1 - INTRODUCTION

1.1 - OBJECTIVE

The follow present report has an objective to describe the accomplished works in offices and fields for the geologic and economic description of the area referring to the Entre Rios Project of the Cone Mine Exploration. This work has a main goal elaborate an evaluation of the iron ore reserves in the area of the process, quantifying and qualifying them with accuracy.

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1.2 – MINERAL LEGISLATION IN BRAZIL

The laws that conduct the mining activities in Brazil established that the subsoil belongs to the federal government. That way, activities of prospection, exploration and exploitation just are possible with the government authorization through of its department DNPM (National Department of Mineral Production).

Each process of mineral exploration is evaluated by the DNPM based in technique criteria and the authorizations are granted in two stages: Exploration License and The Mine Work Concession. The authorization holder of DNPM has full and exclusive rights about the work execution, as well about the commercialization of the area.

1.3 – MINING IN BRAZIL

Brazil stands out worldwide as one of the main producers of the minerals goods.

The mining industry in Brazil has a highest technology level and technique, being forward of a several obtained innovations in this area in the last decades.

In all regions of the country exists an extensive web of education for the formation of professional that attempt to the mining's demand. The high workforce qualification, together to good infra-structure and low productive cost becomes the mining in Brazil object of a great interest by the part of the foreign and national investors.

Brazil is the second bigger producer of the iron ore (approximately 20% of worldwide production) and the third bigger producer of bauxite (approximately 13% of the worldwide production). Data of the IBRAM (Brazilian Institute of Mining) presented that in 2008 the Brazilian mineral sector employed 161 thousand people in the mine work activity and the value of the commercialized national production was US$ 29 billion.

Adding the commercialized rude ore production to the production of the sector of mineral transformation, the mining of Brazil generated in 2008 US$ 42 billion, what represents 5.7% of the GDP. The positive scene reflects in the investments of the sector that are foreseen in US$ 47 billion between 2009 and 2013.

1.4 – IRON ORE IN THE IRON QUADRANGLE

The worldwide iron ore reserves (measure + indicated) are in the order of 310 billion of tons. Brazil has 6,7% of this reserves (21,0 billion tons) and it is in a 5th place between the countries which have the biggest volumes of the ore. However the high grade of iron in its ore (60,0 to 67,0% in hematite and 50,0 to 60,0% in the itabiritos) takes Brazil to occupy the place of prominence in the worldwide scene, in terms of iron contained in the ore. 70% of the Brazilian reserves can find in the state of Minas Gerais (198 million tons), being the big part of these are in the iron quadrangle, traditional region in the extraction of this mineral goods. The region of the Iron quadrangle, had importants itabirítico and hematítico iron ore deposits of high grade (Fe > 60%).

Image 1 - Iron Ore from the Iron quadrangle

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1.4.1 – Stratigraphy

	RECENT SEDIMENTARY COVERAGE		
PROTEROZOIC	**ESPINHAÇO SUPERGROUP**	Conselheiro Mata Group	Cambotas Formation
	Itacolomi Group		
	MINAS SUPERGROUP	Piracicaba Group	Sabará Formation
			Barreiro Formation
			Taboões Formation
			Fecho do Funil Formation
			Cercadinho Formation
		Itabira Group	Gandarela Formation
			Cauê Formation
		Caraça Group	Batatal Formation
			Moeda Formation
		Tamanduá Group	
ARCHAEAN	**RIO DAS VELHAS SUPERGROUP**	Maquiné Group	Casa Forte Formation
			Palmital Formation
		Nova Lima Group	Schist meta-sedimentary and metavolcanic
		Quebra-Osso Group	Metavolcanic mafic-ultramafic Association
	GRANITE-GNEISSIC-ARCHAEAN TERRAIN		

Table 1 - Simplified Stratigraphic Column of the Iron Quadrangle - CPRM

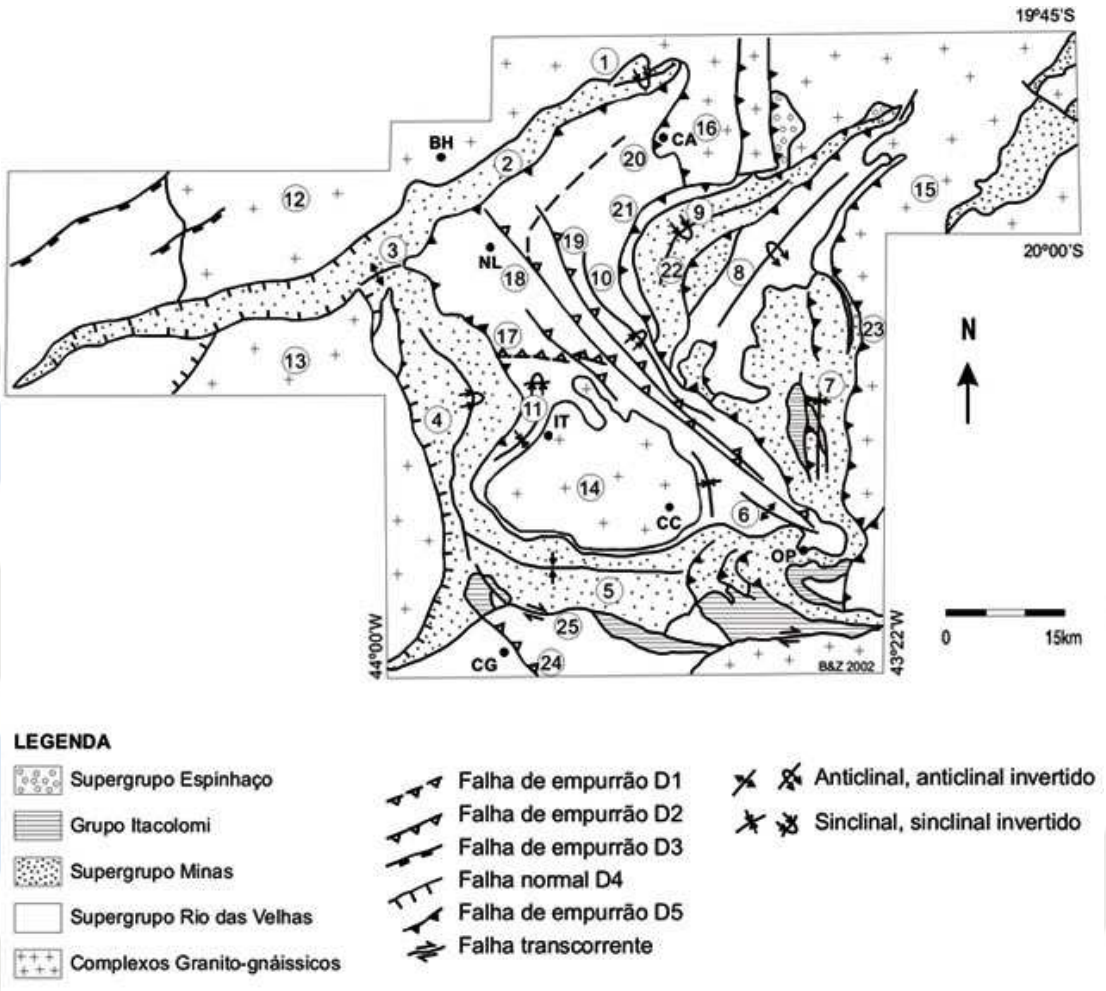

Image 2 - Structural Map of the Iron Quadrangle - CPRM

Subtitles: Fold: 1 - Syncline Piedade, 2 - Homocline Serra do Curral, 3 - Anticline Serra do Curral, 4 - Moeda Sincline, 5 - Dom Bosco Sincline, 6 - Mariana Anticline, 7 - Syncline Santa Rita, 8 - Anticline Conceição, 9 - Syncline Gandarela, 10 - Syncline Vargem do Lima, 11 – Andaimes Syncline. Granite-gneiss Complex: 12 - Belo Horizonte, 13 - Bonfim, 14 - Bação, 15 - Santa Bárbara, 16 - Caeté. Falhas: 17-Bem-Te-Vi, 18 - São Vicente, 19 - Raposos, 20 - Caeté, 21 - Cambotas, 22 - Fundão, 23 - Água Quente, 24 - Congonhas, 25 - Engenho. Cidades: BH - Belo Horizonte, CC - Cachoeira do Campo, IT - Itabirito, NL - Nova Lima, CA - Caeté, CG - Congonhas, OP - Ouro Preto.

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1.4.2 – Basic Geology of the Iron Quadrangle

The crystalline basement of the Iron Quadrangle is compound by the gneissic metamorphic complex denominated of Bonfim Complex and Moeda Complex (west side of the Serra da Moeda), Congonhas Complex (to southwest of Iron Quadrangle); Santa Rita Complex (to southwest of the Ouro Branco Mountain Range); Caeté Complex (to east of the Caeté City); Belo Horizonte Complex (to the north of the Serra do Curral); Santa Bárbara Complex (to the east of the Caraça Mountain Range) and Bação Complex (which it is in the center of the Iron Quadrangle).

Geocronological Analyses in rocks' samples by some of these complexes, revealed ages of 2,9-3,2 Ga. And also, two generations of plutons for the Neoarchaean: 2,78-2,77 Ga. (calcium alkaline plutons) and 2,73-2,62 Ga. (granites anorogenic).

Rio das Velhas Supergroup

The ages between 2,776 Ga. and 2,857 Ga. allows say that the Rio das Velhas Supergroup along with the plutonic rocks represents a typical terrain granite-greenstone of the Archaean.

The metavolcanic and metasedimentary rocks form the Rio das Velhas Supergroup, subdividing in two groups (Nova Lima (base) and Maquiné (top)). The Maquiné Group divides in two formations:

- Palmital Formation (base); compound by quartz sericite, quartz phyllite and phyllite.

- Casa Forte Formation; compound by quartz sericite, chloritic, schists and phyllite.

The Nova Lima Group represents a sequence of a “greenstone belt” type subdividing in three units, from the bottom to the top:

- Metavolcanic Unit; compound by serpentine, steatite, Talc-schists, amphibolites metamorphosed, metabasalt and metatuffs, besides of komatiites with spinifex structure.

- Chemistry Metasedimentary Unity, represented by carbonetic schists, metacherts, banded iron formation and phyllites:

- Clastic Metasedimentary Unity, represented by quartz-schists, quartz phyllites, impure quartzite and meta-conglomerates.

Minas Supergroup

The Minas Supergroup is subdividing from the base to the top in the Tamanduá, Caraça, Itabira and Piracicaba Group.

The Tamanduá Group is represented by a set of by a set of quartzite, phyllite, quartz and clay shists, itabirites phyllite and dolomite, conglomerates and coarse quartzite.

The Group Caraça is compound by the Caraça quartzite (Moeda Formation) and Batatal schists (Batatal Formation)

- Moeda Formation represented by conglomerates and coarse quartzite of fluvial origin and fine quartzite and phyllites by transitional-marine origin.

- Batatal Formation; constituted by phyllites sericites, graphitic and locally this formation can presents chloritic and carbonate sediments, being that in the superior part can be seen fine layers of chert and hematite.

The Itabira Group divides in two formations, from the base to the top:

- Cauê Formation; predominatly represented by a iron formation of lake superior kind and subordinate by dolomiticos and amphibolitics itabiritos with small phyllites lenses and marl and some manganiferous horizons.

- Gandarela Formation; compound by layers of carbonate rocks represented by dolomite and subordinate by itabiritos, dolomitic phyllites and phyllites.

The Piracicaba Group divides in five formations, from the base to the top:

- Cercadinho Formation; represented by ferruginous quartzite, ferruginous phyllite, phyllite, quartzite and small interpolated of dolomite;

- Fecho do Funil Formation: represented by dolomitic phyllite, phyllite and impure dolomite;

- Taboões Formation: represented by fine and massive quartzite;

- Barreiro Formation: represented by phyllite and graphitic phyllite;

-Sabará Formation: represented by phyllite, chlorite-schist, greywacke and locally tuffs and cherts.

Itacolomi Group

The Itacolomi Group is represented by quartzite, conglomeratic quartzite and lenses of conglomerate with pebbles of itabirito, phyllite, quartzite and vein quartzite, deposited in coastal and deltaic environment.

1.4.3 – Itabiritos of the Iron Quadrangle

The Itabiritos are compound by iron rich bands (mainly hematite and magnetite) interpolated with quartz and/or dolomite rich bands (*BIF- banded iron formations*). The high grade iron ore are mainly compound by hematite, being used directly in blast furnace, as granulated ore.

The area of the process is in the boundaries of Entre Rio de Minas and Desterro de Entre Rios Counties. The region became recent aim of intense exploration, as it is next to the railway network and exists expectative of iron's grade high of 60%, similar to the ones from the east region, where several mining activities are already active.

1.4.4 – Nearest Mining

The area of the Entre Rios Project is around 50 km of the Casa de Pedra mine, belongs to CSN and the region represents the main aim of the new prospections in the southwest portion of the Iron Quadrangle.

Adjacent to the area and for a huge extension, the miner Vale developed the exploration of the iron ore.

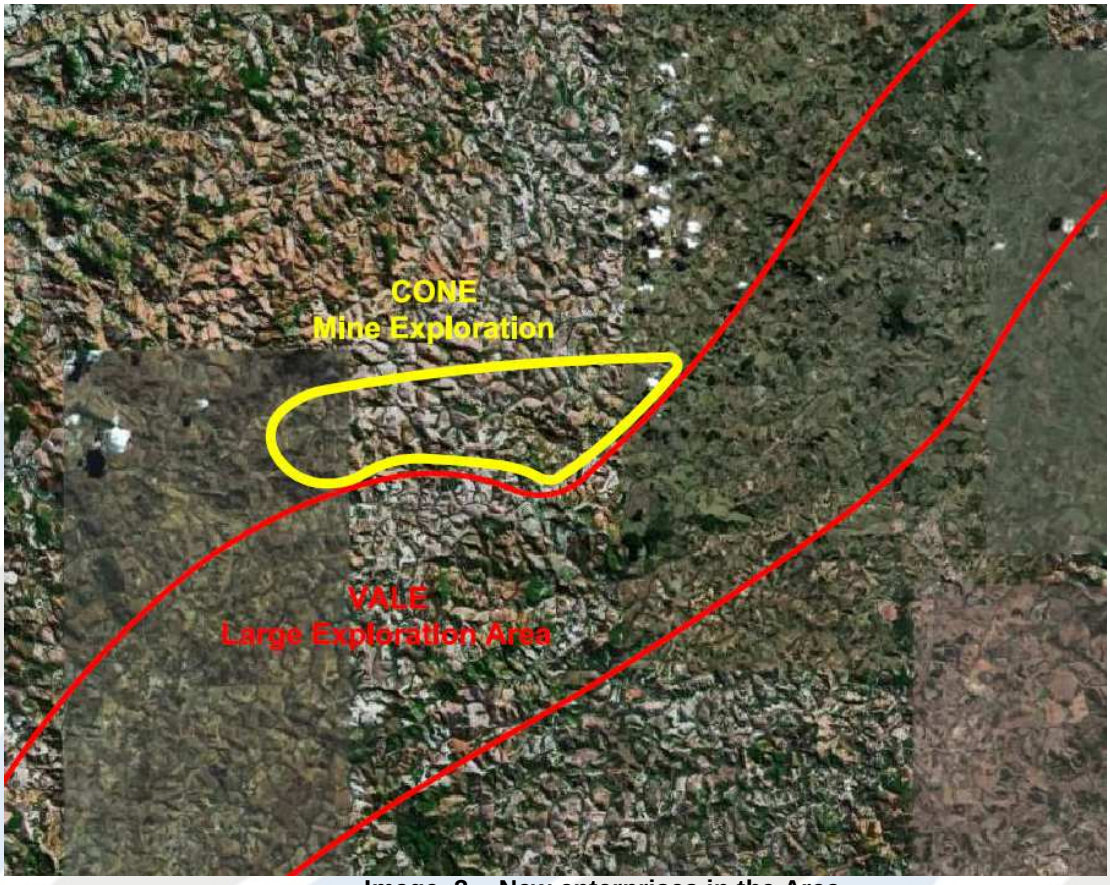

Image 3 - New enterprises in the Area

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1.5 – ALLOCATION

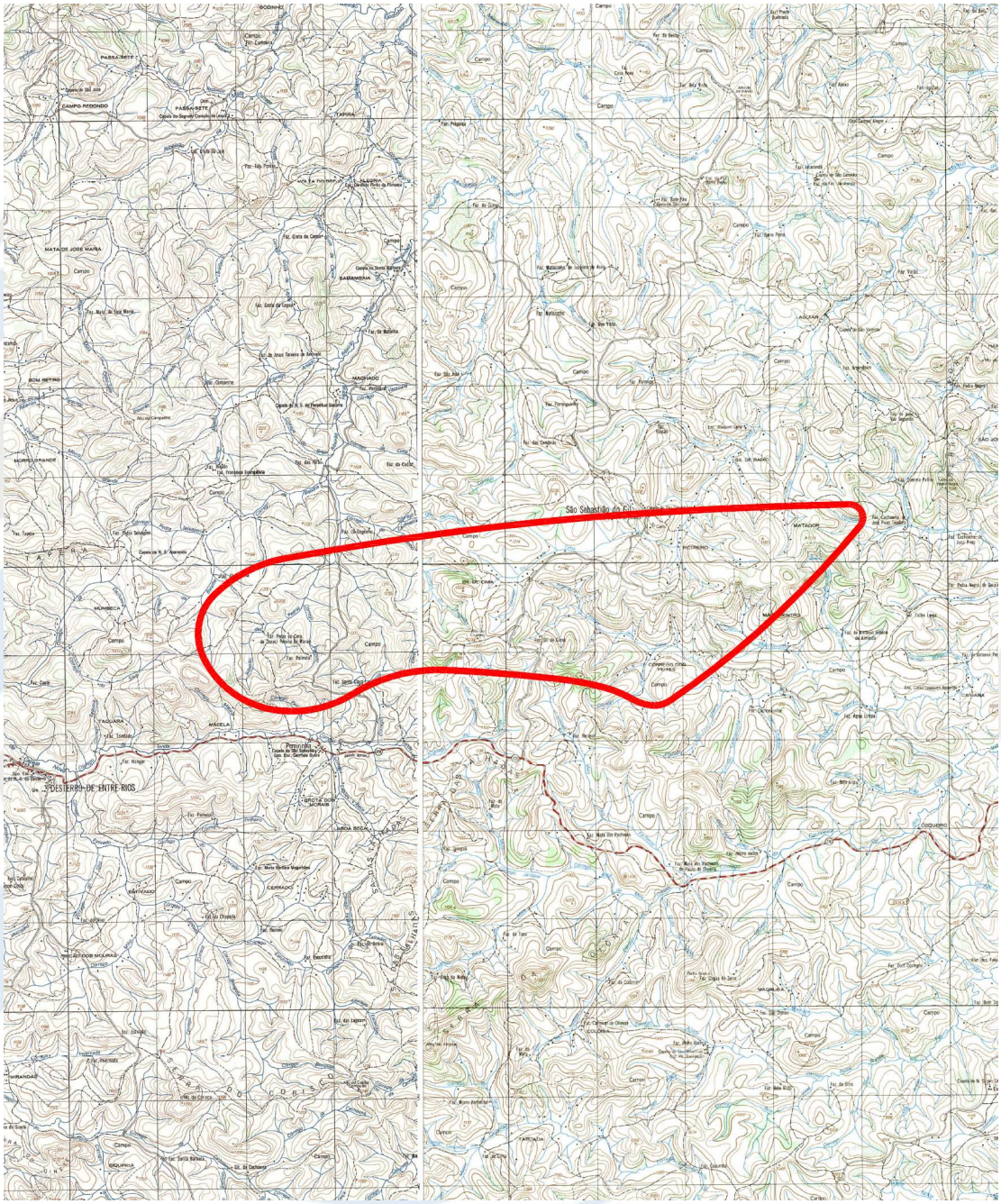

Image 4 - Allocation (Base – IBGE)

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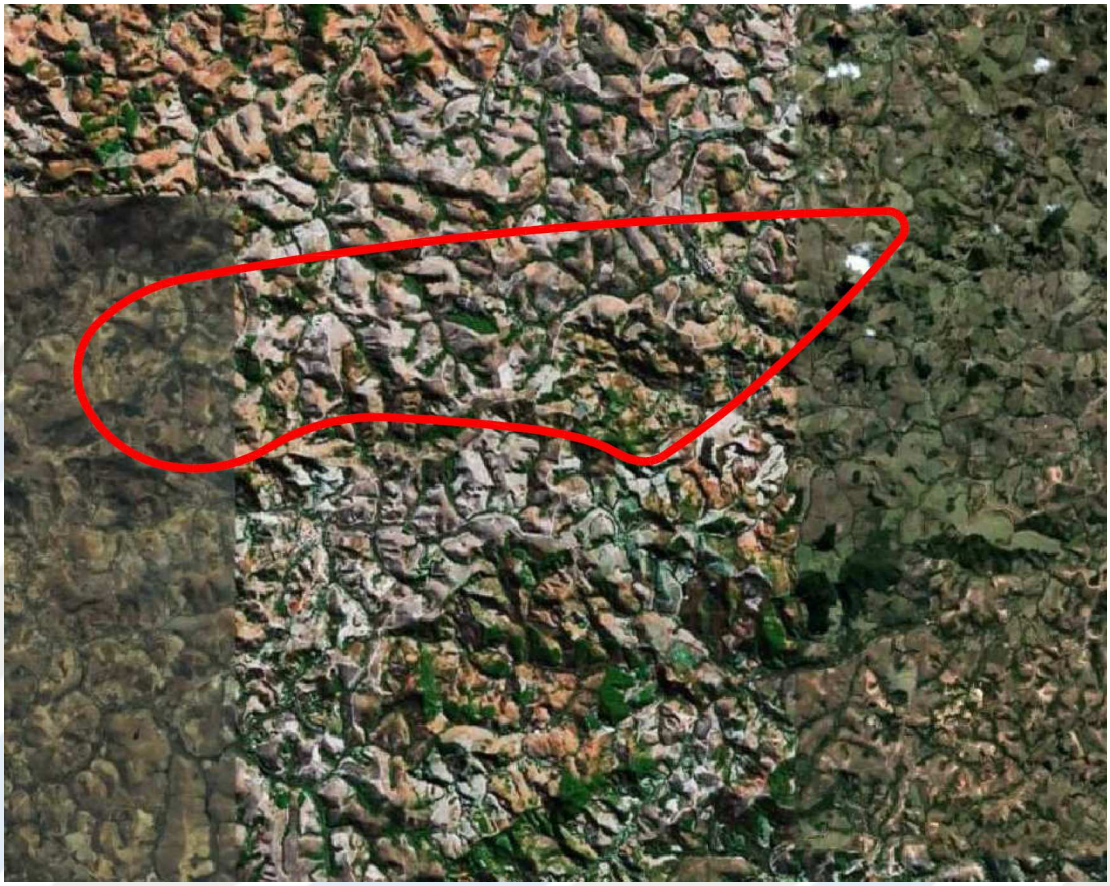

Image 5 - Allocation

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1.6 – DESTERRO DE ENTRE RIOS COUNTY

1.6.1. Characterization

Allocation: CENTRAL

Área: 376,97 Km2

Altitude:

maximum: 1290 m
place: Morro do Corisco
minimum: 1080 m
place: Foz Corrego Bate Pau
Central point of the city: 1060 m

Temperature:

Average annual: 19,9 C
Maximum average annual: 26,3 C
Minimum average annual: 15,2 C

Average Annual Rainfall: 1597,6 mm

Relief:

Topography: %
Flat: 15
Wavy: 70
Mountainous: 15

Main Rivers:

RIO PARA
RIBEIRAO DA CAPELA NOVA

Bay: RIO SAO FRANCISCO BAY

Sources: Institute of Applied Geosciences - IGA
Brazilian Institute of Geography and and Statistics - IBGE

Boundaries Counties:

PIEDADE DOS GERAIS

PIRACEMA

PASSA TEMPO

RESENDE COSTA

ENTRE RIOS DE MINAS

JECEABA

1.6.2. Population

Population Resident

1970,1980,1991,2000,2005

YEARS	URBAN	RURAL	TOTAL
1970	1.131	5.972	7.103
1980	1.935	5.401	7.336
1991	2.431	4.394	6.825
2000	3.035	3.767	6.802
2005(1)			6.796

Source: Brazilian Institute of Geography and Statistics - (IBGE)
(1) Preliminary Data

1.7 – THE ENTRE RIOS DE MINAS COUNTY

1.7.1. Characterization

Allocation: CENTRAL

Area: 457,31 Km2

Altitude:

Maximum: 1283 m
Place: Serra da Colonia
Minimum: 950 m
Place: Foz do Rio Brumado

Central point of the city: 960 m

Temperature:

Average annual: 19,4 C
Maximum average annual: 26,3 C
Minimum average annual: 15,2 C

Average Annual Rainfall: 1597,6 mm

Relief:

Topography	%
Flat:	15
Wavy:	60
Mountainous:	25

Main Rivers:

RIO CAMAPUA
RIO FALEIROS
RIO BRUMADO

Bay: BAY OF RIO SAO FRANCISCO

Sources: Institute of Applied Geosciences - IGA
Brazilian Institute of Geography and and Statistics - IBGE

Boundaries Counties::

JECEABA

DESTERRO DE ENTRE RIOS

RESENDE COSTA

LAGOA DOURADA

CASA GRANDE

QUELUZITA

SAO BRAS DO SUACUI

1.7.2. Population

Population Resident

1970,1980,1991,2000,2005

YEARS	URBAN	RURAL	TOTAL
1970	3.674	6.642	10.316

1980	6.841	6.110	12.951
1991	6.902	5.353	12.255
2000	8.362	4.715	13.077
2005(1)			13.652

Source: Brazilian Institute of Geography and Statistics - (IBGE)
(1) Preliminary Data

2 – LOGISTIC AND ACCESSIBILITY

2.1 – HOW TO ARRIVE

Take BR-040 towards to Congonhas in a trajectory of approximately 74 km. Turn to the right in Murtinho's interchange (in the Joaquim Murtinho District) and go through BR-383 around 28 km. Turn to the right in the highway MG-270 and follow for more 20 km up to the area of the process.

2.2– MAIN HIGHWAYS OF ACCESS

The main access routes to the area of the process are made through the BR – 040, BR -383 and MG-270.

2.3 – AIRPORT

The main airport next to the area of the process is the Tancredo Neves International Airport, located in the Confins County – MG, metropolitan region of Belo Horizonte, in a trajectory of approximately 176 km up to the area. Another important airport present in Belo Horizonte is the Pampulha Airport, which was considered an international airport before the transference of its activities to the Tancredo Neves International Airport. Nowadays Pampulha operates just the regional flights. This airport is located about 146 km of distance to the area of the process, being its access by the Tancredo Neves International Airport route, through BR-040.

Another important airport next to the area is the airport of Conselheiro Lafaiete (Bandeirinhas Airport), which operates just the regional flights. The Bandeirinhas airport is located around 63 km of the area of the process.

Image 6 - Partial View of the Tancredo Neves International Airport

2.4 – RAILROADS

The most near railways is the MRS logistic, that connect the state of Minas Gerais to some mainly brazilian ports as of Rio de Janeiro, Guaíba and Itaguaí, and the Railway Vitória-Minas (EFVM), under the responsibility of the Vale do Rio Doce that leak the large part of iron ore from the state of Minas Gerais up to Tubarão port in Espírito Santo.

There is also at the local access to the Railway Centro-Atlântica (FCA) operated by Vale and the Railway Steel operated by MRS, both connecting the region to Rio de Janeiro.

2.4.1 Railway Steel

The railway steel presents around 70% of the whole production of the MRS Logistic. It is an important axis for the cycle of the ore trains connecting the

Jeceaba County to the Barra Mansa County, in Rio de Janeiro, being this via is used mainly to the declivity of the loaded trains. Besides the ore, also pass through general load trains, but these ones with lesser frequency, machines and vehicle of service. From the Barra Mansa County, in Rio de Janeiro, the load is rearranged through the railroad system of the MRS logistic up to the Itaguaí port, main port passing by the Volta Redonda, Barra do Piraí, Japerí and Brisamar Counties. The area of the process is far from the Steel railroad, in Jeceaba, approximately 34 km, being its access made by vicinal roads that lead to the County.

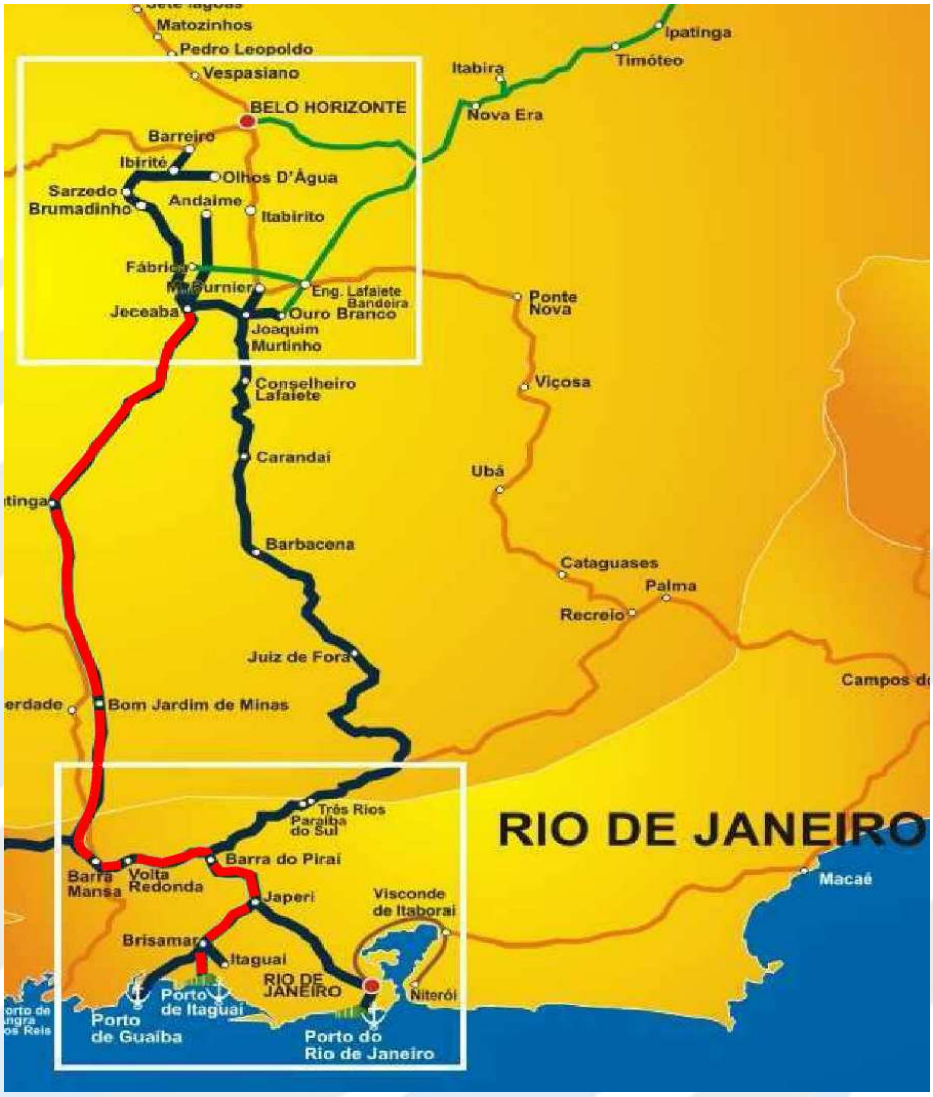

Image 7 - Coverage of the railway network, trajectory up to the Itaguaí Port.

LINK: http://www.mrs.com.br/ingles/index.php

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2.5 – PORTS

2.5.1 Port of Itaguaí – RJ

The port of Itaguaí, situated at 553 km of distance (railway line) of the load terminal of Sarzedo, present an area of 10 million square meters by flat area, a channel of access with up to 20m by depth and ranks of docking in sheltered waters, with industrial logistic infrastructure and technology in telecommunication and supply, multimodal accesses and facilities of transports. Itaguaí port will offer immediately cost reduction for the user in an international level of productivity. The Itaguaí Port, modernized to follow the competitiveness of the national and international port trade, will be the 1st HUB PORT of the South Atlantic. In a distance of 500 km are located productive agents responsible by the formation around 70% of the Brazilian GDP (Gross Domestic Product). It is a singular port between the Brazilian and Latin-American ports. With competitive physics characteristic, have a maritime access to receive big and updated ships above of 6.000 TEUs.

Terminal of Ore – To assist the crescent demand of its ore, the Vale do Rio Doce Company is developing in the Itaguaí Port an investment of US$ 120 million dollars. With that it will be enable to export, in the future, from 15 to 20 million tons of iron ore. In the future it will assist ships with up to 230 thousand DWT, in a pier with depth of 18,7m. Its modern equipments allow the ship's loading in a rate up to 10 thousand tons/hour. For the second stage, after additional dredging for 20 meters of depth, the Terminal of Ore Exportation will load super bulkers with up to 230.000 DWT, so assisting the tendency prevailed

in the transoceanic trade of the bulks. Through the MRS railroad capable to move up to 70 million tons of iron ore per year.

The MRS has exclusive access to the terminal of the Itaguaí Port, among them the Sepetiba Tecon (Containers), CSN Tecar (Bulks) and CPBS - CVRD (Iron Ore Exportation).

Image 8 - Partial View of the Itaguaí Port.

2.5.2 BRAZORE – Port Terminal in the Sepetiba Bay - RJ

An Adriana Resources Inc. through its subsidiary in Brazil, the BRAZORE, is developing an iron ore port in the Brazilian coast, which will operate initially with a capacity of twenty million tons per year with prevision of expansion to the fifty million tons through the development of the deep sea port terminal.

The port area is located 70 kilometers west-bound Rio de Janeiro in the Sepetiba Bay in Brazilian coast, and have direct access to the extensive railway and transportation network. The property consists in 857.575 square meters of low area in the east of Itacuruça Channel. The MRS Logistic Railway passes through the northen edge of the property. The Highway BR-101 runs parallel to the railway, and the Highway RJ-14 runs next to the western side of the property. The Ingussu River forms the eastern boundary and a smaller river called Rio do Papai runs through the property near the western boundary.

The port potential building should start in 2009, and should take from 18 to 24 months to be ready. The fast-start installation will consist of railway wagon receiving, storage, recovery and equipment of barge loading. The iron ore will be loaded in a transfer barge Seabulk of shallow draft “lighters” which will carry and load it directly on the oceanic vessels employees in the transport and maritime trade of iron ore. This transshipment will occur in a deeply place approximately distant 8 nautical miles from the port. With the processed quantity increase, the installation of the terminal will be expanded and will become more efficient with addition of collector forklift stacker-reclaimers and a second anchorage for loading. The maritime capacity will be expanded and will become efficient with the integration of storage floating and transfer vessel permanently anchored near the coast

Image 9 - Illustration of the transshipment vessel.

Competitive Advantage

- The port site is located 70 kilometers west-bound Rio de Janeiro in the Sepetiba Bay in Brazilian coast, and have direct access to the extensive railway and transportation network.
- The port will provide access to the global steel market for the iron producers and minimized the bottleneck in the iron ore exportation in Brazil.
- Strategic partners ArcelorMittal, Worldlink Resources Ltd and Athena Resources LLC.
- Opportunity to determine the strategic working relations with significant number of independently iron mines, and also with deposit of iron ore and mines acquires recently by big mining company, with or without port limited access.
- The urbanization, globalization and industrialization in China, Índia and others emerging countries indicates the needs to expand the capacity of the iron ore exportation.

- The Iron Quadrangle, located in the Minas Gerais States in Brazil, provides access to some of the largest iron coal bed unexplored in the world.

The Company is evaluating iron ore projects in Brazil, especially in Minas Gerais with a view to obtaining participation on this project of the iron ore or mine development, being the increase of the metals demand, specifically iron ore, in countries that are developing as China and India has created some of the best infrastructure in the last years.

The opportunity of infrastructure in Brazil to the independent iron ore port, become an excellent opportunity to capitalize the restricted market of the many small and medium iron ore producers located in the Minas Gerais State.

Image 10 - Proposed place for anchorage of the transshipment vessel.

Link : http://www.adrianaresources.com/splash/

2.5.3 LLX – Southeast Port– RJ

The Southeast Port is a privative terminal of mixing use located in the Itaguaí County, Sepetiba Bay, Rio de Janeiro, next to the public port of Itaguaí.

With a depth of 20 meters, the Southeast Port will be able to receive ships capesize, and will be used for shipment of iron ore.

With an internal area of 52,1 hectares, the Southeast Port will shelter court to stockage and handling of iron ore with storage capacity of 25 million of tons per year (mtpa), in a first phase, may expanding its capacity to 50 million (mtpa) in a 2nd phase. The LLX have already got the previous environmental license for 2 cradles with total of 50 millions tons per year.

Image 11 - Artistic Conception of the port in operation

With a privileged allocation, the Southeast Port will going to benefit of the infra-structure of terrestrial and maritime access already existent. Its integration with railroad MRS (MRS Logistic S.A) will allow that the Southeast Port attend some of the main miners regions located in Minas Gerais. Besides that its connection with the future Anel Rodoviário of Rio de Janeiro will allow an easy access to the metropolitans region of Rio de Janeiro and São Paulo.

The Southeast Port will start the operations around the second semester of 2011, with the goal to accomplish the iron ore loading proceeding from the State of Minas Gerais of the MMX Southeast mines and of the other independent miners, than exploring its contiguous privileged condition to the Sepetiba Port. In the first phase, the project will have 1 cradle of mooring, which may, in the second phase, reach 2 cradles of mooring with capacity of 50 million tons per year.

Link: http://www.llx.com.br

3 – COSTS

3.1 EXPLORATION

To defining the economic possibilities of the area to explore, will be accomplished the necessary works of prospection that will consist, in the beginning of the following listed steps. However, having the currently existing data, these can not be considered as definitive.

3.1.1 Base-Map Elaboration

The cartographic base to the programming, register and analysis of the exploratory work will be obtained by the restitution of the air photograph, available at 1:40.000 and 1:20.000 in recent images.

The plan will have scale 1:10.000, adjusted with field topographical control and spaced level curves in 5 m

3.1.2. Opening and Conservation of Roads

The field exploration implantation should be preceded of recovery works and improvements in the stream bed of the secondary roads that cut the area, opening of new routes, in order to facilitate the access to the distant places.

3.1.3. Geologic Mapping 1: 10.000

It is essential the execution of the basic geological mapping, aiming at to the identification and cartography of the levels potentially mineralized, as noted above. So, the whole lithological suite in the area should be identified petrographically, with delimitation as accurate as possible from the contacts of the marked units.

The accurate definition of contacts, and petrographic characterization of the emerging lithology, may eventually require the opening of the trenches, in order to expose the rocky substratum to the geologist observation.

The resulting geological map, as mentioned previously, should be presented at scale 1:10.000. To it will be integrated obtained information posteriorly, during the exploration with the execution of trenches, boring and galleries.

3.1.4. Geophysical Prospection

Intend to accomplished a geophysical prospection in the area, conciliating two geophysical methods, as seismic and resistivity, aiming at to detect possible anomalies that become into target for the investigation work in subsurface, posteriorly.

3.1.5. Digging

It will be executed exploration's digging, aiming at to obtaining information of sub-surface and to propitiate the exposition of the mineralized bodies for the description of the points and posterior sample collection.

Opted by the execution of the trenches (or "pipe") and galleries to the characteristics' determination of the mineralized bodies, once that these ones present partially emerging and in an area of difficult access and mechanical equipment.

The trenches will be directed perpendicularly to the layers' direction. The digging will be made with manual tools, as pickaxes and shovel. To the execution of the service will be contracted the local workforce.

The works will be following by the responsable technician.

3.1.6. Boring

From the analysis of the obtained data in the geologic mapping, will be leased some orificies of borehole, comprehended in three stages. In the end of each boring stage, an evaluation will be made, aiming at to the taking a decision as for the continuity of the exploration.

It is expected, in the three stages a boring with continuous coring. The works will be contracted with specialized companies.

The description of the testimony will include the petrographic aspects, stratigraphic and structural. The intervals will have maximum length of 1,5m, eventually extended to 2,0 m in the portions confessedly sterile.

3.1.7. Chemical Analysis

The chemical analysis will be executed in a specialized laboratory and will include the grades of Fe, FeO, Mn, SiO_2, Al_2O_3, CaO, MgO, TiO_2, S, P and others elements traces.

3.1.8. Technological Assays

It will be sending samples of ore for the execution of the technological assays in specialized laboratory that include granulometry analyses and the following tests:

- Tumbling Iso
- Crepitation Coisrmj
- RDI Coisrmj
- Reduction JIS M 8713
- Midrex Linder Test
- Sulphur Release

These tests propitiated the verification of the material adequacy to the use in siderurgy, consisting of an evaluation for use in blast-furnace and for use in process of direct reduction.

3.1.9. Final Report

Completed the exploration, the final report will be in charge of the petitioner's technician team, under the technician responsibility of the works' chief geologist and bunched the whole list of the executed activity, the methodology and the reached results. It should be conclusive as to the reserves existence, its dimensions and the ore characterization, and will have all the elements indispensable to the technician, business and politics decisions which will be followed.

3.1.10. Budget

It is considerer on this study the reference Exchange rate as being US$1.00 = R$1,85

For the execution of the exploration works described above, it is esteem a total cost of **US$ 1,231,700.00**.

3.2 MINE WORK AND PROCESSING

The cost with the mine work of iron ore for monthly production estimate in 250.000 tons and its respective processing are presented as follow:

3.2.1. Production Datas (Monthly Estimates)

					Production rate	
Mines' extraction	9	h/day	26	day/month	**1068**	**t/hour**
Processing	9	h/day	26	day/month	**855**	**t/hour**

Monthly Production of the Extracted Ore = 250.000 tons

Monthly Production of the Processed Ore = 200.000 tons

*P.S..: Considering a recovery of 80% in the process.

Considering the relation sterile/ore = 2/1

3.2.2 Cost of the Mine work (Monthly Estimates)

Cut and ROM Load (R$1,00/t) = R$ 250.000,00

ROM Transport = R$ 200.000,00

Drilling and Dismounting = R$ 250.000,00

Road Maintenance = R$ 100.000,00

Sterile Transport (R$0,50/t) = R$ 250.000,00

Cut and Load of Sterile (R$0,50/t) = R$ 250.000,00

General Expenses = R$ 87.500,00

Unit Cost = R$ 5,55 / ton (US$ 3.00)

MONTHLY TOTAL (USD) = US$ 750,000.00

3.2.3 Cost of the Processing (Monthly Estimates)

Material/Maintenance = R$300.000,00

Crusher Feeding = R$150.000,00

Electric Energy = R$ 150.000,00

General Expenses = R$ 100.000,00

Quality Control = R$40.000,00

Unit Cost = R$ 3,70 (US$ 2.00) / ton of product

MONTHLY TOTAL (USD) = US$ 400,000.00

3.3 ROAD TRANSPORT

The considered road transport is in relation to the distance between the area and the terminal of MRS in Jeceaba. The estimative base is about R$0,1875/km/ton of sinter in dump trucks of 30 tons.

Mine-terminal distance: 34km

Unit Cost = R$ 6,38 (US$ 3.45) / ton

MONTHLY TOTAL (USD) = US$ 689,189.19

3.4 STORAGE AND LOADING – LOAD TERMINAL

The whole receiving, weighing, handling, storage, transshipment and loading, besides the whole relative documentation to these operations, will be making in the Load Terminal of Sarzedo. So for a monthly estimate, we have:

Unit Cost = R$ 10,17 (US$ 5.50) / ton

MONTHLY TOTAL (USD) = US$ 1,100,000.00

3.5 RAILROAD TRANSPORT

The railroad transport will be making by the iron train of the MRS Logistic up to the destination port.

Unit Cost = R$ 37,00 (US$ 20.00) / ton

MONTHLY TOTAL (USD) = US$ 4,000,000.00

3.6 PORT

The port costs involve unloading, stockage and loading in ships. The estimated average cost for ports in Rio de Janeiro is about R$27,75/ton of sinter-feed ore.

Unit Cost = R$ 27,75 (US$ 15.00) / ton

MONTHLY TOTAL (USD) = US$3,000,000.00

4 – ECONOMIC POTENTIAL OF THE ENTERPRISE

Verifying the exploration positive result according to the accomplished estimates, the enterprise will make possible the commercialization of the ore FOB (Rio de Janeiro) to the monthly cost of **US$ 9,939,189.19** to 200 thousand commercialized tons. Considering an extra US$10.00/ton for additional costs, this give us a FOB cost of **US$59.70/ton.**

This represents a rude profit potential of **US$25.30/**commercialized **ton,** equivalent of **42% of a profit over the total cost** of the productive chain.

Consideration: Exchange: US$1.00 = R$1,85 and sale's value of the ore = US$ 85.00)

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