment and on thermal maturation degree. Four types of palynofacies are here defined: palynofacies 1 (dominated by amorphous organic matter), palynofacies 2 (dominated by opaque phytoclasts), palynofacies 3 (represented by amorphous non-opaque phytoclasts and sporomorphs) e palynofacies 4 (dominated by amorphous non-opaque phytoclasts). The organic matter has physical, chemical and biological characteristics that provide information about the organic sources, preservation conditions, salinity, pH, sedimentary influx, transport regime and distance. Such variations show that the Alagamar Formation corresponds to a deltaic-lagoonal system submitted to cyclic climatic variations associated to the first marine incursions during the Neoptian.

The initial phase of this system present a paleolagoon with sand progradation of deltaic front, indicating wet climate conditions (Upanema Member). The assoreament of this paleolagoon, followed by a semi-arid period led to the development of a restrict deltaic plain covered by vegetation and under marine influence. This corresponds to the flood minimum of the system (upper portion of Upanema Member and Ponta do Tubarão Beds). Finally, another wet period caused an increase of the base level and the deposition of sand deltaic front and prodelta shales. This marked the flood maximum of the system (upper portion of the Ponta do Tubarão beds and Galinhos Member).

The lagoon shales and siltstones and deltaic (prodelta) calcareous shales present a type II kerogen, formed by amorphous organic matter (AOM) derived from phytoplankton (*Botryococcus*) and bacteria. The shales and organic rich shales from the deltaic plain also present a kerogen type II, but originated from terrestrial higher plants only (phytoclads and sporomorphs). The amount and the good preservation of the organic matter from the Alagamar Formation characterize it as a potential source of oil. However, the analysis of the thermal maturation based on the Vitrinite Reflectance (%Ro), Spore Color Index (SCI) and qualitative Fluorescence indicate that Alagamar Formation did not reach the necessary temperature and depth to the production of oil. It is immature in both studied areas, Macau high (well RN-6) and Ubarana fault (well RN-9).

Spinelli, F.P. 2003. The alkaline rocks from Cananéia, São Paulo state southern litoral : Petrographic, mineralogic and geochemical characteristics. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1129 2003 Date of presentation: 8/9/2003

Fernando Pelegrini Spinelli Advisor(s): Gomes, C.B.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet: SG23 Centroid of the area: ' - 'W

Abstract

Steink, V.A. 2003. Integrated usage of digital morphometric data (altimetry and drainage system) for the definition of geomorphologic unities in the Distrito Federal, Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Geomorphology, GIS, Morphometric

Instituto de Geociências - Universidade de Brasília

Reference: M183

DataBase Ref.: 1422 2003 Date of presentation: 18/12/2003

Valdir Adilson Steink Advisor(s): Sano, E.E.

Committee: Paulo Roberto Meneses - IG/UnB
Archimedes Perez Filho - IG/UNICAMP

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

Nowadays, the world's environment is facing serious degradation. To reduce or avoid such degradation, we need to take advantage of environmental planning. Geomorphology plays an important role in this planning. We can study the mechanisms of surface degradation based on land formation processes to propose alternatives to reduce it, avoiding further disasters. This research analyzed the geomorphological compartment as a tool to study environment since the landforms control the degree and the spatial distribution of land occupation in the terrain. The GIS-based, public domain morphometric data analyses (drainage and elevation) allowed to propose a new geomorphological compartment over the Federal District of Brazil. A set of 80 morphologic units were identified and grouped in four types of landform patterns, in a 1:100.000 scale.

Teixeira, A.A. 2003. Integration of multisource data for the gold exploration in the Rio das Velhas greenstone belt, Quadrilátero Ferrífero, MG state. MSc Thesis, Institute of Earth Sciences, University of Brasília, pg.

Mineral Exploration, Digital Image Processing, Geographic Information System (GIS), Quadrilátero Ferrífero (MG)

Instituto de Geociências - Universidade de Brasília

Reference: M177

DataBase Ref.: 1314 2003 Date of presentation: 4/9/2003

Alexandre de Amorim Teixeira Advisor(s): Silva, A.M.

Committee:

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

The propose of this work is to integrate multiple datasets using Digital Image Processing and geological photo interpretation as evidence in the data driven model named Weight of Evidence for gold mineral exploration in the Rio das Velhas Supergroup, Rio das Velhas Greenstone Belt, Quadrilátero Ferrífero. The datasets used in this work were high-density airborne geophysical data from the Rio das Velhas Project (gammaespectrometry, magnetometry and electromagnetomtry) and remote sensing data (ETM+/Landsat 7 and Radarsat-Scansar standard) and Digital Elevation Model. Another mineral favorability models have been used at the Rio das Velhas Supergroup, but none of them used multiple datasets sources.

The Rio das Velhas greenstone belt is composed by vulcanosedimentary sequence of the Nova Lima Group and by the continental

and shallow marine metasedimentaries rocks of Maquine Group. The gold mineralization are related to the Nova Lima Group and adjacent to faults/shearing zones or associated to secondary structures. The mineralizations are divided in strabound replacement-dominated, shear-zone-hosted replacement dominated, shear-related quartz vein-type.

The main Digital Image Processing techniques applied to airborne geophysical data and remote sensing data were RGB color composite images, principal components analysis, k-means unsupervised classification and, principally, IHS color space transform.

The geological interpretation of image were based in integrated images and resulted in the boundary of 57 litogeophysical units or domains, classified according the the forms of drainage, topographic relief, magnetic relief, depth estimates of magnetic sources by Euler 3-D deconvolution, as well the texture of the radar image and the texture of magnetic relief. After all, four principal structural groups were interpreted: directional structures, indiscriminated lineaments, magnetic lineaments and structures related to São Vicente shearing zones. Data visualization in 2,5-D was done by chromostereoscopy and by perspective views and helped the image geological interpretation.

The use of weight of evidence in this work is acceptable because the Rio das Velhas greenstone belt geology is very well known as well is the location and the type of the related gold occurrences/mines. The Weights of Evidence modeling used three models based in the host rock: BIFs, shearing zones related and mafic-ultramafic.

The BIFs modelling results shows that the mineralization is related to the geophysical units. These, by other hand are correlated to: the Córrego do Ouro Fino and Morro Vermelho formations, to directional structures interpreted and to the magnetic sources in surface (0 to 60 meters depth) calculated by Euler-D deconvolution.

The shearing zone mineralization model is associated to metagreywaces and felsic metavulcanic rocks and to the structures interpreted as the São Vicente shearing zone. The geophysical units and the resultant classes mapped by k-means unsupervised classification represent the vulcanoclastic rocks of the Nova Lima Group, as the Córrego do Sítio, Córrego da Paina and Catarina mendes formations.

The results of the mafic-ultramafic model are related to the geophysical units and are correlated to the Córrego dos Boiadeiros and Quebra-Osso formations. The directional and shearing zones structures have strong mineralization influence

The last model based in all the training points was able to map all the three existent models (BIFs, shearing zones related and mafic-ultramafic) and did not violated the conditional independence using two tests: pairwise and overall.

The weights of evidence model presented in this work agree with the conclusions from Silva (1999) where the Probability Ratio model shows that the same geologic unit can host several deposits or mineralized environments.

Almeida, C.A.S. 2004. Hydrogeochemistry and vulnerability of the Serra Geral and Guarani aquifers in the influence area of the Itá and Machadinho reservoirs - SC-RS states. MSc Thesis, University Federal of Santa Catarina, Brazil, pp.

Universidade Federal de Santa Catarina

Reference:

DataBase Ref.: 1702 2004 Date of presentation: 30/1/2004

Cicero Augusto de Souza Almeida Advisor(s): Scheibe, L.F.

Committee: Luiz José Tomazelli - IG/UFRGS
 Luiz Carlos Pittol Martini - UFSC

Subject of thesis: Hydrogeology

State: SC 1/1,000,000 sheet: Centroid of the area: ' - 'W
 RS

Abstract

Baptista, M.C. 2004. Stratigraphy and geologic evolution of the Lagoa Formosa region (MG state). MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference:

DataBase Ref.: 2416 2004 Date of presentation: 24/6/2004

Marcos Cristóvão Baptista Advisor(s): Uhlein, A.

Committee: Henri Simon Jean Benoit DuPont - IGC/UFMG
 Hildor José Seer -

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Batista, M.J. 2004. Geology, petrography and geochemistry of two TTG suites in the northern domain of the Campos Gerais complex, in the southwestern of Minas Gerais state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1965 2004 Date of presentation: 20/8/2004

Márcio Jesus Batista Advisor(s): Chouduri, A.

Committee:

Subject of thesis: Metallogeneses

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Becerra, J.E.B. 2004. Alterability of rocks with ornamental application: analytical procedures to its evaluation. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 70

DataBase Ref.: 2413 2004 Date of presentation: 26/3/2004

Javier Eduardo Becerra Becerra Advisor(s): Costa, A.G.

Committee: Maria Lourdes Souza Fernandes - IGC/UFMG
 Adejardo Francisco da Silva Filho - DG/UFPE

Subject of thesis: Economic and Applied Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Benitez, L. 2004. Geological chemical-mineralogical characterization of the diamond coluvionar deposits of the Diamantina region, Serra do Espinhaço range - State of Minas Gerais. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 75

DataBase Ref.: 2418 **2004** Date of presentation: 19/11/2004

Leila Benitez

Advisor(s): Chaves,M.L.S.C.

Committee: Alexandre Uhlein - IGC/UFMG
Selma Maria Fernandes - IGC/UFMG

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE24 Centroid of the area: ' - 'W

Abstract

Bentz,D. 2004. The coastal strings of the Una-Juréia plane, Peruíbe and Iguape municipalities, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1886 **2004** Date of presentation:

Deise Bentz

Advisor(s): Giannini,P.C.F.

Committee:

Subject of thesis: Sedimentary Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Chiessi,C.M. 2004. Cenozoic tectonics of the Passa Quatro alkaline massif (SP-MG-RJ states). MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2005 **2004** Date of presentation: 7/6/2004

Cristiano Mazur Chiessi

Advisor(s): Riccomini,C.

Committee:

Subject of thesis: Tectonic and Structural Geology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W
MG
RJ

Abstract

Costa,D.A.A. 2004. Proposal of hydric resources urban zoning and management of the Tororó – DF habitational sector, with application on geographic information system. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

[Water Resources; Geographical Information Systems; GIS; Geoprocessing; Environment; Urban Planning; Land Irregular Occupation; Geosciences; Tororó City District](#)

Instituto de Geociências - Universidade de Brasília

Reference: M188

DataBase Ref.: 1972 **2004** Date of presentation: 28/5/2004

Daniela Azevedo de Albuquerque Costa

Advisor(s): Campos,J.E.G.

Committee: Newton M. Souza - ENC/UnB
Paulo de Tarso Ferro de Oliveira - IG/UnB

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

Irregular occupation of territories, stimulated by the unbalance between housing supply and population's income, has resulted relevant in conflicts considering urban and environmental aspects. Regarding some of those problems and their interrelations, this work purposes to study an area in the Federal District of Brazil that is inserted in this context. The objective of the present research is to analyze the Tororó City District's viability, to assist in the urban-environmental zoning and in the water supply management.

The research's development was based on the Geographical Information System that optimized the necessary information to be used in the planning process. After executing the bibliographical research and building the cartographic basis, several environmental and urban aspects were analyzed in an attempt to discover whether the City District was viable or not. A relevant point referred to the waterproof and the water exploitation effects that derives from a traditional-model urbanization. In this sense, the unbalance of the hydrologic cycle dynamics, due to the reduction of the recharge potential and the groundwater over

exploitation, will exacerbate the conflict between the local urban occupation and the conservation of the springs and the aquifers. Moreover, the water reservoir will also be influenced on its quality by the occupation's practices.

The area does not show significant soil-heat flux, however, there are some places on which inundations are likely to occur.

Referring to the environmental legislation, the Sector's major proportion is located outside permanent preservation areas.

Anyway, the region's occupation, if inadequately developed, would imply many impacts to the ecological balance.

Concerning urban aspects, each condo was planned in an independent way, without preparing any studies to evaluate their compatibility with the others. Because of this, some needs were identified, including the restructuring of the main access roads; the definition of areas on which urban equipments may be constructed (hospitals, schools, commercial centers and institutional buildings); the implementation of storm sewers, a sewage treatment plant; and the destination of a green area to the community use.

After analyzing the data, it was possible to conclude that the viability of the Tororó City District will be linked to how it is implemented and consolidated, with many possibilities of sustainable occupation of the area. However, these conditions will be related to an appropriate planning, and must consider the strategic aspects, reconciling the urban demands with the minimization of their environmental impacts. Thus, the need of maintaining the preservation areas must be emphasized, avoiding their occupation. It is also considered relevant the adoption of measures to minimize the alteration of the hydrologic dynamics in the area. In this way, implementing the appropriate urban infrastructure and education actions to the local community are indirect actions leading to the environmental sustainability. Important complementary actions are the collection and treatment of the residual waters, as well as the development of artificial recharge of aquifers that will maintain the groundwater reserves and dissipate the energy of the storm sewers. As a way of integrating the urban and environmental needs, the creation of a multiple-function urban-ecological park is proposed. This park will maintain the recharge of the aquifers and improve the population's quality of life, showing great importance to the sustainability of the Tororó City District.

Finally, it must be pointed out that the application of the Geographical Information System was fundamental for the identification of the most problematic points and for the suggestion of solutions.

Cunha Filho, E.M. 2004. Aerogeophysical contribution to the geology and evaluation of mineral potential in the Januária-Itacarambi-Montalvânia region (MG state). MSc Thesis, Institute of Geosciences, University of Brasília, pg.

geophysics, airborne geophysics, mineral potencial, favourability, geology

Instituto de Geociências - Universidade de Brasília

Reference: M184

DataBase Ref.: 1794

2004

Date of presentation: 16/4/2004

Evandro Machado da Cunha Filho

Advisor(s): Pires, A.C.B.

Moraes, R.A.V.

Committee:

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

'

-

'W

Abstract

Within the Sedex Lead-Zinc Project in Brazil, the Secretaria de Minas e Energia do Governo de Minas Gerais (SEME), Brazil, flew an airborne geophysical survey in the Januária-Itacarambi-Montalvânia region in the northern part of the state of Minas Gerais recording the magnetic field and the natural emanation of gamma-ray (Programa Área 5, COMIG). This encompassed 36,767 linear kilometers of profiles spaced 250 m apart, covering an area of 8,357 km². Data was collected using drape flight at a nominal height of 100 m, with the positioning of each measured point by Global Positioning Satellite (GPS), operating in differential mode. This survey is part of a huge program developed by the Secretaria de Minas e Energia do Governo de Minas Gerais (SEME), aiming to produce information viable to foment mining in areas with mining economical potential.

The processing, interpretation and geological integration of such geophysical data is presented here as result of an extensive digital processing on images of those measured fields and their transformations, which were visualized and worked in a Geographical Information System (GIS) platform.

The geophysical data sets from each measured physical field were processed and interpreted individually using state-of-the-art techniques. A great number of products were produced during the magnetic interpretation (amplitude and phase of the analytic signal, vertical and horizontal derivatives, Euler deconvolution, yielding the interpretation of magnetic units and structures).

Similarly for the gamma-ray spectrometry interpretation various maps were created (individual channels (4), ternary maps in RGB and CMY alone and over digital terrain models, leading to the interpretation of gamma-ray units and structures over the area).

These products were then combined to produce a geophysical integration for lithotypes and geophysical structures (product in digital form).

The integration of the geophysical and geological information lead, among others, to a detailed knowledge of the structural framework present in the survey area. It was also tried a qualification of these linear features in terms of characteristics that would indicate if they played any role in the metasomatism present in the area (potassium channel and anomalous potassium), followed by a study of its possible implication on the known mineralization.

These procedures have shown, once again, that they are important tools in the geological cartography, allowing faster preparation of maps with a more detailed structural and lithological information, and showing that many soil and other top coverings hidden features be seen neatly and integrate, turning easier the subsequent field follow up tasks. Favourability studies enable narrowing down the overall research area and that effort and resources are concentrated in smaller targets, thus optimizing their utilization.

The estimation of mineral potential shows that there is an effective reduction of interest area, resulting on three different mineral potential estimations based on favourability analysis such as hydrothermal Pb/Zn, lenticular Pb/Zn and silver Favourability Potential. Using analysis based on these models result are within 0.7%, 0.13% and 1.01% from the total extension study area for the most important target in it, respectively, for the models of hydrothermal Pb/Zn, silver and lenticular Pb/Zn.

Daconti, B.C. 2004. Geological context, control and regional correlation of the graphite mineralizations of

the Almenara region, Graphitic Province of the northeastern of the Minas Gerais state. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 74

DataBase Ref.: 2417 2004 Date of presentation: 30/6/2004

Bruno Corrêa Daconti Advisor(s): Pedrosa-Soares,A.C.

Committee: Carlos Maurício Noce - IGc/USP
Lydia Maria Lobato - IGc/UFGM
Leonardo Figueiredo de Faria -

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE24 Centroid of the area: ' - 'W

Abstract

Ezaki,S. 2004. Heavy metal ions (Pb, Cu, Cr e Ni) associated to soils of solid residuals cover in two sanitary landfills of the São Paulo metropolitan region - SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2058 2004 Date of presentation: 10/12/2004

Sibele Ezaki Advisor(s): Hypolito,R.

Committee:

Subject of thesis: Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Fernandes,T.W.G. 2004. Diagnostic of the productive chain of ornamental and cover rocks of the Ceará state: minning, sewing, marblerie and constraints of the sector. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m110

DataBase Ref.: 2480 2004 Date of presentation: 10/5/2004

Tácito Wálber Gomes Fernandes Advisor(s): Godoy,A.M.

Committee:

Subject of thesis: Regional Geology

State: CE 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This dissertation had as a purpose the Diagnosis of the Production of Dimension Stones in Ceará approaching the current characteristics, the dimension of this topic, and the deficiencies in the production process of the State. The research had as a main tool a technical diagnosis, performed at sawmills of Ceará and at the marble industries of Fortaleza through a questionnaire and direct interviews selected and created according to four categories: Productive Process, Commercialization, Labor, and Profile of the industries. The data obtained were presented through a statistical method, with frequency analysis of the answers for each inquiry in each category. The final results indicated the good technological level of sawmills in Ceará; however, it demonstrated factors to be improved and that need incentive. In reference to the marble industries, the research demonstrated less satisfactory characteristics, revealing a sector dislocated, disorganized, with absence of filiations of all the marble industries in patronage organizations, labor unions, and associations. The marble industries are facing serious problems, such as: the predatory competition by informal industries, administrative disorganization, and economical hardship. The creation of this database with information and parameters of the sector, will provide the Industrial and Governmental levels a more precise analysis for possible public policy of action, that could bring benefits for a larger competitiveness of this economical segment in the state of Ceará

Ferreira,S.N. 2004. Structural geology applied to the ornamental rocks of the Pedreira Knawa stone-quarry, Cláudio (MG state). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m112

DataBase Ref.: 2483 2004 Date of presentation: 2/7/2004

Samuel Nunes Ferreira Advisor(s): Simões,L.S.A.

Committee:

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Figueiredo e Silva, R.C. 2004. Petrographic and geochemical characterization of jaspilites and iron ore of the N1, N4W, N4E and N5E deposits, Mineral Province of Carajás, State of Pará: Implications for the iron mineralization. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 72

DataBase Ref.: 2415 2004 Date of presentation: 14/6/2004

Rosaline Cristina Figueiredo e Silva Advisor(s): Lobato, L.M.

Committee: Peter Christian Hackspacker - IGC/UFMG
Steffen Hagemann - Univ_WestAustr

Subject of thesis: Economic and Applied Geology

State: PA 1/1,000,000 sheet: SB22

Centroid of the area: ' - 'W

Abstract

Fiumari, S.L. 2004. Characterization of the Bauru hydrogeologic system in the Municipality of Araguari - State of MG. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 69

DataBase Ref.: 2412 2004 Date of presentation: 12/3/2004

Sebastião Luiz Fiumari Advisor(s): Velásquez, L.N.M.

Committee: Norberto Searbi - IGC/UFMG
Otávio Eurico de Aquino Branco -

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SE23

Centroid of the area: ' - 'W

Abstract

Grohmann, C.H. 2004. Geoprocessing techniques applied to morphometric analysis. MSc Thesis, Institute of Geosciences - University of São Paulo, SP, Brazil, 21p

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1620 2004 Date of presentation: 5/5/2004

Carlos Henrique Grohmann Advisor(s): Campos Neto, M.C.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Jesus, C.L.C. 2004. Determination of conductivity of sedimentary rocks based on electrical well logs. MSc Thesis; Instituto de Geociências, University of Bahia, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 2206 2004 Date of presentation: 17/9/2004

Carlos Luciano Costa de Jesus Advisor(s): Lima, O.A.L.

Committee: Roberto Max de Argollo - IG/UFBA
Henrique Luiz de Barros - IG/UFBA

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SD24

Centroid of the area: ' - 'W

Abstract

In this work we apply the theoretical procedure proposed by Lima and Sharma (1990, 1992) to describe the electric conductivity of shaly sandstones and develop a method to determine the thermal conductivity of shaly rocks using electrical conductivity data. To test the application of this equation, we calculate thermal conductivity using electric profile data from four exploratory wells of the oil fields of Araçás and Miranga regions, both in the Recôncavo basin and compare the obtained values with those measured by

Carvalho (1981) in terrigenous sequences of the same regions utilizing a thermal conductivity of the divided bar method. The petrophysics parameters formation resistivity factor and the electrical conductivity of the shaly matrix have been determined using electrical well logs (electro-induction, short normal and spontaneous potential) in water-bearing sections near the oil reservoirs. Afterwards, the arithmetic mean of these two petrophysics parameters were used to estimate the formation water saturation from analytical equations developed by Lima and Sharma (1990). With these parameters it was possible to compute, using the analytical expression derived in the present work, thermal conductivity in the oil reservoirs. For the AR-01 well, in the Araçás field, the mean thermal conductivity of the sandstones is 2,4 W m⁻¹ °C⁻¹ which, when compared to a similar mean obtained by Carvalho (1981), shows a relative discrepancy of 4,8%. For the AR-02 well in the Araçás field, the mean thermal conductivity is 2,15 W m⁻¹ °C⁻¹. For the MG-01 and MG-02 wells, both in the Miranga field, the mean thermal conductivity of the sandstones is 2,6 W m⁻¹ °C⁻¹. The obtained results show that the developed method works well for shaly sandstones or other semi-pervious lithologies. However, for pure shale or impervious rocks it does not work because the grain conductive model used is not applied to those materials.

Lages, L.C. 2004. The Irati formation (Passa Dois group, Permian, Paraná basin) in the FP-01-PR drill hole (Sapopema, PR state). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m115

DataBase Ref.: 2478 2004 Date of presentation: 21/10/2004

Leandra Costa Lages Advisor(s): Rohn, R.

Committee:

Subject of thesis: Regional Geology

State: PR 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Lima, A.A. 2004. Hydrogeology of the Aquífer Bauru system in the municipality of São José do Rio Preto (SP state). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 2484 2004 Date of presentation:

Alex Alves de Lima Advisor(s):

Committee:

Subject of thesis: Geosciences and Environment

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Lima, F.M. 2004. Sstratigraphic analysis of the turbiditic reservoirs of the Campo de Namorado field. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m114

DataBase Ref.: 2479 2004 Date of presentation: 15/10/2004

Fabio Monteiro de Lima Advisor(s): Perinotto, J.A.J.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Martinho, C.T. 2004. Morphodynamics and sedimentology of transgressive dune fields in Jaguaruna-Imbituba region, State of Santa Catarina. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2311 2004 Date of presentation:

Caroline Thaís Martinho Advisor(s): Giannini, P.C.F.

Committee:

Subject of thesis: Sedimentary Geology

State: SC 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

Moraes, L.L. 2004. The lowering of karstic lagoons in Federal District and surroundings: The hydraulic interaction between surficial and underground waters. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

lakes, groundwater, aquifer, hydraulic interaction, karstic origin, water level lowering

Instituto de Geociências - Universidade de Brasília

Reference: M186

DataBase Ref.: 1715 2004 Date of presentation: 30/4/2004

Letícia Lemos de Moraes Advisor(s): Campos, J.E.G.

Committee:

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The present study investigated the occurrence and causes of the level lowering of seven natural lakes located in Federal District of Brazil – the Feia, Bonita, Formosa, Bom Sucesso, Pato Selvagem, Joaquim Medeiros and Jaburu lakes, emphasizing the hydraulic interaction between them and the aquifers.

The main research methods were lineament analysis, electromagnetic geophysical survey, analysis of land use and occupation, in situ infiltration soil test, water level measurement of unconfined aquifer, water quality analyses and hydrologic budget study.

The studied lakes are inserted in a hydrogeologic context, where the fractured aquifer, formed by the proterozoic low grade metamorphic rocks of the Paranoá, Canastra and Bambuí groups, is recovered by thick weathered mantle, formed mostly by latosols, which represents the intergranular aquifer. The groundwater flow from the intergranular aquifer to the lakes characterizes them as discharge areas.

The interpretation of the karstic origin of the lakes is based on the following features: presence of carbonate rock lenses in the geological units where the lakes are inserted; the similarity between the lakes shape and sink holes, the alignment of some lakes to the main directions of structural lineaments and the interception of carbonate rocks in some nearby deep tubular wells.

The magnitude of the water level lowering varies among the lakes, and depends on the natural vulnerability of the ecosystem and on the human impacts dimension. The impacts with anthropic origin that affect the level lowering are the surface sealing of the hydrographic and hydrogeologic basins area and predominantly the unsustainable groundwater exploitation. The integration of the results shows that, besides the climatic changes, the lakes level variation is controlled significantly by the human occupation that disturbs the natural system of flow and the recharge of the adjacent aquifer.

Finally, the work demonstrates that areas adjacent to the lakes should not be occupied or intensively explored, since they are closely related to the aquifers that feed the lakes and they must be taken as sensitive areas on the point of view of groundwater circulation.

Moreno, D.P. 2004. Distribution of recent foraminifera associated to vegetation in the estuarine band of the Rio Itapanhaú river, Bertioga, São Paulo state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

foraminifera, estuary, hydrodynamic, Itapanhaú River, mangrove, evolution

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m113

DataBase Ref.: 2481 2004 Date of presentation: 27/8/2004

Duilio Prado Moreno Advisor(s): Dias Brito, D.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: SG23 Centroid of the area: ' - 'W

Abstract

This work has the purpose to study the foraminiferal zonation along the estuary of the Itapanhaú River, Bertioga, São Paulo, with the main goal to increase the knowledge of the foraminiferal community in the estuarine system. The interstitial water in the mud of this estuary, Bertioga-São Paulo, as well as the main channel's, had, in March 2003, salinity values between 30, 5‰ and 2‰ and pH between 7.54 and 4.62. The foraminifera microfauna is comprised by 27 genus and 29 species, where the Textulariina is the dominant suborder (23

species) along the estuary. The Itapanhaú River has been divided in five biofacies based in foraminifera dominant and subdominant species: Biofacies I (Ammonia spp./Elphidium spp.); Biofacies II (Arenoparrella mexicana/Haplophragmoides wilberti/Trochammina inflata); Biofacies III (Haplophragmoides wilberti/Miliammina fusca/A. mexicana); Biofacies IV (M.

fusca/ H. wilberti/A. mexicana) with a salinity under 12‰ and Biofacies V (Miliammina fusca). In the middle and high estuary the diversity and equitability of the foraminiferal community show lower values, reflecting the stress of the system. Miliammina fusca has its abundance gradually increased in the direction of the spring of the river, associating itself to mud banks successively colonized by Spartina sp. Crinum sp. and Scirpus sp. vegetation. The diversity and equitability of the foraminiferal community increases at the low estuary near the ocean. The relationship between biofacies and phytofacies permits to conclude that there

are four biofacies to one phytofacies in the low estuary of the Itapanhaú River. On the other hand, at the high estuary, there are four phytofacies to basically one biofacies, nearly the exactly the opposite feature found in the low one. The biofacies zonation of this study might be useful on paleoecological and paleogeographical studies to understand the evolution of the plant estuarine community and also to the hydrodynamic knowledge of the system.

Mota,S.U.S. 2004. Hydrogeologic characterization of the Pólo Industrial de Camaçari oriental sector using electrical geophysics. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1664 2004 Date of presentation: 6/4/2004

Saulo Ueslei Sousa Mota

Advisor(s): Lima,O.A.L.

Committee: Hédison Kiuity Sato - IG/UFBA
 Iara B.Oliveira - IG/UFBA

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

Electrical resistivity and induced polarization sounding measurements were used for the structural mapping and the hydrogeological characterization of the subsurface in an area of the eastern part of the Camaçari Industrial Complex, Camaçari, Bahia. The experiment was conducted through the quantitative evaluation of 40 vertical electrical soundings, acquired using Schlumberger electrode array up to a maximum spacing AB/2 of 1000 meters. The geoelectrical interpretation of such data was useful to delineated at least two hydrostratigraphic units, important for groundwater exploration: (i) the first and most important covers 2/3 of the studied area and is composed of sandstones bodies within Marizal and São Sebastião formations. It behaves regionally as a free or water table aquifer; (ii) the second unit at the northern corner is totally included in the São Sebastião Formation and has a thick cover of shales and siltstones. This is followed by an interlaying of thick sandstones and shales forming a multiple confined or semi-confined system. The geophysical results are presented as geological cross sections and contour maps showing the lithologic variability and water quality changes within the uppermost freatic aquifer. The combined interpretation of ra, ma data together with the use of parametric soundings (sounding near a well site) and geoelectrical association of neighbour soundings have contributed to reduce the ambiguity normally present in the inversion of electrical data.

Navarro,M.S. 2004. The implantation of routine and its refinement for the determination of rare earth elements in geological materials by ICP-OES and ICP-MS : Application to the case of the Piedade-Ibiúna (SP state) and Cunhaporanga (PR state) granitoids. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1854 2004 Date of presentation: 15/6/2004

Margareth Sugano Navarro

Advisor(s): Ulbrich,H.H.G.J.

Committee:

Subject of thesis: Mineralogy and Petrology

State: SP 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W
 PR

Abstract

Oliveira,D.A.G. 2004. Bio-sedimentologic characterization and proposal of sectoring of Camacho & Garopaba do Sul and Santa Marta lagoons, Santa Catarina state, Brazil. MSc Thesis, University Federal of Santa Catarina, Brazil, pp.

Universidade Federal de Santa Catarina

Reference:

DataBase Ref.: 1700 2004 Date of presentation: 20/5/2004

Denis Augusto Gonçalves Oliveira

Advisor(s): Bonetti,C.

Committee:

Subject of thesis: Coastal and Sedimentary Geology

State: SC 1/1,000,000 sheet: SH22 Centroid of the area: ' - 'W

Abstract

Oliveira,U.R. 2004. Morphodynamic behaviour and granulometry of the Pântano do Sul - Açores beaches accr, Santa Catarina island, SC state, Brazil. MSc Thesis, University Federal of Santa Catarina, Brazil, pp.

Universidade Federal de Santa Catarina

Reference:

DataBase Ref.: 1701 2004 Date of presentation: 6/5/2004

Ulisses Rocha de Oliveira

Advisor(s):

Committee:

Subject of thesis: Coastal and Sedimentary Geology

State: SC 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Palma, C.M. 2004. Ellectrical detail of a contamination plume in the Caraiba aquifer bloc usingburied elctrodes. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1873 2004 Date of presentation: 26/3/2004

Cianara de Moura Palma

Advisor(s): Lima, O.A.L.

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SC24 Centroid of the area: ' - 'W

Abstract

An acid contamination around Caraiba Metalurgy has altered the water quality within a portion of the unconfined aquifer of Marizal Formation referred as the Caraiba block. Detailed geoelectrical surveys had been used to delineate the invasive paths and the underground acid accumulation within this sandstone sequence. However, due to the high resistivity and chargeability contrasts between the plume, its transitional zone and the virgin aquifer material, it is too difficult to get an unambiguous evaluation of their electrical parameters, using solely surface electrical measurements. Thus, a multi-electrode well was constructed tapping through out the transional zone and the acid core up to the base of the plume. Ring-shaped electrodes (1cm width) are equispaced by 50 cm along a 2"well casing up to 13,31 m depth, each one connected by insulating cables to a surface control box. This multi-electrode well is being and will be used both as a monitoring logging device before and during the aquifer remediation development, as well as for performing radial resistivity soundings in the area using underground electrodes. Normal and lateral logs of apparent resistivity and chargeability having several electrode spacings, allows to get detailed electrical images around the well, interpreted in terms of petrophysical parameters of the sandstones and of the groundwater quality. Semi-Schlumberger soundings with surface and underground current electrodes were quite useful to define more precisely the electrical parameters of the plume and of its transitional zone. A conventional combination of electrical, sonic and radioactive logs of a neighbour well were used for comparison.

Palmeira, A.F. 2004. Remote sensing and geoprocessing techniques applied to the Paragominas municipality (Pará state).. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 2207 2004 Date of presentation:

Alessandro Ferraz Palmeira

Advisor(s):

Committee:

Subject of thesis:

State: PA 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Ribeiro, R.R. 2004. Geomorphologic evolution of the Serra de Cubatão range in São Paulo state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2310 2004 Date of presentation:

Rogério Rodrigues Ribeiro

Advisor(s): Suguio, K.

Committee:

Subject of thesis: Sedimentary Geology

State: SP 1/1,000,000 sheet: SG23 Centroid of the area: ' - 'W

Abstract

Rojas, E.H.M. 2004. Genetic syntheses of artificial neural nets ART2 in the classification of ASTER images for the mapping of use and land cover of the Northern regio of Mato Grosso. state. MSc Thesis, National Institute of Spatial Research, INPE, pg.

Instituto de Pesquisas Espaciais

Reference:

DataBase Ref.: 2208

2004

Date of presentation:

Eddy Hoover Mendonza Rojas

Advisor(s):

Committee:

Subject of thesis:

State: MT

1/1,000,000 sheet:

svc21

Centroid of the area:

' -

'W

Abstract

Rosa, E.S. 2004. Hydrogeologic evaluation of São Sebastião aquifer in the Olindina Quadrangle using well and surface geophysics. MSc Thesis - Instituto de Geociências - Universidade Federal da Bahia; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 1544

2004

Date of presentation: 3/3/2004

Edmilson de Souza Rosa

Advisor(s): Lima, O.A.L.

Committee:

Subject of thesis: Geophysics

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

This work is the result of a geophysical study using electrical resistivity soundings, multiple well logging and hydrogeological well data, in a area of approximately 3,200 km². Its goals includes the estimation of the hydrogeologic potential of the eastern border of the Tucano Sul-Central sub-basin, in terms of aquifer's thickness (upper portion of the São Sebastião Formation), its porosity, permeability, and water quality. Twenty three vertical electrical soundings were performed and inverted based on 1-D models together with the interpretation of five multiple geophysical logs of wells in the area.

The use of vertical electrical soundings combined with lithologic interpretation and hydraulic parameters estimation of T and K in deep wells, from geophysical logs and pumping test data catalogued in CPRM and CERB companies, made possible to develop a better knowledge of the main hydrogeologic aspects of the São Sebastião aquifer in Olindina plate (1:100,000 scale). The geophysical results are presented as structural cross-section, maps and log data graphics, showing the geometry, lithologic features and permeability variation within the aquifer, and also confirm the similarity between the underground and superficial flow patterns. The jointing interpretation of the electrical sounding data with the parametrization with water well data, allows a good calibration and reduction of ambiguities on the final geoelectric models.

The results also suggest that electrical sounding technique is a useful criterion for well location, especially on the extense area covered by Marizal Formation, with chance of predicting not only the well discharge but also the quality of the stored groundwater.

Santana, M.M.U. 2004. Characterization of the Au ± Cu Porphyry Type Mineralization of the Setor La Unión, Provincia de Camagüey, Cuba. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

fluid inclusions, sulfur isotope, boiling, porphyry gold-copper system

Instituto de Geociências - Universidade de Brasília

Reference: M187

DataBase Ref.: 2506

2004

Date of presentation: 14/5/2004

Miriela María Ulloa Santana

Advisor(s): Botelho, N.F.

Moura, M.A.

Committee:

Raul Minas Kuyumjian

- IG/UnB

Caetano Juliani

- IGc/USP

Subject of thesis: Mineralogy and Petrology

State:

1/1,000,000 sheet:

Centroid of the area:

' -

'W

Abstract

The La Unión Au ± Cu deposit, is located at Najasa municipality, Camagüey province, one of the regions with the greatest interest for gold prospecting in the Republic of Cuba. The deposit is hosted in a 73.0 ± 1.5 Ma porphyry quartz diorite, which is intrusive in volcanic and volcanoclastic rocks of the early cretacic Guáimaro formation. The quartz diorite age is similar to those of a probable magmatic belt situated south of the main magmatic axis of the Cretaceous magmatic arc, to which has been attributed great potential for gold.

The porphyritic quartz diorite is composed by plagioclase and magnesiohornblende fenocrysts immerse in a fine groundmass. The quartz diorite is calc-alkaline and metaluminous, analogous to the composition of oxidized I-type granitic rocks of volcanic arc environment. Estimated fO₂ conditions on the basis of the igneous mineral paragenesis indicate high oxygen fugacities for the original magma, probably between FMQ and HM buffers. Positive ϵ_{Nd} (T) values and low initial ⁸⁷Sr/⁸⁶Sr ratios are indicative of a primitive source, like depleted mantle, for the calc-alkaline magmatism in La Unión area without evidences of crustal contamination.

Silicification, epidotization, chloritization and sericitization are, in decreasing order of intensity, the main hydrothermal alteration types developed in the quartz diorite. Epidotization is dominant in drill samples, whereas silicification is the main phase in trench samples from the stockwork zone. Late carbonatization and zeolitization are observed only in drill samples, where they are

common. Gold mineralization is associated to pyrite enrichment as dissemination in the altered quartz diorite and in the stockwork. Gold occurs in native form, either as inclusions or filling fractures in pyrite, reaching 4 g/t in bulk samples. It is also present as invisible gold in sulfides, mainly in pyrite, where concentrations may reach 900 ppm. Fluid inclusions data and $\delta^{34}\text{S}$ values (-0.71‰ to 1.31‰) are coherent to an initial $\text{H}_2\text{O}-\text{NaCl}-(\text{KCl})$ mineralizing fluid, derived from the quartz diorite magma, and trapped at 425°C and 1.2 Kbar. This primary fluid was separated in two fluid phases, a hypersaline aqueous fluid, probably responsible for gold (and copper) transport as chloride complexes, and a low-salinity vapour-rich fluid. The relationship between salinity and homogenization temperatures indicates mixing of the hot hypersaline fluid with a low-temperature, possibly surface-derived, fluid, resulting in gold and copper precipitation. The tectonic environment of the La Unión deposit, hosted in calc-alkaline I-type oxidized porphyritic quartz diorite, together with its high gold and low copper contents, the $\delta^{34}\text{S}$ values near 0‰ and the physical-chemical characteristics of the mineralizing fluids suggest that the La Unión gold mineralization is similar to deposits classified as porphyry $\text{Au} \pm \text{Cu}$.

Santos, L.P. 2004. Metamorphic paths of collisional environments: Frontal domains of the Aiuruoca-Andrelândia and Lima Duarte nappes, southern border of the Cráton do São Francisco, Minas Gerais. MSc Thesis; Instituto de Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1828 2004 Date of presentation: 15/6/2004

Luciana Pascarelli Santos

Advisor(s): Campos Neto, M.C.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Santos, M.G. 2004. Mapping of the vulnerability and risk of pollution of underground waters of the Sedimentary aquifer systems of Campos dos Goytacazes region-RJ state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1964 2004 Date of presentation: 26/8/2004

Marinaldo Gomes dos Santos

Advisor(s): Pereira, S.Y.

Committee:

Subject of thesis: Metallogenesis

State: RJ 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Sapucaia, N.S. 2004. Lithologic differentiation, potassic, uranium and thorium content and rate of radiogenic heat production of the crystalline basement of the Camamu and Almada basins. MSc Thesis; Instituto de Geociências, University of Bahia, Salvador; pp

Instituto de Geociências - Universidade Federal da Bahia

Reference:

DataBase Ref.: 2205 2004 Date of presentation: 16/9/2004

Najara Santos Sapucaia

Advisor(s): Argollo, R.M.

Barbosa, J.S.F.

Committee:

Subject of thesis: Geophysics

State: BA 1/1,000,000 sheet: SD24 Centroid of the area: ' - 'W

Abstract

In this work we present the results of chemical, petrographical and petrochemical analysis, potassium, uranium and thorium concentrations and radioactive heat superficial generation rates of the outcrop rocks of the geologic basement of the Camamu and Almada basins. In the total, we visited 182 crystalline rock outcrops and collected 181 rock samples, sometimes more than one sample, other times none one as the rocks showed too much weathering.

Of the mainly lithologic types found in the bedrock, classified by chemical analyze data made in 16 rock samples, the metatonalites appear in larger proportion with 84 samples, the metamonzonites and the granulites appear around 30 samples each one, the charnockites and the neoproterozoic sienites with 10 and 16 samples, respectively, the granitic and granodioritic rocks with 6 samples and, more rarely, mafic dikes and amphibolites.

The U and Th concentrations in the rocks analyzed in this work increase as the K concentrations became higher, likely to the U concentration relative to Th one. In this case, the inverse is not true because on observe rock samples with high Th content and low U one. The K, U and Th contents in the analyzed rock samples vary from 0.2 to 4.6 %, < 0.2 to 5 ppm and < 0.4 to 64 ppm, respectively and they are higher in the charnockites, granodiorites of Moenda, granit of Teolândia and neoproterozoic sienites, have intermediate values in the metatonalites and are lower in the basic granulites.

The radioactive heat superficial generation rates of the analyzed samples mainly reflect the lithology. They are higher in the

charnockites, granodiorites of Moenda, granit of Teolândia and neoproterozoic sienites, varying from 0.2 to 5.2 mW m⁻³, but the coverage of this lithologies in area is so small as compared with that of the metatonalites. In that lithology, the radiogenic heat superficial generation rate varies basically from 0.05 to 0.6 mW m⁻³ and stays the values above 0,01 a 0,27 mW m⁻³ found in the basic granulites.

The observation of the lithologies in the margins of the Camamu and Almada basins suggests that in the bedrock under yours sediments predominate the metatonalites, with some significant participation of sienites in the case of Almada basin. To those lithologies, we obtained, to the mean heat superficial generation rates, $0,29 \pm 0,19$ mW m⁻³ to metatonalites and $1; 16 \pm 0; 29$ mW m⁻³ to sienites.

Silva, E.T.J.B. 2004. Use of vegetation index in the MODIS Sensor to detect deforestings in the Cerrado: Parameters and strategies investigation. MSc Thesis, Institute of Geosciences, University of Brasília, pg. MODIS, vegetation index, Cerrado, Brasília National Park

Instituto de Geociências - Universidade de Brasília

Reference: M189

DataBase Ref.: 1796 2004 Date of presentation: 17/6/2004

Eristelma Teixeira de Jesus Barbosa Silva Advisor(s): Ferreira Jr, L.G.

Committee:

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W
GO

Abstract

It is estimated that approximately 60% of the Cerrado biome have been already converted into cultivated pastures and annual crops. Such severe land cover change has caused irreversible loss of biodiversity and imposed significant modification on climate and hydrology. On the other hand, there have been few attempts made towards the operational and systematic monitoring of the Brazilian Cerrado. In the pursuit of implementing a warning deforestation system for the Cerrado biome, this study investigated the possibility of detecting deforestation in the Cerrado biome through the use of MODIS vegetation indices (Normalized Difference Vegetation Index – NDVI and Enhanced Vegetation Index – EVI). Particularly, we investigated the effects of different thresholds (20, 35, 42, and 50%), as well as the influence of the spatial and radiometric resolutions on land conversion assessments. Our main test area was the Brasília National Park (BNP), which comprises an area of about 30,000 ha located in the northern part of Brasília. A second evaluation site was the Emas National Park (ENP), a more homogeneous area located in the southwestern portion of the Goiás State. The results gathered at these two test sites were then extrapolated to the entire State of Goiás. The major remote sensing data were the vegetation indices and their corresponding metadata layers of the MOD13Q1 (spatial resolution: 250 meters) and the MOD13A1 (spatial resolution: 500 meters) products from July 2001 and July 2002, tiles h13v10 and h12v10. Our results indicated significant differences in land cover change assessments depending on the vegetation index, spatial resolution, radiometric resolution, and threshold. For the BNP, potential changed areas, for the images with resolutions of 16 bits and 250 m, varied from 0.05 to 0.3% of the total area. Most of the changes were associated with Cerrado grassland and shrub Cerrado physiognomies. For the ENP, total amount of changes varied from 0.52 to 2.21%. For the State of Goiás, potential land cover changes varied from 0.0056 to 1.14%, mostly located in the previously converted areas. While both the NDVI and EVI showed similar results with a 35% change threshold and 16 bits resolution, overall better performance was shown by the EVI at 250m spatial resolution.

Silva, S.M. 2004. Karstification in siliciclastic rocks: Case study in the Serra do Ibitipoca range, State of Minas Gerais. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 76

DataBase Ref.: 2419 2004 Date of presentation: 20/12/2004

Sérgio Melo da Silva Advisor(s): Auler, A.S.

Committee: Alexandre Uhlein - IGC/UFMG
Luis Beethoven Piló -

Subject of thesis: Economic and Applied Geology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Tavares, S.T.P. 2004. The industrial feldspar from Coronel Murta, State of MG: Characterization of mining in pegmatites and of the potassic feldspar in the perspective of application in ceramic and glass industry. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 71

DataBase Ref.: 2414 2004 Date of presentation: 9/6/2004

Sérgio Túlio de Pinho Tavares Advisor(s): Pedrosa-Soares, A.C.

Committee: Maria José Gazzi Salum -

José Francisco Marciano Motta -

Subject of thesis: Economic and Applied Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Tschiedel, M.W. 2004. Application of geophysical study as a contribution to the knowledge of the Urucuia sub-basin tectonics. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

tectonic, eletromagnetic sounding, sag

Instituto de Geociências - Universidade de Brasília

Reference: M185

DataBase Ref.: 1795

2004

Date of presentation: 30/4/2004

Márcio Walcacer Tschiedel

Advisor(s): Campos, J.E.G.

Committee:

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: GO

1/1,000,000 sheet:

SD23

Centroid of the area:

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'W

BA

Abstract

The present study is focused on the contribution to the knowledge of the origin, evolution and tectonic of part of the Sanfranciscana Basin, where an specific geophysical prospecting method has being applied. The study was developed in the central portion of the basin, including most of the Urucuia Sub-basin area. His hoped that it can play an important role on the parameter definition that can be used on future hydrogeology, hydrology, economic geology, applied structural geology and environmental geology studies. Another practical importance is to provide information on an area with increasing demand for water on agricultural activities.

Eletromagnetic sounding (time domain) was used as the geophysical tool, using a Zonge Engineering GDP 32 System. The work consists of three phases. The first is related to the preliminary reconnaissance studies on the area, in order to have a glimpse on the geology, the logistical aspects and the limits of the area to be studied. The second phase was the geophysical field data acquisition. Two geophysical profiles were carried out. The first is a South-North section (beginning in the boundary of Goiás and Bahia States and ending in Luiz Eduardo Magalhães city – Bahia State) and other is the East-West Line (beginning west of Barreiras and ending next to the Serra Geral de Goiás). To help interpret the soundings, a parametric sounding was carried out. It is located close to the border of Serra Geral de Goiás (highway access to the city of São Domingos de Goiás). The last phase was accomplished by processing the acquired data with a specific software, resulting on the generation of the physical and from it the geological model, for each profile. The TDEM sounding method showed to be efficient. Limitations, however, should be pointed out related mainly to eletronic interferences (static and/or dynamic noises), low sounding density for a better evaluation of the proposed problem.

The results allow to indicate a SAG type for basin origin model and basin evolution. This type is defined as a wide intracontinental basin formed by flexural subsidence and accommodation of intraplate stress with small total subsidence, being related to the rift stage of the Brazilian continental margin basins. In the evolution of the basin, a neotectonic stage was responsible for the in echelon block pattern that functioned as tectonics a modifier of the basin.

Valladares, F.B. 2004. Geology and petro-metallogenesis of the gold mineralization of the Mina São Bento mine, Quadrilátero Ferrífero, MG state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 1859

2004

Date of presentation: 17/9/2004

Fernando Benegas Valladares

Advisor(s): Schorscher, J.H.D.

Committee:

Subject of thesis: Mineralogy and Petrology

State: MG

1/1,000,000 sheet:

SE23

Centroid of the area:

' -

'W

Abstract

Yamashita, D.M. 2004. Mobility of arsenium and heavy metals in soils of the Ribeira valley, Iporanga, SP state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference:

DataBase Ref.: 1966

2004

Date of presentation: 13/8/2004

Daniela Mary Yamashita

Advisor(s): Figueiredo, B.R.

Committee:

Subject of thesis: Metallogenesis

State: SP 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Zacharias,A.A. 2004. Filling of cut valley by estuarine facies associations, Rio Bonito formation, northeastern of Paraná state. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference:

DataBase Ref.: 2485 2004 Date of presentation:

Angélica Álda Zacharias Advisor(s):

Committee:

Subject of thesis: Regional Geology

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Almeida, C.M. 2005. Taxonomy and palaeoecology of ostracodes of the Permian of the Paraná Basin, State of Goiás, Brazil: Palaeo-environmental and chronostratigraphic considerations. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Taxonomy, Palaeoecology, Ostracods, Paleozoic, Paraná basin

Instituto de Geociências - Universidade de Brasília

Reference: M194

DataBase Ref.: 2334 2005 Date of presentation: 4/5/2005

Claudio Magalhães de Almeida Advisor(s): Do Carmo, D.A.

Committee: Carlos José Souza de Alvarenga - IF/UnB
Gerson Fauth - DG/UNISINOS

Subject of thesis: Regional Geology

State: GO 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

Nine marine and non-marine ostracods species occur in samples from Irati and Corumbataí formations, Permian, Paraná basin: Bythocypris sp. 1, Praepilatina sp. 1, Darwinula sp. 1, Candona sp. 1. Gen. 1 sp. 1, Gen. 1 sp. 2, Gen. 2 sp. 1, Gen. 3 sp. 1 e Gen. 4 sp. 1. Bythocypris sp. 1, and ?Praepilatina sp. 1 marine species have their occurrences interpreted as autochthonous. Darwinula sp. 1 and Candona sp. 1, non-marine as allochthonous. The occurrences of the Bythocypris sp. 1 and ?Praepilatina sp. 1 in the portion lower Corumbataí Formation indicate marine or transitional palaeoenvironment marine influence. The occurrence of Bythocypris sp. 1 in both formations indicate a coeval deposition, which is in agreement with interpretation based on mesosaurs occurrences also in both formations. Despite of occurrences of Bythocypris sp. 1, in Corumbataí Formation the occurrences of Darwinula sp. 1, Candona sp. 1 and gyrogonites, are indicating a stronger non-marine influence in depositional system of upper part in the studied area Corumbataí Formation. This pattern of micropalaeontological occurrences seems to indicate a progressive inland condition during Late Permian to Paraná basin.

Amorim, G.M. 2005. Construction of a georeferenced information system about geotourism in the Hydrographic basin of Rio Corumbataí river - State of SP. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m124

DataBase Ref.: 2488 2005 Date of presentation: 17/6/2005

Gustavo Marques e Amorim Advisor(s): Ebert, H.D.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The region of the Corumbataí Hydrographic Basin count with a university center of excellence as UNESP, that produces big amounts of data and resulting information from the researches carried out in the academic scope. Part of this knowledge does not achieve the population in general due to complexity of the terms utilized. It is opportune that parts of this knowledge arrive in activities that awake in them the interest to know the region. The area count in with big quantity of natural patrimony that are exploited for the tourism and that possess important geological controls. The practice of the Geotourism, branch of the ecotourism, would be able to help in the diffusion of part of this knowledge. With this intuit this project aimed to reprocess several cartographic bases of the area for GIS environment and elaborated explanatory texts about 16 localities able to the practice of the Geotourism. To integrate and exhibit these data was elaborated a thematic GIS based in the tool Mapserver. This GIS show these attractive with geological control, utilizing a language simplified to achieve a bigger parcel of the population and awake the interest in know or deepen the studies of Geology.

Andrade, M.B. 2005. Systematic and taxonomic revision of the Notosuchia (Metasuchia, Crocodylomorpha). MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m121

DataBase Ref.: 2490 2005 Date of presentation: 29/4/2005

Marco Brandalise de Andrade Advisor(s):

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The present study approaches the systematic of the Infra-Order Notosuchia, under the scope of phylogenetics, searching for taxonomic propositions. A revision of the material gathers informations on Paleontology, Geology and Biochronology related to Notosuchia. Unpublished specimens from both Mariliasuchus amarali and Notosuchus terrestris are described, allowing a better comprehension of morpho-anatomic, evolutionary and paleoecological aspects concerning these species. The Genus Uruguaysuchus is revised on the validity of some materials and its composition. Unpublished data on a new notosuchian

crocodylomorph species are described and its phylogenetic position is discussed. Phylogenetic analysis was conducted for 24 taxa, with the use of 179 characters, resulting in 14 equally parsimonious trees with the use of Fitch's Parsimony, just like four equally parsimonious trees with the use of Wagner's Parsimony for 26 characters. The results allowed, among other aspects: (a) assigning the new notosuchian crocodylomorph species as the sister-group of Sphagesaurus huenei; (b) to corroborate Mariliasuchus as a Notosuchidae; (c) to understand Notosuchia as a grade; (d) the suggestion of a new superfamily and a new infraorder among metasuchian crocodylomorphs. Additional phylogenetic analysis, with modifications to the original methodology, allowed a reevaluation of the phylogenetic position of Chimaerasuchus paradoxus within other groups of Crocodylomorpha and the construction of evolutive, anatomical and biocronologic previsions

Andreazzini, M.J. 2005. Fluor geochemistry in water and fluvial sediments in the Cerro Azul region, Paraná state. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 21957

DataBase Ref.: 1963 2005 Date of presentation: 4/3/2005

Maria Jimena Andreazzini Advisor(s): Figueiredo, B.R.

Committee:

Subject of thesis: Metallogenesis

State: PR 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Araújo Filho, M.C. 2005. Development of a hierarchical classification system for maps of land cover using LANDSAT ETM+ SATELLITE image. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Scale, hierarchical classification, visual analysis, land cover.

Instituto de Geociências - Universidade de Brasília

Reference: M198

DataBase Ref.: 2339 2005 Date of presentation: 25/11/2005

Milton da Costa Araújo Filho Advisor(s): Meneses, P.R.

Committee: Edson Eyji Sano - EMBRAPA

Evlyn Márcia Leão de Moraes - INPE

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The development of land cover systems is important to assist programs of environmental control, biodiversity conservation and land use/land occupation from different regions, among other interests. Besides its importance, there is no specific rules in Brazil to discipline the development of such systems. Consequently, there is a tendency of each institution to create its own system to attend its specific needs, making the further data integration very difficult. This study proposes the development of a new land cover classification system for Federal District, based on the visual analysis of a Landsat satellite image (overpass: May 23, 2003). RGB color composites of bands 3, 4 and 5 were printed at the following scales: 1:1,000,000, 1:500,000, 1:250,000 and 1:100,000. Visual analysis and field inspection of these composites allowed the identification of five spectral land cover classes in the 1:1,000,000 scale: water bodies, natural vegetation cover, planted vegetation cover, constructed surfaces and others. In 1:500,000, 1:250,000 and 1:100,000, these classes were subdivided in 11, 19 and 22 subclasses, respectively. Results of this research showed that the scale is an important factor not only for identifying the number of spectral classes but also for the facility in which these classes are discriminated in a satellite image.

Campos, A.B.S.P. 2005. Geochemistry of the waters from Lago Grande de Curuaí floodplain and analysis of their influence in the Amazonas River. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Molybdenum, manganese, (floodplain Lago Grande de Curuaí)

Instituto de Geociências - Universidade de Brasília

Reference: M202

DataBase Ref.: 2445 2005 Date of presentation: 25/11/2005

Andréa Brandão de Souza Princivalli Campo Advisor(s): Boaventura, G.R.

Committee: Detlef Hans-Gert Walde - IG/UnB

Adriana Maria Coimbra Horbe -

José Eloi Guimarães Campos - IG/UnB

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The concentrations of the major constituents (silicon, iron, magnesium, calcium, titanium, manganese, and phosphorus) and trace constituents (barium, cadmium, cobalt, copper, lanthanum, nickel, strontium, molybdenum, chromium, manganese, vanadium, yttrium and zinc) contained in the dissolved fraction and in suspension of surface waters were monthly determined in

the flooding zone (floodplain Lago Grande de Curuai) and in the Amazon river during the period off a hydrologic cycle with Spectrometer of Optic Emission for Inductively Connected Plasma. Outflow, conductivity and total solids in suspension were related for evaluation of the sazonal behavior and an estimate of the influence of the flooding flow in transporting constituents. Had been verified the differences and interactions between the different lakes, igarapés and freatic sheet that compose the fertile valley environment and the interchange relations with the Amazon river. It was verified that the white water lakes of the floodplain do not posses a characteristic of constituents' retention as calcium, magnesium and strontium in the dissolved fraction, their concentrations being similar to the one, of the Amazon river, but lightly enriched in silicon and iron. The black water environments of the fertile valley presented a constituents concentration dissolved significantly inferior to the white water environments. In the suspension material the constituents eventually reflect the lithologic influence, being important the adsorption processes and complexation to the organic substance, since the black waters presented a slightly higher concentration of constituents, when compared to the fertile valley white waters. Mainly the phosphor, copper, barium and calcium contained in the particulate fraction are retained in floodplains presenting in relation to the main river. This study confirms that the particulate fraction dominates the transport of the majority of major constituents in white waters of the fertile valley and that, in a general way, the lakes of the fertile valley are vulnerable to the full and receding flows, as the constituents' concentration, in the analyzed fractions, varies significantly with the outflow.

Campos, K.C. 2005. Preliminary environmental evaluation of the generating sources of the hydric resources contamination: municipality of Atibaia/ State of SP. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2324

2005

Date of presentation:

Kleber Cavaça Campos

Advisor(s): Duarte, U.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

Costa, D.T. 2005. Compartmentation of the topography based on geologic, geomorphologic and morphostrucutural indicators in the region between Miguel Pereira and Itaipava in the Serra do Mar range, State of Rio de Janeiro. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m119

DataBase Ref.: 2492

2005

Date of presentation: 20/1/2005

Danielle Tardin da Costa

Advisor(s): Ebert, H.D.

Almeida, J.C.H.

Committee:

Subject of thesis: Regional Geology

State: RJ

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

Coutinho Jr, T.A. 2005. Study of the reology of clays from the Granunssio mine in the Municipality of Santa Gertrudes/ SP state, aiming the formulation of ceramic masses for the manufacturing of revestiments plates by humid process. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m123

DataBase Ref.: 2489

2005

Date of presentation: 10/5/2005

Tercilio de Almeida Coutinho Junior

Advisor(s): Almeida, E.B.

Committee:

Subject of thesis: Regional Geology

State: SP

1/1,000,000 sheet:

Centroid of the area:

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Abstract

The region of Santa Gertrudes is cosiderade actualy the major center brasilian of production of tiles and revestiments ceramics is growing. The center's localizalation on the geological formation of Corumbataí, that is surce rich of raw materials for production of ceramics paviments. The estudy hold the utilization of raw materials in the process of fabrication umid by way of the tile industry. This study shwos that in opposition of general opinion so far, the red clays of Santa Gertrudes and your region can be dispersed and your characteristics fisics and chymicals be ideals for the process of fabrication umid by way of the tile industry. To evaluate the comportament reologycal of clays, were realized practises whit the viscosimeter copford and brookfield. The most important results presented shows that the reologycal comportament of clays depend, between others factors, of the

dimension distribution of particulates of raw materials and percentage of the deflocculant utilized. The work can revolution the process of ceramics fabrication of tiles and revestiments from region of Santa Gertrudes, advancing a best signification of quality of products and also can open field for development of news products with technics more advanced.

Dias, C.L. 2005. Criteria for underground water monitoring net project: Proposal of implantation in the High Tiête Hydrographic Basin, SP state. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2031 2005 Date of presentation: 29/4/2005

Claudio Luiz Dias

Advisor(s): Casarini, D.C.P.

Committee:

Subject of thesis: Hydrogeology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Dias, J.P.R.V. 2005. Isotopic composition of oxygen and hydrogen ($\delta^{18}\text{O}$ and $\delta^2\text{H}$) of the precipitation and its relation to the underground waters in the city of São Paulo. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2323 2005 Date of presentation:

João Paulino Relvas Vieira Dias

Advisor(s): Babinski, M.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Faustlich, F.R.L. 2005. Dolomitization and sulphides (Zn) of neoproterozoic limestones from Araras Formation, MT. MSc Thesis nº 196, Instituto de Geociências. Universidade de Brasília, Brasília, 60p

Dolomitization, sphalerite, Araras Formation, Mirassol d'Oeste, neoproterozoic limestones

Instituto de Geociências - Universidade de Brasília

Reference: M196

DataBase Ref.: 2341 2005 Date of presentation: 13/5/2005

Fabiano Richard Leite Faulstich

Advisor(s): Dardenne, M.A.

Committee: Carlos José Souza de Alvarenga - IG/UnB

Aroldo Misi - IG/UFBA

Subject of thesis: Prospection and Economic Geology

State: MT 1/1,000,000 sheet: SD22 Centroid of the area: 15 40 's - 58 04 'W

Abstract

This study aimed the better understanding of the sphalerite occurrence from the Araras Formation dolomites, Mirassol d'Oeste - MT. Methods included regional and local geology studies, petrography, whole rock geochemistry, stable and radiogenic isotopes analyses, and fluid inclusions.

The Araras Formation comprises pink dolomites, on the bottom, lying directly over diamictites of the Puga Formation, and a top sequence composed of gray limestone. The pink dolomites represent an early dolomitization process of the limestone, microcrystalline dolomite was formed overprinting the primary sedimentary fabric. The studied area is located in the transition zone between the pink dolomite and the laminated gray limestone. In this transition zone, a secondary, post-depositional, dolomitization took place forming saccharoidal dolomite, sphalerite and the development of expressive porosity. A relative increment in metals (eg. Fe, Mn, Sr, Al), shown by whole rock geochemistry, is characteristic of this late process.

Carbon isotope data yielded values around 4‰ PDB for the mineralized horizon, this is similar to those reported for carbonates related to the end of the Neoproterozoic glaciation, when organic carbon availability was low. The $\delta^{18}\text{O}$ and $\delta^{87}\text{Sr}/\delta^{86}\text{Sr}$ obtained values for the same horizon were <-10‰ PDB and 0.722 to 0.727, respectively, highlighting the diagenetic reactions linked to the dolomitization. An enrichment in radiogenic Sr and Pb was determined for the mineralized horizon suggesting that mineralizing fluids were in contact with older rocks, probably from the basement.

Fluid inclusion data indicate that sphalerite was formed in a high salinity environment, with high Ca concentration and relatively low temperature (115 to 150°C).

According to the data shown in this work, it is possible to classify the sphalerite occurrence from Mirassol d'Oeste as MVT type.

A second generation of calcite was formed around pores by a fluid depleted in metals. The remaining pores and interstitial space was filled by a fluid, rich in organic matter represented by the presence of bitumen in the whole carbonate sequence.

Ishida, D.A. 2005. Macro and micromorphologic study of the sequences of soils in the hydrographic

microbasin in the Cunha-Indaiá Nucleous, Serra do Mar State park - State of SP. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2326

2005

Date of presentation:

Débora Ayumi Ishida

Advisor(s): Toledo, M.C.M.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

' -

'W

Abstract**Lacerda, M.L. 2005. Study of pozzolanic clay used in cement production: Bonsucesso area –Planaltina region - DF. MSc Thesis, Institute of Geosciences, University of Brasília, pg.***Pozzolan, Kaolinite, Weathering*

Instituto de Geociências - Universidade de Brasília

Reference: M200

DataBase Ref.: 2336

2005

Date of presentation: 19/11/2005

Max Lânio Lacerda

Advisor(s): Alvarenga, C.J.S.

Committee:

Edi Mendes Guimarães

- IG/UnB

Jorge Kazuo Yamamoto

- IGc/USP

Subject of thesis: Regional Geology

State: DF

1/1,000,000 sheet:

SD23

Centroid of the area:

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Abstract

The main objective of this master thesis was to compare the methods used in order to understand the Bonsucesso profile, to verify the utilization of each of them and to understand and to identify the kaolinite genesis that occurs in the studied profile. The Bonsucesso quarry is located in the northeast of the Distrito Federal and was studied by different methods that include: X-ray diffraction, chemical analyses, scanning electron microscope, petrographic microscopy, physical analyses of mechanical performance, chemical analyses of $\text{Ca}(\text{OH})_2$ with pozzolan and color criteria.

The results has allowed identifying the Bonsucesso profile as a product of weathering from metasedimentary rocks. The kaolinite is the mineral phases responsible to provide the pozzolanic activity of the clay and also is responsible to turn the profile more "white" in direction to the top. It is formed first in the saprolite from the detritic illite, producing the 1Md politipe. After that the 1Md politipe changes into 1A politipe in the solum.

The weathering process of Bonsucesso configures a chemical weathering by hydrolysis very common in intratropical climate. The kaolinitization process is believed to keep going on the present day.

The Bonsucesso clay becomes pozzolanic by calcination at 800 °C to 30 minutes and the layer of ore is 15 meters thickness, consisting of a good quality pozzolan. It exhibits compressive strengths with $\text{Ca}(\text{OH})_2$ of 16 MPa and 69% of the compressive strengths of the compared cement.

The physical method – index of pozzolanic activity of the calcined clay + $\text{Ca}(\text{OH})_2$ – is the only conclusive method to confirm the pozzolanic properties of the clays. In order to confirm the viability to industrial use of the pozzolan this method must be used combined with the color criteria.

The methods supported by geologic or mineralogical or chemical or density criteria, each one agreement with the color parameters, may substitute the index of pozzolanic activity combined with color criteria in the quarry control and in the prospection of similar areas in mineralogy to Bonsucesso.

Lavorante, L.P. 2005. 3D modelling techniques applied to palaeobathimetric data of the Santos and Campos basins and to the deformational simulation of geological objects. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m126

DataBase Ref.: 2486

2005

Date of presentation: 27/10/2005

Luca Pallozzi Lavorante

Advisor(s): Ebert, H.D.

Committee:

Subject of thesis: Regional Geology

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

Research in Geosciences is currently using extensive volumes of heterogeneous data, whose integrated interpretation is complex due to the involvement of different parameters, as well as time and spatial relationships. Computer graphics and scientific visualization techniques are assuming increasing importance as they allow the representation and manipulation of geologic data exactly as they appear in 3D space. The purpose of this work is using computational tools in order to geometrically model and visualize geologic data. Using the GOCAD program, mid-Early Cretaceous paleobathymetric surfaces have been constructed for the Santos and Campos basins, based on published data. Their additional integration with lithologic and structural data in a

unified 3D visualization environment, allowed an increase in the interpretative potential of data originally represented using 2D maps. In order to provide a more general context for the paleogeographic evolution of these basins during the opening of the South Atlantic Ocean, and to represent analogies with current depositional environments, paleobathymetric surfaces have been modelled for the South Atlantic Ocean, from mid-Early Cretaceous to present time, and for the present Red Sea. By using 3D open-source modelling and visualization tools (VTK), a computational program (Tensor3D) has been developed to simulate deformation of geologic objects, from rocks, tectonic structures, salt domes to basins. This process is controlled by modifying simple and pure shear components contained in strain tensors. The consequent real time deformation, along with the feature of storing and later retrieving geometric results from intermediate deformation steps makes the program an ideal tool for the study of geologic bodies' deformation in 3D. The program also represents a useful tool for understanding the behaviour of complex geometric structures during deformation processes.

Lima, O.N.B. 2005. Bambuí group: Regional stratigraphy of the high Rio São Francisco river and geology of the phosphatic deposits of the Serra da Saudade range - State of MG. MSc Thesis, Instituto de Geociências - Universidade Federal de Minas Gerais, pp

Instituto de Geociências - Universidade Federal de Minas Gerais

Reference: 77

DataBase Ref.: 2420 2005 Date of presentation: 25/5/2005

Otávio Nunes Borges de Lima Advisor(s): Uhlein, A.

Committee: Henri Simon Jean Benoit DuPont - IGC/UFMG
Marcel Auguste Dardenne - IG/UnB

Subject of thesis: Regional Geology

State: MG 1/1,000,000 sheet: SE23 Centroid of the area: ' - 'W

Abstract

Machado, F.B. 2005. Geology and petrologic aspects of the intrusive and effusive mesozoic rocks of part of the Paraná basin eastern border in the State of São Paulo. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m125

DataBase Ref.: 2487 2005 Date of presentation: 1/7/2005

Fábio Braz Machado Advisor(s): Nardy, A.J.R.

Committee:

Subject of thesis: Regional Geology

State: SP 1/1,000,000 sheet: SG22 Centroid of the area: ' - 'W

Abstract

Petrographic and geochemical investigations of the intrusive rocks related to the Magmatic Paraná Province (PMP), in the east portion of Paraná Basin, São Paulo State, have showed that the studied rocks are constituted mainly by plagioclase, augite, magnetite and pigeonite. That characterize intergranular, subophitic and ophitic diabases. Geochemical data have indicated that rocks are basic, with tholeiitic affinity and can be included to the high titanium (HTI) of the PMP group. Moreover, the geochemical differences point out that the intrusive rocks belong to Paranapanema (PAR) and Pitanga (PIT) sub-groups (magmas-type), and the magma type distribution is well sectioned. The Paranapanema Magma type occurs like sills, in the neighborhood of Campinas, meanwhile Pitanga Type occurs in Cajuru, Leme, and Iracemápolis neighborhood. In order to compare, the nearby flows were also investigated, and was observed that samples collected in Franca, Rifaina e Igarapava in São Paulo, and São Sebastião do Paraíso, in Minas Gerais, neighborhoods belong to the Urubici magma-type (URU). Magmas from Brotas and Ribeirão Preto are PIT type. The concentrations of ETRs to the representative samples of three magmas-type have showed that intrusive rocks (PAR and PIT) and lavas (URU) possibly were submitted to magmatic evolution different processes

Matteo, J.A.G. 2005. Application as artificial pozzolanic clays of alterites and sedimentary clays in the municipality of Itaú de Minas, State of MG. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2329 2005 Date of presentation:

José Antonio Garbellotto de Matteo Advisor(s): Sant'Agostino, L.M.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: MG 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Meireles, R.P. 2005. Marine ostracodes in the Oligocene - Pleistocene interval of the Santos Basin,

southern region of the Brazilian Continental Margin. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Ostracods, Oligocene-Pleistocene, Santos basin

Instituto de Geociências - Universidade de Brasília

Reference: M199

DataBase Ref.: 2340 2005 Date of presentation: 16/12/2005

Ricardo Piazza Meireles Advisor(s): Do Carmo, D.A.

Committee: Maria Léa Salgado-Labouriau - IG/UnB
Maria Inês Feijó Ramos - Museu Em. Goeldi

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Forty-nine cutting samples were analyzed, corresponding to the Oligocene- Pleistocene from the well 1-SPS-9 (25°51'S; 45°36' W). In Brazil, the ostracodes from this interval are not deeply studied, besides its importance to analysis of sedimentary basin. Twenty six species were identified in this work: *Krithe trinidadensis* Bold, 1958; *K. gnoma* Do Carmo & Sanguinetti 1999; *K. pernoides* (Bornemann, 1855); *K. morkhoveni* Bold, 1960; *K. minima* Coles, Whatley & Moguilevsky, 1994; *Krithe* sp.; *Parakrithe* sp.; *Henryhowella macrocaticricosa* Whatley et al., 1998; *H. heros* Whatley et al., 1996; *Henryhowella* sp.; *Coquimba?* sp.; *Eucythere* sp.1; *Eucythere* sp.2; *Argilloecia tenuis* Ciampo, 1981; *Loxoconcha* sp.; *Semicytherura* sp.; *Munseyella* sp.; *Bradleya pelotensis* Sanguinetti et al., 1991; *Costa riograndensis* Sanguinetti et al., 1992; *Bairdoppilata triangulata* Edwards, 1944; *Neonesidea* sp.1; *Neonesidea* sp.2; *Cytherella* sp.1; *Cytherella* sp.2; *Cytherella* sp.3 and *Cytherella* sp.4. The high concentration of the autochthonous occurrences of *Neonesidea* sp.1 and *Neonesidea* sp.2 characterise the proposed Acme Zone *Neonesidea* to the Early Miocene. Based on populational structure of *Neonesidea* sp.1; *Neonesidea* sp.2, *Argilloecia tenuis* and *Krithe gnoma*, it was possible to determine nine autochthonous occurrences: 1.340, 1.370, 1.400, 1.430, 1.460, 1.490, 1.550, 1.640 and 1.670m and infer a neritic paleoenvironment to the Early Miocene. The occurrence of *Krithe gnoma*, typical of relatively cold and temperate water conditions, suggests upwelling in the Miocene. The hypothesis of influence of the Falkland current during the Early Miocene in the study area is rejected because it would be expected other autochthonous occurrences in superior strata. Based on ostracode diversity it was possible to verify neritic to bathyal succession during deposition of Miocene.

Mio, E. 2005. Crustal modelling of the Santos basins for the integration of geophysical methods. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Santos Basin, Crustal Modeling, Geophysics, Geotectonics, Magmatism

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m120

DataBase Ref.: 2491 2005 Date of presentation: 26/4/2005

Eduardo de Mio Advisor(s): Kiang, C.H.

Committee:

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The Santos Basin is a passive margin basin generated during the Neocomian, associated with Gondwana breakup event. The thickness of the sedimentary package reach 15 km, including the rift sequence deposited over a thinned crust which originally was 35 km thick. Crustal modeling was performed along 8 sections aiming to recognize geometry of the rift phase and estimate the amount of crustal stretching. The database used was: four depth converted seismic horizons, magnetic and gravimetric grids and depth to magnetic basement data. The results indicate crustal stretching factors (b) of 1.2 to 3.22. These values were confronted with crustal stretching factors obtained from tectonic subsidence curve analysis, showing satisfactory correlation. The geophysical modeling results demand thick and widespread volcanic layers to fit the model. These wedge shaped volcanic filled, bordered with normal faults, are a common feature in rift basins. Four volcanic provinces have been defined, based on structural compartmentalization and regional occurrence of the basal rift layer, so called Sin-Rift I phase.

Mondin, M. 2005. Evaluation and quantification of the reloading process of the low and free aquifer in the Tiête Ecological Park - State of SP. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2325 2005 Date of presentation:

Marcos Mondin Advisor(s): Hirata, R.C.A.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: SP 1/1,000,000 sheet: SF23 Centroid of the area: ' - 'W

Abstract

Moura, A.P. 2005. Technique of the receiver function analysis on the determination of the lithosphere structure of Tocantins and São Pedro e São Paulo Archipelago. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Receiver Function Analysis, seismic, Teleseismic, Tocantins, St. Peter's and St. Paul's archipelago

Instituto de Geociências - Universidade de Brasília

Reference: M193

DataBase Ref.: 1976 2005 Date of presentation: 26/4/2005

Álvaro Pinheiro de Moura

Advisor(s): Rosa, J.W.C.

Committee: Augusto Cesar Bittencourt Pires - IG/UnB
Roberto Alexandre Vitória de - IG/UnB

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: TO 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Using teleseismic data, from events selected from several azimuthal directions, we used the receiver function analysis to determine the structure of the crust and of the upper mantle of the earth for two different areas of Brazil where temporary seismographic stations have been deployed by the Institute of Geosciences, University of Brasília. The expected results obtained by processing the selected data from the two separate regions should show us the crustal thickness and the one-dimensional shear wave velocity distribution under these two regions.

In the first developments of this work, we first present a summary of the receiver function method, which we applied for processing the selected data collected throughout the time span on which the two separate seismic stations operated. We also present an update of the recent developments on the receiver function method, and a review of the several applications of the method to seismological data collected in Brazil.

We then describe the processing of the remote sensing images, and of the seismological data which were collected and treated for the two regions studied, namely the central part of the Tocantins State and the St. Peter and St. Paul Rocks. We emphasize the type of recorded seismic waves, the criteria used for selecting and separating the original data and the type of selected data. In the third part of this thesis, we present a summary of all results we obtained from the processing of the selected data. These results are related to the determination of the structure of the earth underneath the two areas we studied. These are analyzed considering the errors related to the results. We then analyze the geologic and tectonic implications of these results to the current geological knowledge and future studies on the two regions considered.

Finally, we summarize all our results and conclusions, as well as our suggestions to future research in these two regions.

Mune, S.E. 2005. Neocarboniferous interglacial taphoflore of the Sítio Volpe, municipality of Monte Mor (SP), Itararé subgroup, Northeastern of the Paraná basin: revision and complementation. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2063 2005 Date of presentation: 28/3/2005

Sandra E. Mune

Advisor(s): Bernardes-de-Oliveira, M.E.C.

Committee:

Subject of thesis: Sedimentary Geology

State: SP 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

Nakayoshi, T. 2005. seismo-tectonic characterization of the Porto dos Gaúchos area, State of Mato Grosso, Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Seismology, focal mechanism, seismotectonic, Porto dos Gaúchos

Instituto de Geociências - Universidade de Brasília

Reference: M201

DataBase Ref.: 2342 2005 Date of presentation: 4/5/2005

Takato Nakayoshi

Advisor(s): Marza, V.I.

Committee: Augusto Cesar Bittencourt Pires - IG/UnB
Marcelo Sousa de Assumpção - IAG/USP

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: MT 1/1,000,000 sheet: SC21 Centroid of the area: ' - 'W

Abstract

The earthquake area of Porto dos Gaúchos, state of Mato Grosso, Brazil, hereinafter called the Seismogenic Zone of Porto dos Gaúchos (whose Portuguese acronym is ZSPG) is placed at junction of the southern boundary of the Amazonian Craton (the Rio Negro – Jurueña Province) with the northern part of the Parecis Basin. This area represents one of the most outstanding active seismic areas of Brazil intraplate seismicity, where occurred in 1955 the largest known Brazilian earthquake and where recently, on March 23, 2005, happened another significant earthquake with magnitude 5,0 mb, what jointly with the earthquakes of 1959

(mb = 5,0) and 1998 (mb = 5,3) warrant the importance of the ZSPG. The quake of March 10, 1998, occurred in ZSPG is the second largest event of the ZSPG, reaching a magnitude of 5,3 mb (ISC), this turned it as the largest seismic event of the ZSPG during the modern times, hence supplying a great amount of useful data due to the large number of seismographic stations recording it, e.g., the quake was recorded by stations further to 150° of epicentral distance.

The present work intends to infer the salient features of the geology and seismicity of the ZSPG, with the purpose to explain the phenomenology of the seismogenesis of the area, and to achieve this in the first part are synthesized the main geological treats of the area, the attributes of the seismicity of the area and the faulting process parameters.

Using the polarities of the incident P waves at 22 seismographic stations it was possible to workout the focal mechanism of the 1998 mainshock. This mechanism shows a predominant strike slip fault plane with a small reverse component. The preferred slipping plane has a strike of 110°, coincident with the kilometer extension lineaments (faults and shear zones) observed in the Amazonian Craton and with the structure of the Parecis Basin and also matching early aftershock lineament of the 1998 mainshock. This fault plane, which has to be a preexistent weakness zone, is being reactivated by the present-day tectonic stresses.

A seismo-tectonic model is presented having the ductile flow in lower crust as a relevant role for the earthquake activity in the area. This ductile flow is responsible for the tectonic stress buildup in the upper crust, stresses that in turn are reactivating the pre-existing weaknesses in the direction NW-SE, generating earthquakes as the ones of 1998 or 2005.

Oliveira, G.I.M. 2005. Geoprocessing applied to the study of aquifers protection in the Área de Proteção Ambiental de Cafuringa, Distrito Federal. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Geoprocessing, Aquifer, Conservation Unit

Instituto de Geociências - Universidade de Brasília

Reference: M191

DataBase Ref.: 1974 2005 Date of presentation: 28/1/2005

Gustavo Isac Monteiro de Oliveira Advisor(s): Fortes, P.T.F.O.

Committee: Paulo Roberto Meneses - IG/UnB
 Newton M. Souza - ENC/UnB

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The Cafuringa Environmental Protection Area (EPA), situated at the Federal District (FD) northwest portion, has great environmental importance because of the environmental resources quality, scenery beauty and contiguity with the Brasília National Park (BNP).

However, the rapid and disordered urbanization at the FD, especially in regions close to the Pilot Plane of Brasília, causes, among other consequences, high pressure over nature conservation units and loss of rural characteristics in rural areas.

This work has as general objective to contribute to the groundwater resources of the Cafuringa EPA by applying satellite Image Digital Processing (IDP) and Geographic Data Processing (GDP) by Geographic Information System (GIS) tools.

IDP, carried out by segmentation and classification by ISOSEG of Landsat images, for the Cafuringa EPA land use and vegetal cover mapping, resulted in high accuracy, both general and by kappa factor, respectively, varying from 87 to 97 % and from 82 to 96 %.

The land use and vegetal cover evolution multi-temporal analysis, between 1973 and 2002, shows the tendency of high and medium size and density native vegetal cover (forest and savannah) reduction, respectively around 5.5 % and 16.2 %, and growing of non-native vegetal cover (agriculture) and urban area, respectively, of 20.9 and 1 %, and especially at the Contagem-Rodeador Plateau (CCP).

The GDP supported terrain numeric modeling, superposition and intersection topological logic operations, weighting, reclassifying and slicing algebraic operations, map algebra by multiplication two-by-two, proximity analysis and point distribution pattern analysis.

Maps of aquifers recharge favourability, location of lowering and contamination water table monitoring areas, and permanent preservation and environmental restriction areas were produced, by using contours lines, quoted points, drainage, geomorphological, slope, soil, geologic and land use and vegetal cover maps.

The most aquifer recharge favourable areas are situated in the CCP, where the Grande Colorado Village (GCV), considered as urban area, and the Lago Oeste Rural Nucleus (LORN), with partial loss of rural characteristics, both with no public water supply and sewage treatment.

Between 1973 and 2002 its noticeable the very favourable areas reduction and the disfavourable areas growing, in both cases around 3 %.

The distribution pattern analysis of deep wells and non-septic tanks in LORN, by kernel density estimator, provided the location of lowering and contamination water table monitoring areas.

Finally, the permanent preservation (PPA) and environmental restriction (ERA) areas maps was made by integrating drainage, cliff, plateau border, and hill top PPA with spring and groundwater protection ERA, that together occupy, approximately, 70 % of the Cafuringa EPA total area.

The results of this work may contribute significantly to specific zoning plans of the Cafuringa EPA and protection of superficial and groundwater resources, especially at CCP, since environmental restrictions are respected by the involved community in a participative way and effective surveillance by environmental public institutions.

Passos, C.M. 2005. Mineralogic, micromorphologic and geochemical characterization of phosphatic phase of organo-phosphatic compounds obtained by the Humifert process. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2067

2005

Date of presentation: 12/4/2005

Camila Maria Passos

Advisor(s): Toledo, M.C.M.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Queiroz Neto, J.V. 2005. Taxonomy, palaeoecology and biostratigraphic correlation of non-marine ostracodes of the Morro do Chaves Member, Coqueiro Seco Formation, Eoaptian, Alagoas Basin, Northeastern of Brazil. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Taxonomy, Palaeoecology, Ostracods, Alagoas basin

Instituto de Geociências - Universidade de Brasília

Reference: m195

DataBase Ref.: 2482

2005

Date of presentation: 12/5/2005

João Vilar de Queiroz Neto

Advisor(s): Do Carmo, D.A.

Committee:

Edi Mendes Guimarães

- IG/UnB

Dimas Dias Brito

- IGCE/UNESP

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

The Alagoas basin, during the Jiquiá Age, from late barremian to early aptian, was the place of depositional setting related to the rift phase. Studying ostracodes from Morro dos Chaves Member, Atol quarry, eight species were identified: *Cypridea africana* (Krömmelbein, 1965b), *Cypridea* sp. 1, *Harbinia*? Sp. 1, *Petrobrasias* sp. 1, *Petrobrasias* sp. 2, *Petrobrasias* sp. 3, *Reconcavona* sp. 1 and *Darwinula* sp. 1. The *Cypridea africana* species was revised and redescribed. The genera *Petrobrasias* Krömmelbein, 1965a and *Reconcavona* Krömmelbein, 1962, after the revision of all their species, had diagnosis modified. The autochthonous occurrences of *Cypridea africana* and *Petrobrasias* sp. 1 permit to correlate the section with Zone 008 sensu Schaller (1969). Integrating biostratigraphic data based on previous works focused on Jiquiá Stage, in the Alagoas basin, it is assumed that *Cypridea africana* and *Petrobrasias* n. sp. 1 only occurred together during the early aptian. However, in the Alagoas basin, *C. africana* appears in the upper Barremian, before *Petrobrasias* n. sp. 1 which appears in the lower Aptian. In this basin Barremian-Aptian limit is marked by the *Theriosymocum* p. *postangularis* extinction. Based on these ranges, the section herein studied can be dated as eoaptian. The sediments deposited in the Gabon basin, coevals to the Jiquiá Stage based on ostracods species, from the upper Barremian to the lower Aptian, belongs to the zones AS-10 and AS-11. Considering that all recovered species are restricted to non marine genera, as well as based on their occurrences in shale and calcareous layers, it is possible to infer a lacustrine paleoenvironment to the deposition of the Atol quarry sedimentary sequence. The deposition occurred in a water body that shows evidence of variable salinity, pH and thickness of the water column.

Ribeiro, M.N.C. 2005. Spectral study of manganese laterites and its application on the images processing of the AVIRIS sensor. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Aviris, Integral Spectral Analysis, Minimum Noise Fraction, Pixel Purity Index, pirolusite

Instituto de Geociências - Universidade de Brasília

Reference: M192

DataBase Ref.: 1975

2005

Date of presentation: 4/2/2005

Múcio Nobre da Costa Ribeiro

Advisor(s): Meneses, P.R.

Committee:

Edi Mendes Guimarães

- IG/UnB

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: GO 1/1,000,000 sheet:

SD23

Centroid of the area: ' - 'W

Abstract

The objective of this work is to present results obtained from laboratory spectral data analysis correlated with digital analyses of an AVIRIS image acquired by JPL/NASA in August 1995. It covered part of a manganese-mineralized region of the São João D'Aliaça area in Goiás, Brazil.

The mineral substances studied are the result of an intense process of diagenesis, weathering and laterization of rocks contained in a sedimentary mega-sequence on the passive margins belonging to the Paranoá Group of the Superior Precambrian age that promoted the supergenic enrichment of manganese on the pelitic rocks in dozens of deposits throughout the region.

One of these deposits – called “Mina Extrema”, included in an AVIRIS image – was chosen as the principle target of studies. Laboratory analyses for different lateritic materials were consisted of spectro-radiometry measurements, X-ray diffraction and chemical analyses. Lateritic profiles, manganese samples and surface samples were analysed.

The laboratory results confirmed the strong interference of manganese oxide (pyrolusite) in the pattern and in the absorption features of the spectral curves of other minerals that are associated with the mixture of lateritic materials.

Considering the non-existence of an adequate method for the identification and/or demarcation of optic minerals in AVIRIS images, a new method was proposed called Integral's Analysis of the Spectrum (IAS) related to the Separation Index of Low

Reflectance (SILR) for the demarcation of the spectra of low digital value on targets within the hyper-spectral images studied. The results obtained proved the efficiency of the IAS-SILR method, which is one of the applications of the ENVI software of future spectral research into the detailing of mineral targets that are in areas of lateritic mineralization.

Rossin, R. 2005. Speciation of inorganic arsenium in waters by atomic absorption spectrometry linked to hydrates generator. MSc Thesis, Instituto de Geociências - University of Campinas/SP, pp

Instituto de Geociências - Universidade Estadual de Campinas

Reference: 27666

DataBase Ref.: 2061

2005

Date of presentation: 4/3/2005

Ricardo Rossin

Advisor(s): Figueiredo, B.R.

Committee:

Subject of thesis: Metallogenesis

State:

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

Salazar, C.A. 2005. Magnetic fabrics of the Itaóca granitic massif: Ribeira belt, SE Brazil. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2426

2005

Date of presentation:

Carlos Alejandro Salazar

Advisor(s): Archanjo, C.J.

Committee:

Subject of thesis: Mineral Resources and Hydrogeology

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

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'W

Abstract

Salveti, R.A.P. 2005. Depositional systems and paleogeography of the Itararé subgroup (Neopaleozoic of the Paraná Basin), in the region between Itu and Indaiatuba, State of SP. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2322

2005

Date of presentation:

Rodrigo Artur Perino Salvetti

Advisor(s): Santos, P.R.

Committee:

Subject of thesis: Sedimentary Geology

State: SP

1/1,000,000 sheet:

SF23

Centroid of the area:

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'W

Abstract

Seidel, A.M. 2005. Genesis and interpretation of the palaeoclimatic records of the Gruta de Pérolas cave, District of Bauri - Mato Grosso state. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

[stalagmites, paleoclimatology, Holocene, Mato Grosso, Brazil, stochastic analysis](#)

Instituto de Geociências - Universidade de Brasília

Reference: M190

DataBase Ref.: 1973

2005

Date of presentation: 7/1/2005

Alexandre Matos Seidel

Advisor(s): Walde, D.H.G.

Committee:

Roberto Ventura Santos

- IG/UnB

- DG/UFF

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: MT

1/1,000,000 sheet:

Centroid of the area:

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'W

Abstract

Climatological studies are important to help to understand the possible influence of human activities on climate changes. The climatology is rather a new science and historical climatic records are generally too short to answer these questions. Thus the paleoclimatic studies are frequently being used to detect old climate events and to understand if the actual fluctuations are or not part of these events.

In this way, the aim of this study was to determinate if cave concretions from the Pérolas cave (Bauri district, Mato Grosso - Brazil), specially stalagmites, could work as paleoclimatic registers and what kind of climatic fluctuations were registered by these stalagmites.

The Pérolas cave was developed in dolomitic limestones of Araras Formation, from Província Serrana of Paraguai mobile belt. The geomorphological context is karstic with structures generated by chemical intemperism from the limestones. There is a karstic aquifer in place and the cave is located in the epikarstic zone.

The research was made with three stalagmites sampled from different places of the cave and named PER 3, 4 e 5. In order to adjust the paleoclimatic registers from the stalagmites with the actual meteorological registers, climate-monitoring stations were installed inside and outside of the cave. Pressure, temperature and dripping were the parameters monitored inside the cave and pressure, temperature and raining outside.

The stalagmites were analyzed in order to measure the annual growth rates and relate them with climatologic data. It was developed a special program to automate the acquisition of values of thickness from each annual pair of laminae. The temporal calibration was done for only one stalagmite (PER 3), through laminae counting calibrated with some absolute datations (U/Th and 14C).

The couplets thickness time series data were analyzed according temporal analysis series methods, such as: correlation and spectral analysis, and wavelets analysis. The results point to the likelihood of very strong, actual and past, climatological cycle of about 50 years, and demonstrate also the memory of climatic events already registered worldwide such as "Little Ice Age" and "Warm Medieval Period". These last events seem to be time recurrent along a 5,500 years series, which was investigated.

Silva, J. A. 2005. Petrology and geochemistry of migmatitic gneisses of the Atuba, Curitiba complex, State of PR. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

Reference:

DataBase Ref.: 2321

2005

Date of presentation:

Josiane Aline da Silva

Advisor(s): McReath, I.

Committee:

Subject of thesis: Geochemistry and Geotectonics

State: PR

1/1,000,000 sheet:

SG22

Centroid of the area:

' -

'W

Abstract

Teixeira, M.L.A. 2005. Integration of aerogeophysical, geological and isotopic data of the northern limit of the Tamboril Complex- Santa Quitéria – State of Ceará (Borborema Province). MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Borborema Province, Ceará Central, Aerogeophysics; Geochronology

Instituto de Geociências - Universidade de Brasília

Reference: M197

DataBase Ref.: 2335

2005

Date of presentation: 31/10/2005

Marcus Leandro de Andrade Teixeira

Advisor(s): Dantas, E.L.

Committee:

Reinhardt Adolfo Fuck

- IG/UnB

Peter Christian Hackspacker

- IGCE/UNESP

Subject of thesis: Regional Geology

State: CE

1/1,000,000 sheet:

SB24

Centroid of the area:

' -

'W

Abstract

One basic problem in the reconstruction models of Western Gondwana is the location of collisional blocks boundaries, generally characterized by inverse metamorphic nappe systems and ophiolitic sequences related to suture zones. The Ceará Central, in the Borborema Province, NE Brazil, represents one of these limits, formed during convergence and amalgamation of West African, Amazonian and São Francisco Cratons, in the end of the Neoproterozoic.

The study area corresponds to the northern boundary of central portion of the Tamboril - Santa Quitéria complex, between the cities of Santa Quitéria, Varjota and Forquilha. Integration of geologic, aerogeophysical and geochronologic data supporting geologic mapping at scale of 1:50,000, allows recognizing three main units: supracrustal sequence, composed of garnet schist, garnet contend migmatite gneiss and amphibole gneiss; one granitic-migmatitic complex, called Tamboril - Santa Quitéria, characterized by the diatexites and metatexites of granodioritic and monzogranitic composition, tonalite and metagabbro. Low angle shear zones represent the main boundary between the supracrustals and the granitoid complex, and define a northwestern sense of tectonic transport of the nappes. Two large sinistral strike slip shear zones are developed in the area, the N-S Varjota ductile shear zone, and the NW-SE Rio Groaíras brittle fault, in the NE portion of the study area.

The supracrustal sequence is characterized by intercalation of low counts in the K, Th e U channels, with high counts of Th, locally presenting high counts in the three individual channels. Rocks from the Tamboril - Santa Quitéria complex are characterized by high counts in the K channel in the study area, intermediate counts in the Th and U channels, and low counts in the three individual channels occur in the metagabbro in the central portion of the complex. Ordovician granites, in particular the Pajé Suíte, is characterized by elevate counts in the K channel and intermediate counts in the Th and U channels. Fault and fractures of NE and NW are well delimited by vertical derivate images of zero order and total horizontal gradient. All these products mark the main shear zone system in the area, denoted by low magnetic susceptibility of N-S direction and 1 km width.

Isotopic and geochronologic date allow to discriminate different magmatics and deformational episodes that affect the rocks in the region, and to suggest an evolutionary model for the area. The crystallization of igneous bodies of the Tamboril - Santa Quitéria Complex is marked by ages between 630 to 660 Ma, obtained by U-Pb zircon method, in gabbro and diatexite. The migmatization process took place ca 615 Ma with later cooling until 540 Ma. The last event that was register in the area at 460 Ma corresponds to the crystallization ages of the Pajé Suíte. Nd isotopes allow to identify a mixed sources of

Paleoproterozoic and Neoproterozoic ages in both the Tamboril - Santa Quitéria rocks and the supracrustal sequence Neoproterozoic juvenile crust material, indicated by positive values of $\epsilon(\text{Nd})$ in the amphibole gneisses. A dominant Paleoproterozoic source is defined for the Ordovician granites.

Tokutake, L.R. 2005. Biostratigraphy of Calcareous Nanofossils and Stratigraphy of Isotopes (C e O) of the medium continental slope, Quaternary, northern part of Campos Basin, State of Espírito Santo. MSc Thesis - Universidade Federal do Rio Grande do Sul. Instituto de Geociências. Porto Alegre, RS - Brazil, 2005. [96 pp.] 41 illust.

Stratigraphy; Quaternary; Campos Basin; Biostratigraphy; Calcareous nanofossils; Stable isotopes; Espírito Santo state

Instituto de Geociências - Universidade Federal do Rio Grande do Sul

Reference:

DataBase Ref.: 2337 2005 Date of presentation: 21/12/2005

Lucio Riogi Tokutake Advisor(s): Lemos, V.B.

Committee: Luiz José Tomazelli - IG/UFRGS
 Rogério Loureiro Antunes -
 Karen Badaraco Costa -

Subject of thesis: Stratigraphy

State: ES 1/1,000,000 sheet: Centroid of the area: 21 12 's - 40 00 'W

Abstract

The Campos Basin north portion, in the south coast of Espírito Santo state is almost unknown and was not studied enough, specially the Quaternary in deep water. It was chosen two cores middle slope cores in this area. Samples were collected in these cores for Calcareous Nanofossils Biostratigraphy and Stable Isotopes (Carbon and Oxygen).

Calcareous Nanofossils results shows that the *Emiliana huxleyi* acme base is located at 73 kyr BP, instead of what was established previously in tropical region. Calcareous Nanofossils data shows an absolut predominance of *Emiliana huxleyi* and *Gephyrocapsa* spp.

Stable Isotopes reveals an excelent correlation with models, allowing a good comparison with the oxygen isotopic stages. The *E. huxleyi* acme base is located at the limit between isotopic stages 4 and 5. The correlation between *E. Huxleyi* relative abundance and $\delta^{18}\text{O}$, indicating paleotemperature affected the taxa abundance.

The Carbon Stable Isotopic data shows a good correlation between abundance variations of the genus *Gephyrocapsa*. Both indicates variation of nutrients availability. It is possible to conclude that occurred periods of eutrophy and oligotrophy in that area, caused by the aport of continental nutrient rich sediment. It is possible to suppose that Itabapoana Turbiditic System, which is now inactive, feeded the area with continental nutrients in the past.

As this study is limmited in area, it was not possible to confirm is the the *Emiliana huxleyi* acme base delay is a regional event, or if is a local effect of continental nutrients carried by the Itabapoana Turbiditic System, wich allowed the *Gephyrocapsa* genus abundance had continued for a while in this area.

Alvarez, M.C.A. 2006. Gold mineralizations in the Almas-Dianópolis terrain, Tocantins State: Guides to Mineral Exploration. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Almas-Dianópolis, greenstone, gold, mineral prospection

Instituto de Geociências - Universidade de Brasília

Reference: M214

DataBase Ref.: 2521 2006 Date of presentation: 17/11/2006

Maria Cecilia Artica Alvarez Advisor(s): Kuyumjian, R.M.

Committee: Adalene Moreira Silva - IG/UnB
 Raimundo Almeida Filho - INPE

Subject of thesis: Prospection and Economic Geology

State: TO 1/1,000,000 sheet: SC23 Centroid of the area: ' - 'W

Abstract

The distribution of the main gold occurrences and deposits of the Almas-Dianópolis Terrain (TAD), firstly evinced by recognition prospecting in drainage sediments, is controlled by N35°-50°W/N40°-60°E shear zones and, less frequently, by NS-shear zones. Gold essentially occurs in quartz veins bordered by albitic, argilic and sericitic alterations associated with granitic host rock, and carbonate, chloritic, sericitic and subducted biotitic and turmalinitic alterations in banded iron formation. The geotectonic environment is that of an island arc bearing an intense TTG-type magmatism during its evolution, generating gold in local quartz veins of fault intersections or controlled by ancillary fractures in shear zones. The predominance of greenschist facies hydrothermal alteration minerals and of iron sulphide (pyrite and pyrrhotite), the magnitude of the Au/Ag ratio in gold grains, are compatible with orogenic lode gold type deposits. TAD mineralizations have been probably formed during a metallogenetic event associated with Transamazonian Orogeny in the Brasília Belt, with Brasiliano remobilization. More probably, though, mineralizations have been originated in Neoproterozoic in the western border of the São Francisco craton, during the evolution of the Brasiliano Orogeny.

Araújo, S.F. 2006. Hydrochemistry of phreatic aquifers of the Jardim River basin, Federal District. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Basin of river Jardim, groundwater, agricultural defensives, fertilizers.

Instituto de Geociências - Universidade de Brasília

Reference: M207

DataBase Ref.: 2495 2006 Date of presentation: 2/6/2006

Sandrine Ferraz Araújo Advisor(s): Boaventura, G.R.

Committee: Detlef Hans-Gert Walde - IG/UnB
 Ozelito Possidônio de Amarante -

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

Chemical analysis associated with characteristics of the study area can supply enough information to define the quality of groundwater. The hydrographic basin of river Jardim, DF, has great diversity in soil, groundwater level, lithology, and land use and occupation. Thirty sampling points have been chosen in order to include these characteristics. Sampling period was defined in accordance to the rains seasons: March, period of maximum precipitation; July, after rain season; and October, beginning of rain season. The depth to the water level, trace and major elements, and physical chemistry analysis were conducted. The investigation aimed the identification of places vulnerable to groundwater contamination (wells with near surface water level close, or inside areas of intense agricultural activity); identification of places of no anthropic activity (in order to establish reference values to the chemical analysis); gather information on the main agricultural defensives and soil correctors and evaluate the groundwater quality of the rio Jardim basin. After statistical treatment of the data it was inferred its anthropic nature or not. It was possible to conclude that there is no correlation involving soil, lithology and contamination. The water level it is not a discriminant feature, however, it was observed that aquifers with very shallow water levels are more prone to contamination. The majority of the wells showing parameters with anomalous values is located in agricultural areas showing intense use of nitrate, phosphate, and sulfate based fertilizers. These percolate through the upper soil layers and reach the groundwater level. Some of the wells showing parameters with anomalous values are located in areas with no agricultural activity. The data suggests that these wells may have received some contribution from contaminated waters located up flow.

Della Giustina, C.C. 2006. Evaluation of hydric resources pollution potential based on pluvial waters of urban areas: The case of Paranoá basin – Federal District. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Water quality; Pluvial water, Urban drainage

Instituto de Geociências - Universidade de Brasília

Reference: M204

DataBase Ref.: 2446 2006 Date of presentation: 20/1/2006

Carlos Christian Della Giustina Advisor(s): Campos, J.E.G.

Committee: Geraldo Resende Boaventura - IG/UnB

Nestor Aldo Campana - ENC/UnB

Detlef Hans-Gert Walde - IG/UnB

Subject of thesis: Data Processing in Geology and Environmental Analysis*State:* DF *1/1,000,000 sheet:* SD23 *Centroid of the area:* ' - 'W**Abstract**

The complexity of the subjects related to the environment has demanded an evolution of the knowledge in the several areas of the Environmental Sciences. The evaluation of the environmental impacts generated by potentially pollutant activities is commonly based in theoretical suppositions. The new conceptions about urban pluvial waters destination aim to keep the largest amount of water at the source areas. In this context, the analysis of the pluvial water quality of urban areas assumes fundamental paper in the management of water resources. Water and sediments samples were collected along a rainy season in the Paranoá Lake Basin (Brasília, Federal District, Brazil), with the objective of knowing of the pollution's potential of water resources from urban pluvial effluent. For the sediments study the mineralogical composition, chemistry, inorganic and organic parameters were analyzed. For the water samples chemical and organic parameters were analyzed. The sampling points were defined by different characteristics of urban use and were collected. The results show that two different aspects controls the pollution's potential: the first flow phenomena and the mean concentration of rain events. The samples related to the first flow present concentrations with high potential of contamination in almost all the analyzed parameters. Therefore, the first flush of first precipitation after long dry seasons represents the higher polluting potential. The mean concentrations of the rain events show different behaviors, with low metal concentrations and small values of chemical parameters, except for calcium and nitrate. The calcium derives from the dissolution of aggregate produced by carbonate rocks, used in the asphalt mixture in the Federal District roads. This situation results in alkaline pH values, not favorable for metal dissolution. The nitrate source is the decomposition of the organic matter, such as leaves and animal excrements. The optimization of the urban cleanness before the rainy period can reduce the risks of contamination of the water resources by the first flow phenomena. Environmental education should also be an excellent instrument to minimize the pollutant effect of urban pluvial waters. Composition of pluvial rainwater show that the effluent of the Paranoá Lake Basin can be used for general washing, irrigation and artificial recharge of depths aquifers.

Figueiredo, M.F. 2006. Chemical-stratigraphy of ediacrian rocks from the extreme northern of Paraguai Belt, State of Mato Grosso. MSc Thesis; Institute of Earth Sciences, University of São Paulo, pp

Instituto de Geociências - Universidade de São Paulo

*Reference:**DataBase Ref.:* 2423 **2006** *Date of presentation:***Milene Freitas Figueiredo** *Advisor(s):* Babinski, M.*Committee:**Subject of thesis:* Geochemistry and Geotectonics*State:* MT *1/1,000,000 sheet:* SC21 *Centroid of the area:* ' - 'W**Abstract**

Franco, A.O.B. 2006. Thermochronology by fission tracks in apatite in the region of Ponta Grossa arc, between the Guapiara and São Jerônimo-Curiúva lineaments. MSc Thesis, Institute of Geosciences and Exact Sciences, State University of São Paulo, Rio Claro, pg.

Instituto de Geociências e Ciências Exatas - UNESP

Reference: m127*DataBase Ref.:* 2472 **2006** *Date of presentation:* 27/1/2006**Ana Olivia Barufi Franco** *Advisor(s):* Hackspacker, P.C.*Committee:**Subject of thesis:* Regional Geology*State:* *1/1,000,000 sheet:* SG22 *Centroid of the area:* ' - 'W**Abstract**

The evolution of Ponta Grossa Arch, in southeastern Brazil, during Mesozoic-Cenozoic, seems to be related to the tectono-thermal events related to South Atlantic opening. The use of Apatite fission Track Method, in this region, allowed the recognition of five thermal events, responsible for the formation of this feature, since Cretaceous, which are: Event A – Heating event in 130 Ma, related to the Southeastern Gondwana break-up and the origin of South Atlantic Ocean; Event B – Cooling event in 110 Ma, associated to the shear zones reactivation and/or faults generated during Gondwana break-up; Event C – Heating event in 90 Ma, associated with a regional uplift, interpreted as uplift isotherms, probably as a reflection of Ponta Grossa Arch uplift and correlated sedimentation (Bauru Group ls, in continent and the inferior sequence of Santos Formation, in Santos Basin), and alkaline intrusions; Event D – Cooling event in 60 Ma, correspondent to an erosional event, that formed an extended erosional surface, in this case, Sulamericana Surface, registered both in continental region and in offshore portion (registered as a regional discordance in Santos Basin); Event E – Cooling in 30/20 Ma, related to erosional cycles, tafrogenic basins origin and, locally, alkaline intrusions

Freire, R.C. 2006. Acquisition techniques of geologic data with lidar technology. MSc Thesis nº 54, Programa de Pós-Graduação em Geodinâmica e Geofísica, Universidade Federal do Rio Grande do Norte,

89 p.

Parque Nacional da Serra das Confusões - PI; Parnaíba Basin; LIDAR; Acquisition Techniques; GoCAD; Deterministic Modelling

Departamento de Geologia - Universidade Federal do Rio Grande do Norte

Reference:

DataBase Ref.: 2493 2006 Date of presentation: 16/6/2006

Ronaldo Cavalcante Freire

Advisor(s): Lima Filho, F.P.

Committee: Claudio Pires Florencio - PETROBRÁS
 Ricardo Farias do Amaral - DG/UFRN

Subject of thesis: Geology and Geophysics of Petroleum

State: PI 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

This work presents the results of field surveys realized with modern techniques of digital outcrop mapping and three-dimensional modeling, like emergent technology LIDAR (Light Detection and Ranging) and GPR (Ground Penetrating Radar). The selected outcrop is located in the Parnaíba Basin, in Parque Nacional da Serra das Confusões, Piauí State, Brazil. The main purpose of this work is to present and to evaluate the acquisition techniques of geologic data with LIDAR technology, and to construct a deterministic model with GoCAD software, integrating surface (LIDAR) and subsurface (GPR) data. It is described five of these techniques to work in the field with Laser Scanner: a) Targets System, b) Cloud of points system, c) Topographic points System, d) Unique Scene and e) Alternative Systems. The methodology was segmented in four stages: outcrop selection, surface acquisition (LIDAR), subsurface acquisition with GPR, data integration and 3D modeling. Another survey was done with LIDAR in the Millennium Lyondell company installations in State of Paraíba, with the objective to show other geologic applications of the technology. The LIDAR surveys were done with a HDS 3000 equipment of Leica Geosystem, with support of a Total Station, model Trimble 3305, to locate the bases of Laser Scanner. A Geodesic GPS (RTK Topcon) was used to data georeferencing. The GPR used in surveys was a RAMAC equipment of Mala Geoscience and were acquired profiles with antennas of 100 MHz and 200 MHz. The 3D modeling was realized with two specific softwares: Cyclone 5.2 and GoCAD 2.1. GoCAD integrated the data of Laser Scanner, Total Station and GPR, and constructed the outcrop deterministic model.

Joffily, C.M.L.C. 2006. Descriptive and genetic characterization of the kyanite of Serra das Araras range, Mara Rosa Magmatic Arc. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Kyanite, Kyanitite, Mara Rosa Magmatic Arc, Serra das Araras

Instituto de Geociências - Universidade de Brasília

Reference: M206

DataBase Ref.: 2448 2006 Date of presentation: 19/5/2006

Caroline Meira Lopes de Castro Joffily

Advisor(s): Oliveira, C.G.

Committee: Elton Luiz Dantas - IG/UnB
 Júlio Cezar Mendes - DEGeo/UFOP
 Reinhardt Adolfo Fuck - IG/UnB

Subject of thesis: Prospection and Economic Geology

State: GO 1/1,000,000 sheet: SD22 Centroid of the area: ' - 'W

Abstract

This dissertation presents the results obtained by researches at the kyanite deposits on the Serra das Araras situated at the Mara Rosa Magmatic Arc. It mainly asserts on the control and genesis of the deposit and rocks nearby, besides the chemical and geochemical characterization of kyanite and the total rocks.

The kyanite occurrence is located at the Serra das Araras, northwestern Goiás, between Santa Terezinha de Goiás and Nova Iguaçu de Goiás. It is the widest official kyanite reserve in Brazil which was explored in the 1980's. The topography of ridge (Serra das Araras) is prominent reaching 570 m high, 16km length and width varying from 0,4 to 1,5 km.

The studied area is composed by i) Mara Rosa metavulcano-sedimentary sequence, dominated by pelitic to psamitic metasedimentary rocks; ii) Santa Terezinha metavulcano-sedimentary sequence, dominated by basic and intermediate volcanic rock; iii) acid metaplutonic suites; iv) ortogneiss suite; v) Serra das Araras Unit predominantly formed by kyanitite and kyanite quartzite.

Serra das Araras Unit is associated with its homonym shear zone which was developed during the second deformational phase of the amphibolite facies metamorphism kyanite zone. U-Pb analyses in rutiles extracted from muscovite-kyanite quartzite shows 570,6 ± 5,6 Ma age, considered the indication of metamorphism epoch.

The carrying kyanite rocks are kyanitite, muscovite kyanitite, muscovite-kyanite quartzite and kyanite quartzite, which can be easily found all over the ridge Serra das Araras in the form of boulders and blocks. Kyanite growth can be simultaneously related to processes directly involved to pelitic sedimentary rocks metamorphism under amphibolite facies conditions and to earlier hydrothermal-magmatic alteration of acid intrusive rocks, followed by metamorphism amphibolite facies of aluminous hydrothermal products of advanced alteration stage.

Electronic microscopy analyses shows the kyanite has no deleterious elements (Fe and Ti) which could possibly affect the ore quality as an industry mineral. The geochemistry of the kyanitite total rock attends the standard used for refractory industries, with values of Al₂O₃ between 40 and 60%, and the Fe₂O₃, TiO₂ and alkalis are below 2%.

Melo, S.S.V. 2006. Upper crust Poisson's ratio of the Porangatu area, Goiás, Tocantins Province: a seismic refraction study. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Poisson ratio, seismic refraction, applied geophysics, Goiás Magmatic Arc, Tocantins Province

Instituto de Geociências - Universidade de Brasília

Reference: M203

DataBase Ref.: 2421 2006 Date of presentation: 3/3/2006

Saulo Sampaio Vaz de Melo Advisor(s): Fuck, R.A.

Committee: José Oswaldo de Araújo Filho - IG/UnB
Marcelo Sousa de Assumpção - IGc/USP

Subject of thesis: Regional Geology

State: TO 1/1,000,000 sheet: SD22 Centroid of the area: 14 30 's - 48 50 'W

Abstract

This work presents a refined seismic model of compressional waves (Vp) showing the distribution of Poisson ratio along the upper crust of central Tocantins Province, central Brazil, based on two dimensional modelling of the Porangatu seismic refraction data. The Porangatu seismic line begins in the Araguaia Belt (FXA) and continues through the western portion of the Brasília Belt (FXB), encompassing the Goiás Magmatic Arc (AMG) and the Goiás Massif (GM). The transect is almost E-W and is 320 km long with vertical seismic receptors at every 2.5 km and explosive sources at every 50 km.

The western Tocantins Province presents lateral discontinuities marked by Sm-Nd TDM model ages (Neoproterozoic in the magmatic arc, Paleoproterozoic in the Araguaia Belt and Goiás Massif), and by anomalies identified in airborne magnetic and ground gravimetric surveys. Prominent surface contacts are in Serra Azul, marking the Transbrasiliano Lineament, and the Rio dos Bois fault, which separates the Goiás Magmatic Arc from the Goiás Massif.

Poisson ratio was directly calculated from the ratio of compressional and shear wave velocities (Vp/Vs). It is an elastic constant and its values are function of rock composition, existence of fractures and porosity, allowing to recognize lateral discontinuities in the crust.

The upper crust in the study area is typically felsic with one exception in the uppermost layer. The seismic model presents one surface with two steps: a gentle one at the contact between the Araguaia Belt and the Goiás Magmatic Arc and a steep one over the contact of the Goiás Magmatic Arc and the Goiás Massif. The upper layer in the Araguaia Belt is 3.5 km thick increasing gradually to 4.2 km under the Goiás Magmatic Arc. In the easternmost part of the model, the upper layer displays a 2.3 km step, coinciding at the surface with the Rio dos Bois fault.

Considering Vp and σ values, the upper crustal layer is divided in to eight sections from west to east. The sections are described as: i) Araguaia Belt with Vp=5,95 km/s and σ =0,26; ii) Transbrasiliano Lineament terrains have Vp=6,02 km/s and σ =0,24; iii) eastern Goiás magmatic terrains with Vp=6,11 and σ =0,23; iv) mafic body with Vp=7,05 km/s and σ =0,28; v) Rio dos Bois fault terrains and metasedimentary sequence of Serra da Mesa Group with Vp=4,59 km/s and σ =0,12; vi) Serra Dourada batholit with Vp=5,77 km/s and σ =0,22; vii) Cana Brava layered complex and Palmeirópolis volcanosedimentary sequence with Vp=6,42 km/s and σ =0,27; viii) fold-and-thrust belt of the Brasília Belt with Vp=5,82 km/s and σ =0,21.

The second layer is more homogeneous presenting Vp=6,14-6,18 km/s and σ =0,24, which indicates felsic basement, probably of the granite-granodiorite type.

Neyra, A.F.M. 2006. Characterization of the geological structures and evaluation of the resistance to the shearing of the discontinuities in the Tintaya copper mining, Peru. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Characterization, discontinuities, strength, shear

Instituto de Geociências - Universidade de Brasília

Reference: M208

DataBase Ref.: 2494 2006 Date of presentation: 6/6/2006

Arturo Fausto Maldonado Neyra Advisor(s): Araújo Filho, J.O.

Committee: Paulo Roberto Meneses - IG/UnB
Noris Costa Diniz - ENC/UnB
Raul Minas Kuyumjian - IG/UnB

Subject of thesis: Regional Geology

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

In the south of Peru, the Tintaya Mining district is located on the southwest side of the eastern Andean Range, where there are many copper skarn deposits, one of them is Tintaya where mining operations are being developed nowadays which is the focus of this research work. Within the geological context, both in the district area and in the mining operations area, there are identified lithological sedimentary and igneous units whose ages are within the Cretaceous period until the quaternary period and fragile and ductile geological structures with geometrical and kinematic characteristics that identified with complex structural history. In this stage were defined four major lithological structural domains, and it was stated, based on the interpretation of baselines and structural mappings of the district area and surroundings, that there exists a replication of the structural patterns of faults, folds and joints going from the regional district scale to the detail scale of the mine with the following outstanding patterns: NNW – NW and NS because of being typical from folds and associated thrusts and the NE and ~EW patterns as typical fragile structures, however, there also occurs fragile structures in the NW and NS trends and also EW orientation folds in the area. All this leads to the conclusion that geological history should include at least four deformation phases according with the Andean evolution. By another side within the geotechnical context, inside the mining area, the lithological units and the structural geology make up different domains; in which are slopes stability problems recognized with a high structural control. These antecedents led to the development of geotechnical mappings based on the System – Q description (Barton, et al., 1974) allowing to state, through

stereographic and statistical analysis, the families of discontinuities (joints, faults and beddings), and also to define the geomechanical characteristics of each family and its influence on the stability of the slopes which was evaluated by a simple kinematic analysis (Goodman, 1989). Thus in the characterization it is defined in a generic way that the joints occur as very persistent and frequent sub-vertical surfaces with closed soft flat walls. The beddings occur with considerable persistency and moderated frequency with its slightly closed smooth walls show soft material fills. Faults occur with considerable persistency and have striated surfaces and big crushed rock fills. Besides these conclusions, the kinematic analysis revealed that the stratification planes do not have influence on the slopes stability but the joints and faults can produce usual failures in the different domains of the mine. This thesis ends with the shear strength estimation of the discontinuities which is based on the geomechanical characterization, some tilt tests and strength values suggested by geotechnical literature. In this estimation are the friction angles for each rock unit determined and are shear strength envelope for each type of discontinuity proposed, which means a very important contribution for future slope stability analysis in Tintaya.

Oliveira, I.C.S. 2006. The use of spatial analysis in the process of terrain integration, meteorological conditions and enemy (PITCI) of the Brazilian Army. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

military terrain study, spatial analysis, terrain, meteorological conditions and enemy integration process (PITCI), geographic information system (GIS), digital image processing, map of restricted areas for troop movement.

Instituto de Geociências - Universidade de Brasília

Reference: M211

DataBase Ref.: 2513 2006 Date of presentation: 5/10/2006

Ivan Carlos Soares de Oliveira Advisor(s): Meneses, P.R.

Committee: Henrique Llacer Roig -

Subject of thesis: Data Processing in Geology and Environmental Analysis

State: 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The search for information, including the spatial information, is essential for the planning and execution of the military operations. The extent of the military operation to be executed is supported by the knowledge about the opponent forces, about the terrain and about the meteorological conditions.

The execution of the Intelligence activity in the military operations aims the production of essential knowledge to the conduction of operational missions. In a peace time it is necessary to form an important data base for each possible use of the Army, according to the existing conflict hypothesis.

The operation area analysis is divided into three distinct phases: the study of the characteristics of terrain, weather and enemy. This work covers the first two: terrain and weather, being the area of study the Instruction Field of Formosa (CIF), of the Brazilian Army, in the Goiás State, on the east of Distrito Federal.

A Geographic Information System (GIS) was built with the objective of realizing the spatial modeling of the environment where a troop can be employed, through different geographic and thematic data, like soil, vegetation and hydrographic data, among others, with the objective of improving the necessary support for decision, following the Terrain, Meteorological Conditions and Enemy Integration Process (PITCI), inside a hypothetical Situation Study.

The methodology used was developed in three fundamental phases: building the vector geographic data base, digital processing of remote sensing satellite images and spatial analysis. The main results of this work are the organization of data base concerning the area of study and the drawing of the map of Restricted Areas for Troop Movement.

Santos, M.H.L. 2006. Processing, leveling and integration of aerogeophysical magnetometric surveys in the State of Minas Gerais and their contribution to geology in the southern portion of the São Francisco craton. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

airborne geophysical surveys, magnetometry, Integration, Cráton São Francisco

Instituto de Geociências - Universidade de Brasília

Reference: M210

DataBase Ref.: 2524 2006 Date of presentation: 29/9/2006

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Subject of thesis: Applied geophysics

State: MG 1/1,000,000 sheet: Centroid of the area: ' - 'W

Abstract

The main purposes of this master dissertation were directed to processing, leveling and integrate several magnetic airborne geophysical surveys, acquired in State of Minas Gerais. These surveys were correlated with the available geological data to define the magnetic-structural framework of south portion of São Francisco craton.

The data processing consisted in control quality, spatial data distribution evaluation and magnetic field intensity consistency analysis, through the use of the fourth order difference operator applied to flight lines records. A series of efficiency tests were used to define the bi-directional line gridding with trend angle the best interpolation procedure. The decorrugation - using the micro-leveling technique - was used to remove residual errors left by the usual leveling of the grid.

To the leveling and integration of the several blocks of data from the Brazil-Germany Geophysical Agreement (CGBA) flown during the 70's, covering most of the State of Minas Gerais and portions of State of Espírito Santo, a series of techniques were

applied in order to achieve an efficient result. The task revealed laborious due to the lack of continuity among 59 data blocks, obtained with different flight heights, 2 km line spacing and east-west direction.

The visualization of the continuity of major magnetic structures, obtained by the integration of 4 (four) higher density airborne surveys flown in the center-southwest portion of the State of Minas Gerais, considered CGBA as a background reference.

Rio das Velhas Project (RV), Gems of Minas Gerais – Itabira/Ferros Project (IF), and areas 2 and 3 of Minas Gerais Airborne Geophysics Survey Program (PLAMG) were integrated using available procedures of grid knitting (suture, trend removal, and shared points). The evaluation and analysis of parameters and edge relationships among airborne surveys were used to define the best approach to join each pair of data block.

Linear transformations of the magnetic total field (amplitude and inclination of the analytical signal, vertical derivative, and horizontal gradient) were efficient in helping with the definition of geophysical discontinuities and magnetic sources associated with geological units.

Regarding CGBA, magnetic domains were interpreted as large regional blocks. These units were correlated with the mapped regional geology, allowing nomination of domains.

The integration of the other surveys, more modern and with higher data density (line spacing of 250 m and 500 m), allowed a more detailed correlation with mapped regional geology. The obtained results showed an excellent correlation between geophysical units and known geology. The interpretation of magnetic linear features revealed a large amount of structures not recorded in the present geological cartography. This happened with a swarm of mafic dikes, as well.

The magnetic framework when integrated with the mapped geology lead to the visualization of regional tectonic blocks and the main shear zones present in the area. The main results are associated with the tectonic compartmentation of the south portion of São Francisco Craton, with the limits of Mineiro Belt and Araçuaí Belt.

The correlation of geophysical information with mapped geology in the Quadrilátero Ferrífero region showed the structure of the most important folds, especially those associated with itabirite bodies of the Caue formation (Itabira Group). Important to recognize the correlation observed between Quadrilátero mines and iron deposits with crest of the local magnetic relief.

Santos, V.T.M. 2006. Application of Digital Classification of Orbital Images in the Land Usage Mapping. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

Land use and land cover, Remote Sensing, Digital Classification of Orbital Images

Instituto de Geociências - Universidade de Brasília

Reference: M205

DataBase Ref.: 2447 2006 Date of presentation: 27/4/2006

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Subject of thesis: Data Processing in Geology and Environmental Analysis

State: DF 1/1,000,000 sheet: SD23 Centroid of the area: ' - 'W

Abstract

The mapping of land use and land cover is an efficient instrument of support to the planning and the order of the territory, in the measure that portrays the dynamics of the forms of occupation and organization of the space. Diverse mappings had been carried through in our country, with the use of diverse methodologies and the creation of varied systems of classification of land use and land cover, in function of the specific necessities of each producing institution. This study presents the development of a methodology standard for the production of mappings of land use and land cover, based in the technique of digital classification of orbital images objects-oriented. A new system of hierarchic classification for the mapping of land use and land cover was developed for the selected area of study, the Area of Ambient Protection Gama Cabeça-de-Veadão, in the Distrito Federal. This new system of classification presents five levels and was based on consecrated hierarchic structures already: of program CORINE land cover and of the project the Land Use of Foundation IBGE. Orbital images of satellites LANDSAT7, for the mappings in scales 1:250.000 and 1:100.000, SPOT5 for scale 1:50.000 and the images of satellite QUICKBIRD II, for scale 1:25.000, had been used. For the technique of digital classification of orbital images objects-oriented, the existing bucket sort in applicatory SPRING 4.2 was used, of the INPE. Works and verifications in field, the use of partner-economic data and available documentation in diverse Institutions, it complemented the development of the cited mappings. Results of this research had shown that how much bigger the mapping scale, consequently bigger the legend of the use and cover of the land, more necessary e if becomes the use of information auxiliary added to the data of Remote Sensing.

Silva, H.H.A.B. 2006. Mineralogic characterization and affiliation of vermiculite from the Cerrado III Mine - Sanclerlândia- State of Goiás. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

vermiculite; hydrothermal alteration; amphiboles; mafic-ultramafic rocks; X-Ray Diffraction

Instituto de Geociências - Universidade de Brasília

Reference: M213

DataBase Ref.: 2522 2006 Date of presentation: 11/10/2006

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Subject of thesis: Mineralogy and Petrology

State: GO 1/1,000,000 sheet: SE22 Centroid of the area: ' - 'W

Abstract

This study presents the characterization of the vermiculite of the ultramafic ore body of Cerrado III. It's an elliptical shape body, of 300 x 150m wide, with main orientation NW-SE that have been emplaced in biotite-hornblende gneisses of the Granite-Gnaissic Complex during the Neoproterozoic. The Cerrado III ore body occurs in the region of São Luís de Montes Belos and Sancerlândia Counties, in the southern part of Serra Dourada Arc; western area of São Luís de Montes Belos fault and western part of the Mafic-Ultramafic Complexes of Mangabal I and II. As the other small mafic-ultramafic bodies known in this region, the Cerrado III body belongs to the Mafic-Ultramafic Suite of Americano do Brasil, a member of the Magmatic Arc of Goiás. The weathering profile goes down to 12 meters and is composed by typical minerals as kaolinite and illite, as well as hidrobiotite. The water table varies around 20 m depth where the rocks are unconsolidated and the ore can be mined by mechanic ways. Below this level the hardness of the rock makes the ore extraction unfeasible, although the mineralization continues in the hard rock. The main object of this study is the characterization of the vermiculite of the ore body Cerrado III, its way of occurrence, associated lithologic types, the vermiculite association and its dressing behavior. The study methodology was carried out with samples of different stages of the Industrial Dressing Plant, as well as several ones from the open pit mine in different times. These samples were investigated by geochemistry of rocks and pure vermiculite, x-ray diffraction, as well as optical and electronic microscopy. This characterization pointed to the identification of two ore types, and their classification was chosen by their mineral assembly as well as their original igneous rock type: hornblende hydrothermal pyroxenite and hydrothermal peridotite. This study pointed out the following hydrothermal associations' evidences for the vermiculite after amphibole alteration. The main evidences are: mineralization occurring only in the border of the ultramafic body; lack of a rim with biotite concentration in the host rock, to be used as the source of the vermiculite; the shape of the basal sections of the vermiculite, maintaining the habit and cleavages of the original mafic mineral; presence of preserved fine spindle-shaped bodies of exsolved ilmenite following the original mafic mineral cleavages directions; lack of micaceous minerals in the XRD analysis; K content usually lower than 0,05%; mineral association of well preserved olivine, carbonate, talc, amphibole and vermiculite in depths even below the water table (20 m); presence of high grade vermiculite mineralization down to 32 m, in hard rock, until where the investigation was possible.

Silveira, A.L.Z.P. 2006. Study of the alkali-aggregate reactions in carbonatic rocks. MSc Thesis, Institute of Geosciences, University of Brasília, pg.

carbonate rocks; reactive potentiality; alkali-silica reaction; alkali-silicate reaction; alkali-carbonate reaction

Instituto de Geociências - Universidade de Brasília

Reference: M209

DataBase Ref.: 2496

2006

Date of presentation: 28/7/2006

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Subject of thesis: Mineralogy and Petrology

State: 1/1,000,000 sheet:

Centroid of the area: ' - 'W

Abstract

Alkali-aggregate reaction is a chemical process where some of the mineralogical compounds of the aggregate react with the alkaline hydroxides (from cement, mixing water, aggregates, pozzolan, external agents, etc.) that are dissolved in the solution of the concrete pores.

This dissertation emphasizes the specific Alkali-Carbonate Reaction (ACR) theme, which is still not largely studied in Brazil, but also studies some other common reactions at the concrete, as alkali-silica and alkali-silicate.

Six different types of carbonatic rocks were studied. The characterization methods were: petrographic analysis; X-ray powder diffraction; scanning electronic microscopy and chemical analysis. In order to investigate the reactive behavior of the rocks, they were essayed after ASTM C - 586/92, ASTM C-1105/95, ASTM C - 1260/01 and AAR 23.26-A. The concrete prisms, ASTM C-1105/95, were molded with the same composition of a specific dam concrete that was built 30 years ago with carbonatic aggregates. All these cement composites were analyzed by the same techniques used for the carbonatic aggregates.

This research showed that when dedolomitization takes place in a reaction, some new mineral phases can be formed. These were identified as calcite and brucite or a magnesium silicate with more complex structure and chemical composition. The laboratory essays showed that there were two different mineral sources of magnesium: dolomite and antigorite.

Another conclusion was that the rocks that were potentially reactive to the ACR usually showed texture of a fine clay calcitic matrix with dolomite rhombohedra and quartz. Some unexpected results pointed out the necessity of several macro and micro characteristics of the rocks occurring simultaneously in order to promote the ACR. In this research some of the typical samples for the ACR didn't react, at the same time that non-typical ones did react.

Some of the observed macroscopic features indicating ACR are: fracturing in equidimensional fragments and reaction rims. Microscopic indicatives are reaction rims and micro fracturing, as well as carbonate, magnesium oxide and magnesium silicate neoformation.

This research showed that one can notice the ACR by monitoring the consumed amount of dolomite and by the production of calcite in the samples essayed in expansion tests. This study also showed that carbonatic rocks can also contribute to the alkali-silicate reaction because they have silicates in their composition which can react and transform to new ones.