

# Alex Rezende de Souza Dias

## Geologist Engineer



### Profession

Geologist Engineer

### Education

B.S. Geological Engineering, School of Mines of the Federal University of Ouro Preto - UFOP, 1993.

M.S. Geotechnical Engineering, Rock Mechanics, University of São Paulo – USP, 1996. Theme: Slope Stability in Pico Iron Mine - MBR.

Lato Sensu Postgraduate. Environmental Sciences, University of Franca - UNIFRAN, 2000. Theme: The Mining and the Environment.

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### Specialization

- Implementation and/or Assessment of Mineral Exploration and Development Projects including Logistics, Drilling, Geology, Industry Best Practices, and QA/QC Methods;
- Resource Estimation and Reporting using Accepted Geostatistical Methods, Internationally Accepted Reporting Standards, and the Most Up-to-Date Technology;
- Large experience in Mine Planning, Mine Geology, Geotechnical and Hydrogeology Studies.
- Management of Due Diligence and Audits Projects involving Multiple Consultants/Firms;
- Conceptual and Pre-Feasibility Studies in
- NI43-101/JORC Technical Reporting;
- Advanced proficiency in AutoCAD and ArcGIS Software, and
- Advanced proficiency in Datamine Software.

### Expertise

Alex Rezende has a solid career in mining, initiated after the graduation in Geological Engineering with the completion of a Master in Geotechnical Engineering and thesis developed in Slope Stability in Pico Iron Ore Mine – MBR Company. More than 20 years developing activities in the areas of Mineral Exploration, Mine Planning, Mine Geology, Geotechnical Engineering, QA/QC and Minerals Project Development, having gone through major companies of mineral sector, such as Companhia Vale do Rio Doce (VALE) Votorantim Cement, Votorantim New Business, LGA and Manabi, participating in large projects of Iron Ore, Manganese, Nickel, Bauxite, Phosphate, Coal, Copper, Potassium, Limestone, Kaolin, Clays, etc., in Brazil and other countries, such as Chile, Peru, Mozambique, Saudi Arabia, Australia, Canada and the United States.

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### Employment

**Sep/11 - Jan 15**

Manabi S.A, General Manager of Geology and Mineral Resources, Morro do Pilar Iron Ore Project, Minas Gerais, Brazil.

**Jan/10 - Aug/11**

LGA Mineração e Siderurgia Ltda., Mineral Exploration Manager, Iron Ore projects in the states of Minas Gerais, Rio Grande do Norte and Pará, Brazil.

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<b>Mar/09 - Dec/09</b>	Mineração Usiminas S.A (MUSA), Consultant in Mineral Research, Resource and Reserves Evaluation and QA/QC, Serra Azul Project, Minas Gerais, Brazil.
<b>Aug/07 - Feb/09</b>	Votorantim New Business (Venture Capital of Votorantim Group), Mineral Exploration Manager, Iron Ore and Nickel projects in the states of Minas Gerais and Tocantins, Brazil.
<b>Aug/04 - Aug/07</b>	Companhia Vale do Rio Doce (VALE), Master Geologist of Technical and Economic Evaluation of Project in Brazil and other countries.
<b>Sep/99 - Aug/04</b>	Votorantim Cement, Mining Planning and Mineral Exploration Engineer in the company's units in Brazil, Canada and USA.
<b>May/99 - Aug/99</b>	Federal University of Minas Gerais, Substitute Teacher in Mine Planning of Mining Engineering. Minas Gerais, Brazil.
<b>Feb/99 - Aug/99</b>	Consultant in Mineral Exploration, Geostatistics, Geotechnical Engineering and Mine Planning using the Vulcan Software in the largest mining companies in Brazil.
<b>Sep/97 - Jan/99</b>	Maptek Brazil, Geologist, Implementation, Technical Support and Consulting of Vulcan Software in important mines of Brazil and Chile.
<b>Dec/96 - Aug/97</b>	Minerconsult Engenharia Ltda., Geologist, Mineral Exploration and Mine Geology in the Carajás Iron Project, Pará, Brazil.

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**Languages**                      Portuguese, English, and Spanish.

### Key Experience: Mineral Exploration

The experience includes:

- **Manabi S.A.**
  - Management of Mineral Exploration in Morro do Pilar and Morro Escuro Iron Ore Projects, in the state of Minas Gerais, Brazil.
  - Management in execution of 100,000 meters of Diamond Core Drilling and related work in Morro do Pilar Project, state of Minas Gerais, Brazil.: Licensing, Openings Squares and Access, Descriptions, Sampling, QA/QC, etc.
- **LGA Mineração e Siderurgia Ltda.**
  - Management of Mineral Exploration in Iron Ore Projects, in the states of Minas Gerais, Rio Grande do Norte and Pará, Brazil.
- **Votorantim New Business.**
  - Management of Mineral Exploration in Vale do Rio Pardo Iron Ore Project and Cipó Nickel Project, in the states of Minas Gerais and Tocantins, Brazil.
  - Management of Mineral Exploration in Geophysical Targets in the states of Bahia, Goiás, Mato Grosso, Mato Grosso do Sul, Tocantins and Pará, Brazil.
- **Companhia Vale do Rio Doce (VALE).**
  - Coordination of Mineral Exploration in Limestone North/Northeast Projects - Identification of limestone deposits for use in steelmaking (BAO STEEL).
  - Coordination of Mineral Exploration and Diamond Core Drilling in Phosphate Project Bayovar (Peru).

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- **Votorantim Cement.**
  - Coordination of Mineral Exploration in Limestone and Clays Projects in the states of Minas Gerais, São Paulo, Mato Grosso, Rio Grande do Norte and Sergipe. Brazil.
- **Companhia Vale do Rio Doce (VALE - Carajás).**
  - Participation in Mineral Exploration team of N5 Iron Ore Project in the Serra dos Carajás, state of Pará, Brazil.
  - Supervision of execution of 28,000 meters of Diamond Core Drilling and related work: Planning and Location of Drillholes.
  - Geological Description, Chemical and Geometallurgical Sampling of 28,000 meters of Diamond Core Drilling.
- **Samarco Mineração S.A. (Internship - 6 months/20 hours per week).**
  - Participation in Mineral Exploration of Gold Research in Iron Ore, Alegria Mine, states of Minas Gerais, Brazil. Mapping, Sampling and related work: Database, Statistical Analysis, etc.
- **Sopemi S.A - De Beers Group (Internship).**
  - Participation in Mineral Exploration of Diamond Research in the state of Bahia, Brazil. Campaigns of Current Sediment Sampling and Panning Concentrate.

### Key Experience: Mine planning

The experience includes:

- **LGA Mineração e Siderurgia Ltda.**
  - Mine Planning for Short, Medium and Long Term in Argentina and Nogueira Duarte Mines, Suppliers of Iron Ore for Company in the city of Belo Vale in the state of Minas Gerais, Brazil.
- **Votorantim Cement.**
  - Mine Planning to Short, Medium and Long Term in Limestones and Clays Projects in the states of Minas Gerais, São Paulo, Federal District, Mato Grosso, Mato Grosso do Sul, Paraíba, Rio Grande do Norte, and Sergipe, Brazil and in the International Projects in St. Mary's (Canada) and Suwanne (United States).
- **Maptek Brazil.**
  - Development, Implementation and Consulting in Short, Medium and Long Term Planning using the Vulcan Software for Main Mining Companies in Iron Ore, Limestone and Potassium Mines in the states of Minas Gerais, Pará and Sergipe, Brazil.
- **Companhia Vale do Rio Doce (VALE - Carajás)**
  - Participate in Team of Long Term Mine Planning in N4E, N4W and N5 Iron Ore Mines in the Serra dos Carajás, in state of Pará, Brazil.

### Key Experience: Mine Geology

The experience includes:

- **LGA Mineração e Siderurgia Ltda.**
  - Mine Geologist in the Argentina and Nogueira Duarte Mines, Suppliers of Iron Ore for Company in the city of Belo Vale in the state of Minas Gerais, Brazil. Mapping, Sampling and Geostatistics Analysis for Medium and Short-Term Planning.
- **Votorantim Cement.**
  - Mine Geologist in Limestone and Clay Mines in Projects of the Company in the states of Minas Gerais, São Paulo, Mato Grosso, Rio Grande do Norte and Sergipe, Brazil. Sampling and Geostatistics Analysis for Medium and Short-Term Planning.

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- **Companhia Vale do Rio Doce (VALE - Carajás)**
  - Mine Geologist in N4E, N4W and N5 Iron Ore Mines in the Serra dos Carajás in the state of Pará, Brazil. Mapping, Sampling and Geological Model Update of Medium and Long Term Planning.
- **Urucum Mine (VALE) - Internship.**
  - Mine Geologist in Manganese Underground Mine in the city of Corumbá in the state of Mato Grosso do Sul, Brazil. Mapping, Sampling, Mapping of Discontinuities of Mineral Body and Wall Rocks, Planning of Advances in Galleries. Mapping of Sedimentary Iron Ore Deposits.

### Key Experience: Resources and Reserves Evaluation

The experience includes:

- **Manabi S.A.**
  - Management of Resources and Reserves Evaluation in Morro do Pilar and Morro Escuro Iron Ore Projects in the state of Minas Gerais, Brazil. Geological and Geostatistics Modeling, Optimization and Schedule Pits, Mine Planning, Equipment Fleet Studies, etc.
- **LGA Mineração e Siderurgia Ltda.**
  - Management of Resources and Reserves Evaluation in Suppliers Mines of Iron Ore and Mineral Assets offered for company in the state of Minas Gerais, Brazil. Geological and Geostatistics Modeling, Optimization and Schedule Pits, Mine Planning, Equipment Fleet Studies, etc.
- **Votorantim New Business.**
  - Management of Resources and Reserves Evaluation in Vale do Rio Pardo Iron Ore Project and Cipó Nickel Project in the states of Minas Gerais and Tocantins, Brazil. Geological and Geostatistics Modeling, Optimization and Schedule Pits, Mine Planning, Equipment Fleet Studies, etc.
- **Companhia Vale do Rio Doce (VALE).**
  - Coordination and implementation of Resources and Reserves Evaluation in Manganese, Nickel, Bauxite, Phosphate, Coal, Copper, Potassium, Limestone and Kaolin Projects in Brazil, Peru, Mozambique, Saudi Arabia and Australia. Geological and Geostatistics Modeling, Optimization and Schedule Pits, Mine Planning, Equipment Fleet Studies, etc.
- **Votorantim Cement.**
  - Coordination and Implementation of Resources and Reserves Evaluation in Limestone and Clay Projects in the Company's Cement Plants in the states of Minas Gerais, São Paulo, Mato Grosso, Paraíba, Rio Grande do Norte and Sergipe and International Projects of Votorantim: St. Mary's (Canada) and Suwanne (United States). Geological and Geostatistics Modeling, Optimization and Schedule Pits, Mine Planning, Equipment Fleet Studies, etc.

### Key Experience: Conceptual and Pre-Feasibility Studies

The experience includes:

- **Manabi S.A.**
  - Participation in Development of Conceptual and Pre-Feasibility Studies of Morro do Pilar Project in the state of Minas Gerais, Brazil, executed by Manabi and SRK-Denver.
  - Management of Conceptual and Pre-Feasibility Geotechnical and Hydrogeology Studies executed by WALM in Morro do Pilar Project in the state of Minas Gerais, Brazil.
- **LGA Mineração e Siderurgia Ltda.**
  - Management and Development of Conceptual Study in Suppliers Mines of Iron Ore and Mineral Assets offered for company in Brazil.

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- **Votorantim New Business.**

- Management, Coordination and Monitoring of Conceptual and Pre-Feasibility Studies for Mine, Pipeline (PSI), Railroad (Sandwell), Port (Sandwell), Mineral Process (Gorceix Foundation), Environment (Brandt), Hydrogeology (MDGEO), Identification of Surface Owners and Resettlement (Integratio) in Vale do Rio Pardo Iron Ore Project and Cipó Nickel Project in the states of Minas Gerais and Tocantins, Brazil.

### **Key Experience: Geotechnical and Hydrogeology**

The experience includes:

- **Manabi S.A.**

- Management of Conceptual and Feasibility Studies of Geotechnical and Hydrogeology in Pit and Waste Piles Designs in Morro do Pilar Project in the state of Minas Gerais, Brazil. Geotechnical Drilling in Area of Slopes for Final Pits and Waste Piles.
- Management of Uniaxial Triaxial and Radial Compression Tests in different Rock Types of Iron Ore and Waste Rocks, Stress and Strain Analysis in Simulating Detonation for Impacts Study in Cavities present in Area of Morro do Pilar Project in the state of Minas Gerais, Brazil.

- **Votorantim New Business.**

- Management of Conceptual and Feasibility Studies of Geotechnical and Hydrogeology in Pit and Waste Piles Designs for Vale do Rio Pardo Project in the northern state of Minas Gerais, Brazil.

- **Companhia Vale do Rio Doce (VALE).**

- Geotechnical inspection in Waste Piles with Titanium Resources of Vale Do Rio Doce (VALE), in Tapira Phosphate Mine by Fosfertil Company. Visit in Instability Points, Action Plan and Proposed of Mitigation for Risk Areas.

- **Maptek do Brasil – Vulcan Software.**

- Interface Creation for Slope Stability Analysis by Geomechanics Classification of Rock Masses in Vulcan Software for Escondida Copper Mine (BHP). Collection and Audit of Geotechnical Data, Preparation of Interface and Training of Geotechnical Team.

- **Minerações Brasileiras Reunidas – (MBR).**

- Geotechnical mapping for Slope Stability Study on Pico Iron Mine (MBR) in the state of Minas Gerais, Brazil. Mapping of Discontinuities, Kinematics Analysis, Geomechanics Classification of Rock Masses, Uniaxial Compression Tests on Rock Types of Ore, Stress and Deformation Analysis in Final Pit Designed in Long Term Planning.

### **Key Experience: Mineralogical and Process Characterization**

The experience includes:

- **Manabi S.A.**

- Management of Mineralogical and Mineral Characterization Studies of Iron Ore and Waste Rocks in Morro do Pilar Projects in the state of Minas Gerais, Brazil. Planning, Sampling, Triaxial, Uniaxial and Radial Compression Tests.

- **LGA Mineração e Siderurgia Ltda.**

- Management of Mineralogical and Process Characterization Studies in Suppliers Mines of Iron Ore and Mineral Assets offered for company in the states of Minas Gerais, Rio Grande do Norte and Pará, Brazil.

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- **Votorantim New Business.**
  - Management of Mineralogical Characterization and Process Studies in Vale do Rio Pardo Iron Ore Project and Cipó Nickel Project in the northern state of Minas Gerais and Tocantins states. Planning, Sampling and Test Supervision.
- **Votorantim Cement.**
  - Coordination of Mineralogical Characterization and Process Studies in Limestone and Clay Projects in the Company's Cement Plants in the states of Minas Gerais, São Paulo, Mato Grosso, Paraíba, Rio Grande do Norte and Sergipe and International Projects of Votorantim: St. Mary's (Canada) and Suwanne (United States).
- **Companhia Vale do Rio Doce (VALE - Carajás)**
  - Sampling Campaign for Characterization and Geometallurgical Studies of Lump Ore of N5 Iron Ore Deposit in the Serra dos Carajás in state of Pará, Brazil.

### Key Experience: QA/QC – Quality Assurance / Quality Control

The experience includes:

- **Manabi S.A.**
  - Development, Implementation and Management of QA/QC Program in Morro do Pilar Project in the state of Minas Gerais, Brazil. Development of Standards, Routine Control and Analysis of Results.
- **Mineração Usiminas S.A (MUSA).**
  - Development and Implementation of the QA/QC Program for 65,000 meters Campaign of Diamond Core Drilling in Serra Azul Project in the state of Minas Gerais, Brazil. Development of Standards, Routine Control and Analysis of Results.
- **Votorantim New Business.**
  - Development and Implementation of the QA/QC Program Campaign of Diamond Core Drilling in Vale do Rio Pardo Iron Ore Project and Cipó Nickel Project in the states of Minas Gerais and Tocantins. Development of Standards, Routine Control and Analysis of Results.

### Key Experience: Environment

The experience includes:

- **Manabi S.A.**
  - Support in the Development of Environmental Impact Study - EIA/RIMA in the Morro do Pilar and Morro Escuro Iron Ore Projects in the states of Minas Gerais, Brazil.
  - Active Participation in Public Presentations and Attorneys in several Municipalities and Voting Meetings to Obtain the Preliminary Environmental License (LP) for Morro do Pilar Project in the states of Minas Gerais, Brazil.
- **Votorantim New Business.**
  - Coordination and Monitoring of Environmental Studies for Environmental Impact Study - EIA/RIMA in Vale do Rio Pardo Iron Ore Project in the northern state of Minas Gerais, Brazil. Studies Development by the Brandt Environment Company.

### Key Experience: Mineral Rights Control

The experience includes:

- **Manabi S.A.**
  - Management and Control of Mineral Rights in Areas of Morro do Pilar and Morro Escuro Projects, Exploration Areas and on Routes of Pipeline and Railroad and in Porto Areas, both

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- "On Shore" and "Off Shore. About 200 Mineral Rights in the states of Minas Gerais, Espirito Santo and Pará, Brazil.
- Management and Execution of Final Research Reports, Economic Mining Plans (PAE) and other demands from the National Department of Mineral Production (DNPM).
  - **LGA Mineração e Siderurgia Ltda.**
    - Management and Control of Mineral Rights in the states of Minas Gerais, Bahia and Pará.
    - Management and Execution of Final Research Reports, Economic Mining Plans (PAE) and other demands from the National Department of Mineral Production (DNPM).
  - **Votorantim New Business.**
    - Management and Control of Mineral Rights in Areas of Vale do Rio Pardo Iron Ore Project and Cipó Nickel Project in the states of Minas Gerais and Tocantins.
    - Management and Control of Mineral Rights in Mineral Exploration Projects of Geophysical Targets in the states of Bahia, Goiás, Mato Grosso, Mato Grosso do Sul, Tocantins and Pará, about 3.5 million hectares.

### Key Experience: Duo Diligence

The experience includes:

- **Manabi S.A.**
  - Search, Analysis, Evaluate and Due Diligences in Opportunities offered for Company and in New Business in Iron Ore in Brazil and other countries.
- **LGA Mineração e Siderurgia Ltda.**
  - Search, Analysis, Evaluate and Due Diligences in Opportunities offered for Company and in New Business in Iron Ore in Brazil.
- **Votorantim New Business**
  - Search, Analysis, Evaluate and Due Diligences in Opportunities offered for Company and in New Business in Iron Ore, Nickel, Copper, Bauxite, phosphate, etc. in Brazil and other countries.
- **Mineração Usiminas S.A. (MUSA).**
  - Participation and Coordination of Geology Areas, Mineral Research, Resources and Mineral Reserves, representing the Company in Due Diligence in J. Mendes Mines in the state of Minas Gerais, Brazil.
- **Companhia Vale do Rio Doce (VALE)**
  - Participation and Coordination of Geology Areas, Mineral Research, Resources and Mineral Reserves, representing the Company in Due Diligence in Onça Puma Nickel Project in the state of Pará, Brazil
  - Participation and Coordination of Geology Areas, Mineral Research, Resources and Mineral Reserves, representing the Company in Due Diligence in Ma'aden Bauxite in Saudi Arabia.
- **Votorantim Cement.**
  - Participation and Coordination of Geology Areas, Mine Planning, Mineral Resources and Reserves representing the Company in Due Diligence for the acquisition of the Lime Business of Cal Itau (Votorantim Cement) for Lhoist (Belgium).

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### Key Experience: Negotiation of Mineral Asset

The experience includes:

- **LGA Mineração e Siderurgia Ltda.**
  - Participation representing the Company in Negotiation with MMX of Part Remaining of Mineral Resource of Bom Sucesso Deposit in the city of Bom Sucesso, in the state of Minas Gerais, Brazil.
- **Mineração Usiminas S.A. (MUSA).**
  - Participation representing the Company since the Recognition of Opportunity to the Final Negotiation of Minerals Assets of J. Mendes, Somisa, Camargos, Global and Pau de Vinho Mines with J. Mendes Company in city of Itaúna in the state of Minas Gerais, Brazil.

### Key Experience: Consulting

The experience includes:

- **Rezende & Dias Ltda.**
  - Consultant in Mineral Research, Resources and Reserves Evaluation and Activities Correlated such as: Database, QA/QC, Mineralogical and Process Characterization, Geological and Geostatistical Modeling, Mine Planning, Basic and Conceptual Studies, Due Diligence and Search and Evaluation of Mineral Asset.
- **Mineração Usiminas S.A. (MUSA).**
  - Implementation of Geological Modeling of Pau de Vinho Iron Ore Deposit in the Serra Azul Project in city of Itaúna, in the state of Minas Gerais, Brazil. Database Audit, Statistics Analysis, Vertical and Horizontal Sections Modeling, etc.
  - Development and Implementation of the QA/QC Program for 65,000 meters Campaign of Diamond Core Drilling in the Serra Azul Project in city of Itaúna, in the state of Minas Gerais, Brazil. Development of Standards, Routine Control and Analysis of Results.
- **Companhia Vale do Rio Doce (VALE)**
  - Consultant using the Vulcan Software in Mineral Research, Geostatistical Analysis, Short, Medium and Long Term Planning and Update "Pit" to Companhia Vale do Rio Doce (VALE) in the Cauê and Conceição Iron Ore Mines in city of Itabira in the state of Minas Gerais, Brazil.
  - Consultant using the Vulcan Software in Mineral Research, Geostatistical Analysis, Short, Medium and Long Term Planning and Update "Pit" to Companhia Vale do Rio Doce (VALE) in Timbopéba Iron Ore Mine, in the city of Mariana in state of Minas Gerais, Brazil.
  - Consultant using the Vulcan Software in Mineral Research, Geostatistical Analysis, Short, Medium and Long Term Planning and Update "Pit" to Companhia Vale do Rio Doce (VALE) in Taquari-Vassouras Potassium Underground Mine, in the city of Rosario do Catete in the state of Sergipe, Brazil.

### Key Experience: Software House

The experience includes:

- **Maptek Brazi Ltda.**
  - Implementation, Training, Technical Support and Consulting of Software Vulcan (Geology and Mining) in Bocaina Limestone Mine (CSN) in the city of Arcos in the state of Minas Gerais, Brazil.
  - Implementation, Training, Technical Support and Consulting of Software Vulcan (Geology and Mining) in Cauê and Conceição Iron Ore Mines (VALE) in the city of Itabira in the state of Minas Gerais, Brazil.



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- Implementation, Training, Technical Support and Consulting of Software Vulcan (Geology and Mining) in Timbopeba Iron Ore Mine (VALE) in the city of Mariana in the state of Minas Gerais, Brazil.
- Implementation, Training, Technical Support and Consulting of Software Vulcan (Geology and Mining) by Maptek Brazil Ltda. in N4 and N5 Iron Ore Mines (VALE) in the Serra dos Carajás in the state of Pará, Brazil.
- Implementation, Training, Technical Support and Consulting of Software Vulcan (Geology and Mining) in Taquari-Vassouras Potassium Underground Mine (VALE) in the city of Rosario do Catete in the state of Sergipe, Brazil.
- Implementation, Training, Technical Support and Consulting of Software Vulcan (Geology and Mining) in Taquari-Vassouras Potassium Underground Mine (VALE) in the city of Rosario do Catete in the state of Sergipe, Brazil.
- Implementation, Training, Technical Support and Consulting of Software Vulcan (Geology and Mining) in Escondida Copper Mine (BHP) in the city of Antofagasta, Chile.

### Key Experience: Teaching

The experience includes:

- Substitute Teacher of Mining and Underground Mining Design in the Course of Mining Engineering at the Engineering School of the Federal University of Minas Gerais (UFMG).
- Teacher of Mineral Research in Mining Technical Course in Passos Technical School, Passos, Minas Gerais State, Brazil

### Additional Key Experience: Published Papers and Main Technical Training

#### Published Papers

- **The Mining and the Environment: A Review** - Souza Dias, AR - Monograph for obtaining the title of Environmental Sciences Specialist - University of Franca - Franca - September 2003.
- **Mine Planning in Limestone Mines** - Votorantim Cement. - I Workshop of Votorantim Group - Vazantes - MG - October 2002.
- **Instability Mechanisms of Massive Itabira Pico, Pico Mine**, Itabirito, Minas Gerais, Brazil. 1996. Dissertation (Master Science of Geotechnical) - School of Engineering of São Carlos - University of São Paulo (USP).
- **Rupture Mechanisms Analysis in Slope of Rock Mass in Itabira Pico**, Itabirito, Minas Gerais, Brazil. - Souza Dias; AR - XXXIX Brazilian Geological Congress - Salvador - BA - September 1996.
- **Slope Stability Analysis with Emphasis on Open Pit Mining** - A Review - Souza Dias; AR - Geotechnical Department of the School of Engineering of São Carlos - University of São Paulo (USP) - February 1995.
- **Lithostratigraphic and Structural Aspects of Camargos Region, Eastern Edge of the Iron Quadrangle**. Mariana, Minas Gerais, Brazil. - Souza Dias; A. R. & Kaneko; KM - Department of Geology of the Ouro Preto School of Mines - June 1993.

#### Main Technical Training

- Duo Diligence Audits - Basics Principles, **Methods & QA-QC** - Dominique François Bongarçon - Belo Horizonte - MG. 2008.
- **Sampling Theory and Practice** - Dominique François Bongarçon - Belo Horizonte - MG. 2008.

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- **PDAC - Prospector & Developers Association of Canada** - Toronto - Canada. 2008.
- **Use of Iron Ore in Metallurgy** - Usiminas - Ipatinga - MG. 2007.
- **Geostatistics Specialization (Modules 1, 2 and 3)** - João Felipe Coimbra Costa Leite - VALE / Federal University of Rio Grande do Sul - Belo Horizonte - MG. 2006.
- **Orebody Uncertainty, Risk Assessment and Profitability in Recoverable Reserves, Ore Selection and Mine Planning: Conditional Simulation, Concepts and Applications for the Mining Industry**. Dr. Roussus Dimitrakopoulos – McGill University, Montreal, Qc. - Ouro Preto – MG. 2006.
- **Economic Evaluation of Mineral Projects – Improvement Course in Mineral Exploration** - Dr. Michael Doggett – Queen’s University – Kingston/Canadá. ADIMB – Belo Horizonte – MG. 2005.
- **Mining and Environmental Law in Mining** - Institute of Technical Education (IETEC) - Belo Horizonte - MG. 2000.
- **Applied Geostatistics** - Institute of Technical Education (IETEC) - Belo Horizonte - MG. 2000.