MARIO EDUARDO ROSSI, MSc., Min.Eng.
GeoSystems International, Inc.
2385 NW Executive Center Dr., Suite 100
Boca Raton, Florida, USA 33431
Phone: (561) 706-2186
E-mail: mrossi@geosysint.com

EDUCATION

Master of Science, Geostatistics, 1988
Stanford University, Palo Alto, California

Bachelor of Science, Mining Engineer, 1985
Universidad Nacional de San Juan, Argentina

PROFESSIONAL

Fellow Australian Institute of Mining and Metallurgy (AusIMM)
Member Society of Mining, Metallurgy, and Exploration, Inc. (SME)
Member Canadian Institute of Mining and Metallurgy (CIMM)
Member International Association for Mathematical Geology (IAMG)
Member Colegio Argentino de Ingenieros de Minas (CADIM)

LANGUAGES

Fluent in English and Spanish.
Conversational Italian and Portuguese.

SUMMARY

Over 25 years' experience in mining and environmental geostatistics, mineral resource and reserves estimation, audits, and reviews, and conditional simulation studies of different scales and purposes. Mr. Rossi has worked in over 100 different mining projects at various stages of development and operations around the world, including precious and base metals, multi-element deposits (Au, Ag, Cu, Fe, Pb, Zn, etc.), sedimentary deposits (uranium, coal), and industrial minerals such as limestone, nitrate, iodine, lithium and graphite deposits.

Mr. Rossi has also worked on a large number of environmental projects applying geostatistics, mostly in the United States. He has also taught numerous short courses in different circumstances and for varied audiences, including University courses and as Guest Lecturer (bachelor, graduate, and post-graduate level courses at Colorado School of Mines - USA; Universita' degli Studi di Bari - Italy; Universidad Católica del Norte – Chile; Universidad Nacional de Colombia – Medellín; Universidad Nacional de San Luis – Argentina; Universidad Nacional de San Juan – Argentina); short courses for private companies; and public one or two week-long courses and workshops. Mr. Rossi has published 50 papers in the area of geostatistics and mineral resource estimation and simulation.

Mr. Rossi is the co-author of the book "Mineral Resource Estimation", Rossi, M., and Deutsch, C., ed. Springer, first published in January 2014.

EMPLOYMENT HISTORY

GEOSYSTEMS INTERNATIONAL (March 1994-present)

PRESIDENT/ PRINCIPAL GEOSTATISTICIAN (March 1994-present)

Mr. Rossi formed GeoSystems International as a company specializing in mining geostatistics, including resource and reserve delineations, operation's optimization, and geostatistical conditional simulations, environmental assessments, and geographical information systems (GIS). Major and recent clients include:

Western Lithium Corp, Vancouver, Canada (June 2015). Due diligence review of a confidential Lithium property in Northwestern Argentina.

BHP Billiton – Base Metals, Pampa Norte (January - May 2015, Iquique and Mine Site, Chile). Audit of the Hypogene Resource Model for Spence, including database, QA/QC, geologic model, grade estimation, and resource classification to JORC 2012 standards. Variables audited included Total Copper, Molybdenum, and in-situ Density.

BHP Billiton – Cerro Matoso (December 2014-March 2015, Montelíbano, Colombia). Developed an updated Resource Model for the lateritic Ni operation, called Emodel 2014B. This resource model SMU study for the Cerro Matoso deposit. The work included developing a methodology and obtaining an estimate of operational dilution. A mine visit was required as well.

BHP Billiton – Base Metals, Olympic Dam (November 2014 – March 2015). Resource models reviews, for both the 2015 Recoverable Resource Model in the Underground Expansion areas, Cu, U, Au, Ag, BaS, and Density variables, as well as the official 2015 Resource Model. Included checks and validations, and JORC compliance tests for all tasks related to the resource modeling work.

BHP Billiton – Cerro Matoso (Ni, November 2014-April 2015, Montelíbano, Colombia). Developed an SMU study for the Cerro Matoso deposit. The work included developing a methodology and obtaining an estimate of operational dilution. A mine visit was required as well.

Amara Mining Company – Yaoure Project, Ivory Coast (August 2014-January 2015). Development of an updated 2014 Resource Model and NI 43-101 Report for the project. The estimated variables were Au and In-Situ Density. The work followed NI 43-101 guidelines and included checks on the database, QA/QC, geologic model, grade estimation, and mineral inventory.

Chaarat Gold Company – Kyrgyzstan (August –October 2014). Development of an updated Resource Model and NI 43-101-compliant Report for the Chaarat Au deposit in Western Kyrgyzstan. The estimated variables were Au, Ag, As, Bi, and In-Situ Density. The work followed NI 43-101 guidelines and included checks on the database, QA/QC, geologic model, grade estimation, and mineral inventory.

Compañía Minera Antamina (August 2014–January 2017, Huari, Ancash Region, Perú). Audit of the 2014 and future 2015 and 2016 Resource Models. The audit included all tasks related to database, QA/QC, geologic model, and grade estimation for the main variables required by the operation. The audited variables were Cu, Zn, Ag, Mo, Pb, Bi, As, Fe, and In situ Density.

Glencore Perú – Coroccohuayco, Cusco Region, Perú (March-May 2014). Support in the development of the 2014 Resource Model, both for the Underground and Open Pit areas, and estimating Total Cu, two types of Soluble Cu, Au, Ag, and In-Situ Density. Included database, evaluation of RC vs. DDH holes, evaluation of historic versus new drill holes, geologic model, and all tasks related to the resource modeling work.

BHP Billiton – Base Metals, Olympic Dam (March–November, 2014). Support in the development of the 2015 Recoverable Resource Model, Underground Expansion areas, Cu, U, Au, Ag, BaS, and Density variables. Included development of methodology, checks and validations, and JORC compliance tests for all tasks related to the resource modeling work.

Compañía Minera Zafranal – Zafranal Project, Arequipa Region, Perú (December 2013-present). Development of an updated Resource Model for the project. The estimated variables were Total Cu, Au, and In-Situ Density. The work included verifying and updating the database, the updated of the Mineral Zones geologic model, and grade estimation and inventory. Currently developing the first three-dimensional alteration and lithology geologic models for the Zafranal and Victoria deposits.

Bajo El Durazno, Compañía Minera Bajo La Alumbrera (Glencore-Xstrata, January–May, 2014). Support in the development of the updated Resource Estimate for the Bajo El Durazno Cu-Au porphyry copper deposit in Northwestern Argentina. Also included was the development of the first model of geotechnical variables (RQD, GSI, UCS). Work included data acquisition, field procedures, database, geologic modeling, resources, mineral inventory, and resource classification.

BHP Billiton – Base Metals, Olympic Dam (February–March, 2014). Audit of the 2014 Resource Model, both for the Underground and Open Pit areas, Cu, U, Au, Ag, BaS, and Density variables. Included database (new holes), geologic model, and all tasks related to the resource modeling work.

Compañía Minera Antamina (November 2013–January 2014, Huari, Ancash Region, Perú). Audit of the 2013 Resource Model. The audit included all tasks related to grade estimation for the main variables required by the operation. The audited variables were Cu, Zn, Ag, Mo, Pb, Bi, As, Fe, and In situ Density.

Glencore Perú – Antapaccay, Cusco Region, Perú (October 2013-January 2014). Audit of the Resource and Reserves of the Antapaccay 2013 Model, and suggested improvements for the development of the 2014 Resource Model. The audited variables were Total Cu, Sulphuric-acid soluble Cu, Acetate-soluble Cu, Au, Ag, Mo, and In-Situ Density. Included database, evaluation of RC vs. DDH holes, evaluation of historic versus new drill holes, geologic model, and all tasks related to the resource modeling work. It also included Pit Optimization, Design, Mine Schedules, Capital and Operating Costs, and all other items related to Reserves inventory and declaration.

Compañía Minera Zafranal – Zafranal Project, Arequipa Region, Perú (September –November 2013). Audit of the 2013 Resource Model and NI 43-101 Report for the project. The estimated variables were Total Cu, Au, and In-Situ Density. The work included auditing the database, geologic model, grade estimation, resource classification, and mineral inventory.

BHP Billiton – Base Metals, Pampa Norte (September 2013-February 2014, Iquique and Mine Site, Chile). Reviewed and developed improvements for the existing Grade Control Model (GC) for the Cerro Colorado deposit. The work included reviewing the existing methodology and suggesting and implementing improvements.

Amara Mining Company – Yaoure Project, Ivory Coast (August 2013-January 2014). Development of an updated 2013 Resource Model and NI 43-101 Report for the project. The estimated variables were Au and In-Situ Density. The work followed NI 43-101 guidelines and included checks on the database, QA/QC, geologic model, grade estimation, and mineral inventory.

BHP Billiton – Base Metals, Pampa Norte (December 2013, Iquique and Mine Site, Chile). Reviewed and developed improvements for a Medium-term Model (MAC) for the Spence deposit. The work included reviewing the existing methodology and suggesting and implementing improvements.

BHP Billiton – Base Metals, Pampa Norte (September-October 2013, Iquique and Mine Site, Chile). Reviewed and developed improvements for the existing Grade Control Model (GC) for the Spence deposit. The work included reviewing the existing methodology and suggesting and implementing improvements.

Amara Mining Company – Baomahun Mine, Sierra Leone (April-June 2013). Development of a check MIK model (Au grades) for the underground portion of the deposit, and to be used only internally. Some general checks to the database were also performed. The purpose of the model was to verify the results of the official model, and to check the mineral inventory using an alternative modeling methodology.

BHP Billiton – Base Metals, Olympic Dam (February - March 2013). Audit of the 2013 Resource Model, both for the Underground and Open Pit areas, Cu, U, Au, Ag, BaS, and Density variables. Included database (new holes), geologic model, and all tasks related to the resource modeling work.

BHP Billiton – Base Metals, Pampa Norte (November 2012-January 2013, Iquique and Mine Site, Chile). Developed an SMU study for the Spence deposit. The work included developing a methodology and obtaining an estimate of operational dilution at Spence. A mine visit was required.

Compañía Minera Antamina (November 2011 – December 2012, Lima, Perú). Assessment of the current grade control system and development of alternative methods to improve the overall economic benefit provided by the system, and reduce operational dilution. Also, methodology for estimating a planned dilution, and providing that estimate based on past production was provided. Also, several training seminar in geostatistics and grade control were delivered to Antamina's Exploration and Mine Geologists.

Pachón Minera SA, Xstrata (San Juan, Argentina, December 2011-February 2013). New Feasibility-level resource model audit for the Cu-Mo porphyry project in San Juan, Argentina. Work included drilling and sampling, QA/QC, data and database review, geologic modeling practices, and estimation and classification methodology.

Cuprum Resources Corp, Puquios Project, Chile (December 2011- October 2012. Chile. Review of database, EDA and geological model. Development of an updated geologic and resource model for the Cu-oxide and supergene enrichment deposit.

BHP Billiton - Uranium (November 2010-March 2011, Adelaide and Perth, Australia). Due diligence of two confidential Uranium projects; included evaluation of geologic, resource, and reserve models.

Compañía Minera Doña Inés de Collahuasi (November 2010-present, Iquique, Chile). Support in developing Geometallurgical models for the Rosario and Rosario Oeste mine/project; also assistance in developing geotechnical models for rock massif characterization, in particular fracture frequency, RQD, UCS, and PLT. Also provided support in the development of a conditional simulation model for Rosario, As. Also, developed an Au Resource Model for outlying deposits (Rosario Sur). Provided support for improving current resource modeling practices. Most recent work involves development of an improved grade control system.

Bajo El Durazno, Compañía Minera Bajo La Alumbrera (Xstrata Copper and partners, October 2011-March 2012). Audit of the updated Resource Estimate for the Bajo El Durazno Cu-Au porphyry copper deposit in Northwestern Argentina. Audit included data acquisition, field procedures, database, geologic modeling, resources, mineral inventory, and resource classification.

Piedras Verdes Mine (Cobre del Mayo, Sonora, Mexico, August, 2010 – December 2011). Detailed review and development of an updated Long-term resource model for this supergene copper mine; review and improvements to the existing grade control system; new Life of Mine plan (with the assistance of an independent contractor) with corresponding detailed mine schedules; improvements to the mine's Short-term mine planning procedures. Responsible for an NI 43-101-compliant Technical Report.

Xstrata Copper (November - December 2010, Santiago, Chile). Assisted with the updated resource model for the Cu-Mo-Au Frieda River project in Papua New Guinea. Provided assistance and advise during the resource modeling process, including exploratory data analysis, variography, estimation strategy and execution, resource model classification, and model validations.

Balabag Project (TVI Pacific, Mindanao, Philippines, June-August, 2010). Detailed project review and development of a resource model for this low sulfidation, epithermal Au deposit. Responsible for an NI 43-101-compliant Technical Report.

Quebrada Blanca (Teck, Iquique, Chile, July-August 2010). Detailed review of operational aspects of grade control and blast hole sampling. Laboratory review, as well as improvements to current reconciliation practices.

Cerro Colorado 2010 Resource Model (BHP-Billiton Base Metals, Iquique, Chile, May-August 2010). GSI is part of the team completing the most recent resource model update for the Cerro Colorado deposit (Total and soluble Cu), including database construction, QA/QC review, geologic modeling, resource estimation, and resource classification according to JORC and SME guidelines.

Olympic Dam January 2010 Resource Model Review (BHP-Billiton Uranium, Adelaide, Australia, May-June 2010). A fatal-flaw review of the latest Olympic Dam resource model (Cu, U, Au Ag, and density) was completed. The geologic modeling and resource modeling were the focus of this fatal-flaw review, as well as the resource classification method and compliance with JORC guidelines.

Yeelirrie Uranium-Vanadium Project (BHP-Billiton Uranium, Adelaide and Western Australia, Australia, August 2009-June 2010). Initial assessment and consulting on drilling and resource estimation for the calcrete-hosted U-V deposit. Audit of the mineral resource model completed in March 2010.

Kings Valley Lithium-Potassium Project (Western Lithium Corp., Nevada, USA, February-June 2010). Development of the Stage II Li-K Resource Model (South Pod), including geologic modeling, resource estimation and resource classification. Responsible for the 43-101-compliant Technical Report.

Xstrata Copper (November 2009 -January 2010, Santiago, Chile). Assisted with the development of a new resource model for the Cu-Mo-Au Frieda River project in Papua New Guinea. Provided assistance and advise during the resource modeling process, including exploratory data analysis, variography, estimation strategy and execution, resource model classification, and model validations.

Bajo El Durazno, Compañía Minera Bajo La Alumbrera (Xstrata Copper and partners, August-October 2009). Audit of the Bajo El Durazno Cu-Au porphyry copper deposit in Northwestern Argentina. Audit included data acquisition, field procedures, database, geologic modeling, and resources at a pre-feasibility level.

Jinshan Gold Mines, Chan Shan Hao Gold Mine, Inner Mongolia, China (January 2009 – January 2010). Update of the resource model using 2008 drilling and geological information, and 2008-2009 production data. Updated also the corresponding 43-101-compliant Technical Report.

Boddington Gold Mine (Newmont Asia, Perth, Australia, August-September 2009). Audit of the 2009 Resource (Uniform Conditioning) and Conditional Simulation models. The audit included recommendations for improvements in future updated models and internalization of the procedures.

Pachón Minera SA, Xstrata (San Juan, Argentina, August 2008-January 2009). Feasibility-level resource model audit for the Cu-Mo porphyry project in San Juan, Argentina. Work included drilling and sampling, QA/QC, data and database review, geologic modeling practices, and estimation and classification methodology.

Minera El Peñón (Yamana Gold, Chile, May 2009). Review and diagnosis of production shortfalls; made several recommendations for improvements of Long and Short term models, Mine Planning cycles, operational and grade control improvements for the underground mine, and also for reconciliation procedures.

Minera Spence, S.A. (BHP Billiton, Antofagasta, Chile, April-May 2009). Provided support and review of the most recent resource model update. Worked with the team of Spence geologists and resource estimators to verify the data and corresponding geostatistical analysis, and provide a resource model for the hypogene zone.

Reko Diq Au-Cu Project (50/50 Partnership between Barrick Gold and Antofagasta Minerals, Santiago, Chile, April – May 2009). Review of Resource Classification methodologies applied for the Reko Diq porphyry gold-copper project (located in Pakistan); development of a project-specific methodology to satisfy the requirements of both partners.

Boddington Gold Mine (Newmont Asia, Perth, Australia, January – May 2009). Audit of a Conditional Simulation model used for resource uncertainty analysis, mine design and mine scheduling. The audit included recommendations for improvements in future updated models and internalization of the procedures.

Cementos Avellaneda, San Luis, Argentina (August 2008 - February 2009). Review and improvement of geologic modeling practices at this large limestone quarry; support and guidance for the updated resource models of 3 separate deposits. Review of grade estimation procedures and update of resource models, as well as estimation of deleterious elements.

Olympic Dam Expansion Project (BHP-Billiton, Adelaide, Australia, November 2005-June2010). Several tasks completed, including multiple iterations of resource reviews. After an initial audit and review of existing modeling practices, developed a resource model for the large Cu/U/Au/Ag deposit. Also developed several conditional simulation studies, including for geo-metallurgical variables and studies, and served as a consultant to the most recent resource update. Developed and completed advanced methodology for co-simulation of grades and geo-metallurgical variables for assessment of plant performance. Also developed and completed specific studies for mine planning, resource classification, risk assessment, and others.

Filo del Sol Project, Suramina Resources Inc., Argentina (August 2008-March 2009). Initial review of drilling practices, geologic modeling, and QA/QC. Development of the first 43-101-compliant resource model estimate and Technical Report.

Compañía Minera Cerro Colorado (August - December 2008, Iquique, Chile; BHP-Billiton). Development of an updated resource model for total copper, soluble copper and Molybdenum. To be used for reporting and in Long-term mine planning of this medium-sized Cu deposit.

Compañía Minera Doña Inés de Collahuasi (2009, Iquique, Chile). Development of a geotechnical parameters conditional simulation model. Fracture Frequency and Point Load data are the two variables initially chosen for modeling.

Jinfeng Mine, Sino Gold Mining Co, China (January-March, 2008). Review of current block model and development of an updated resource model using Multiple Indicator Kriging. Also, development of a conditional simulation model to assess risk and to produce a resource estimate in the lower levels of the deposit (Underground Mine).

Jinshan Gold Mines, Dadiangou Project, China (July 2007; November 2007-January 2008; September 2008-December 2008). Initial review of drilling practices, geologic modeling, QA/QC. Also produced a simple in-house Au resource model to aid in subsequent exploration. Developed a 43-101-compliant resource model estimate, and filed report on SEDAR (February 1, 2008); developed initial pit optimization routines. Developed updated resource model after Phase III drilling, including updated 43-101 Technical Report and new Optimal Pit runs.

Mineral Deposits Ltd., Sabodala Au Project, Senegal (March 2007-present). Review of current modeling practices. Completed a resource model update to be included in a 43-101-compliant Report. Assessment of uncertainty in the resources using a conditional simulation model.

Pachón Minera SA, Xstrata (San Juan, Argentina, March 2007-present). Resource model audit for this Cu-Mo porphyry project in San Juan, Argentina. Work included drilling and sampling, QA/QC, data and database review, geologic modeling practices, and estimation and classification methodology. The resource audit at pre-feasibility level was completed January 2008.

Golden China Resources (March-June 2007, Guizhou Province, China). Completed an initial review of field practices, QA/QC, and geologic modeling for the Nibao Au project in the Guizhou Province, Southern China.

Compañía Minera Bajo de la Alumbrera, Xstrata and partners (Tucumán, Argentina, November 2006). Updated Resource model audit (ALUK model) for this Cu-Au porphyry project in Argentina. As before, work included data and database review, geologic modeling practices, QA/QC, and estimation methodology. The audit also included minable reserves definition and public declaration were reviewed.

Golden China Resources (September-December 2006, Inner Mongolia, China). Completed an initial review and then a Resource model for the Beyinhar Au project in Inner Mongolia, Northern China.

Compañía Minera Cerro Colorado (July-November 2006, Iquique, Chile; BHP-Billiton). Completed the updated Resource Model for Total and Soluble Copper, to be used for Long-term Mine Planning of this medium-sized Cu deposit. Also develop a conditional simulation model for Total Cu to provide an assessment of resource and reserve risk according to the current Life-Of-Mine plan.

Minera Spence, S.A. (BHP Billiton, Santiago, Chile, 2006). Provided support and review of the most recent resource model update of the new Cu mine. Also developed a conditional simulation study to evaluate resource classification and current mine schedule risk.

Josemaría-Batidero Project (Deprominsa and Tenke Mining, San Juan, Argentina, April 2006 and August 2007). Reviewed the existing drill hole campaign, data collection procedures, QA/QC programs, and database management. Developed an initial resource model for the main Josemaría prospect. The resource model was updated in August 2007 to include new drilling and prepare an updated 43-101-compliant report.

BHP Billiton Diamonds, Ekati Mine (January-March, 2006, NW Territories, Canada). Completed an independent diamond review of the 2004 and 2005 Fox deposit Resource Models. Included recommendations for further work and suggested improvements to modeling methodology.

Onça Puma Project, Canico Resources-CVRD (Vancouver, Brazil, November 2005). Review of the selectivity and dilution incorporated into the resource model of the Brazilian Ni lateritic project, located in the Pará State; geostatistical analysis of up- or downside potential due to contact and internal dilution.

Cerro Matoso S.A., BHP-Billiton (Montelíbano, Colombia, 2005). Resource model audit for this Ni mine in the Córdoba Province, Colombia. The work included a review of the Long term and Short term resource modeling practices, and also grade control.

Compañía Minera Bajo de la Alumbrera, Xstrata and partners (Tucumán, Argentina, May 2005). Resource model audit for this Cu-Au porphyry project in Argentina. The work included data and database review, geologic modeling practices, QA/QC, and estimation methodology.

Holloway Mine, Newmont Mining Corporation (Northern Ontario, Canada, April 2005). Reviewed Long- and Short-term resource and reserve modeling methodologies for the high grade Au underground operation. Recommendations were made to maximize resource recovery and minimize dilution.

Eagle Bay Resources N.L. (Port Lincoln, South Australia, March 2005). As part of a Mining and Quarry Engineering Services team (MQes), review of the Uley graphite property in South Australia.

Jinshan Gold Mines, Chang Shan Hao (217) project, Inner Mongolia, P.R. of China (January-March, 2005). Completion of the 2004 resource model update, and principal responsible for the preparation of a NI 43-101 complaint Preliminary Assessment Report. The Preliminary Assessment Report included mine planning, metallurgical studies, and an economic evaluation of the property.

Compañía Minera Bajo de la Alumbrera, X-Strata and partners (Tucumán, Argentina, February 2005). Project Manager of a Kappes, Cassiday & Associates team to the review of effluent discharge characteristics at the company's filter plant, and evaluation of alternative technologies to reduce sulfates and conductivity values.

BHP-Billiton Base Metals (Santiago, Chile, January 2005). Developed and delivered a customized workshop on geostatistical conditional simulations. The workshop was customized to emphasize application for several Base Metals properties.

Minera Escondida Ltda. (March-August 2004, Antofagasta, Chile. BHP-Billiton-Rio Tinto). Conditional Simulation study, covering next 5 years production for both the Escondida and Escondida Norte deposits (Total and Soluble Cu). Purpose was to evaluate and improve:

a) Local resource model uncertainty and resource classification écheme.
b) Optimal drill hole spacing required by zone and mining phase.
c) Risk of not achieving planned production by mining phase and mining period.
d) Sensitivity of scheduling to the uncertainty of the resource model.
e) Production risk resulting from the uncertainty of the Top of Sulphides surface by mining phase and period.

Jinshan Gold Mines, 217 Gold Project, Inner Mongolia, P.R. of China (2004-2006). Review of the 217 Gold Project, and methodological recommendations for future resource updates and associated studies.

Yamana Gold (Toronto, Canada, and São Paulo, Brazil, November-January 2005). Audit of the São Vicente Au deposit in Matto Grosso, Brazil. The audit was performed according to Canada's NI 43-101 standards.

Batu Hijau, PT Nusa Tenggara (Newmont Mining, Lombok, Indonesia, October 2004). Developed and delivered a customized workshop on geostatistical resource evaluations and conditional simulations. The workshop was customized for Batu Hijau's geologists and mining engineers.

Newmont Mining Corporation (2004-2006). Desktop reviews of aspects and specific studies related to resource models and conditional simulation studies. Some of the properties involved included Ahafo (Ghana), Boddington (Western Australia), and LA Zanja (Perú). GSI provided opinions, comments and recommendations regarding methodological issues.

MQes and Quadra Mining (San Mateo, CA, and Vancouver, Canada, March-September 2004). As part of a Mining and Quarry Engineering Services team, review of the Catalina and Salvadora Cu projects in northern Chile.

Minera RioChilex (Santiago, Chile, September 2004-February 2005). Development of an updated resource model for the Spence deposit. Taking the geologic model developed internally by Minera RioChilex, obtained grade estimates for TCu and SCu, as well as other metallurgical parameters. The resources were classified according to the JORC code.

Yamana Gold (Toronto, Canada, and São Paulo, Brazil, July-September 2004). Development of an updated resource model for the São Francisco Au deposit in the Matto Grosso State, Brazil. The resources were estimated and classified according to Canada's NI 43-101 standards.

Compañía Buenaventura de Minas, Buenaventura Ingenieros, S.A., and Newmont Mining Corporation (Lima, Perú, June-September 2004). Due diligence and Resource Evaluation for the San Pedro Sur and Pampa Verde deposits, La Zanja Au Project, northern Perú. The work entailed review of the exploration programs, drill hole database, sampling and analysis quality control, geological modeling, grade estimation and resource classification.

Newmont Mining Corporation (Denver, June 2004). Developed and delivered a customized workshop on geostatistical conditional simulations. The workshop was customized to emphasize application for several Newmont Mining properties.

Independent Engineers of Australia and Minera Colibrí (Canada, March-May 2004). Review of the Luicho gold property in south-central Perú according to Canada's NI 43-101 standards. An updated resource estimate was also provided.

Minera RioChilex (Santiago, Chile, November 2003-January 2004). Independent audit of Spence's mineral resources and ore reserves (TCu and SCu). The audit included a review of land position and title, database, geologic model, sampling quality control, resource estimates, resource classification according to JORC, dilution, technical parameters for reserves definition, optimum and ultimate pit configurations, reserve tabulations within the pit, economics, and US SEC compliance.

Minera Michilla S.A. (January-April 2003, Antofagasta, Chile. Owned by Antofagasta Minerals). Completion of an updated Resource Model for Lince-Estefanía (TCu, SCu) including the estimation of the potential of a new area in the mine. Work included risk assessment using traditional geostatistical techniques, and estimation of the appropriate amount of dilution. The resource model was calibrated to within 10% metal to existing production from the underground and open pit mines, and was used for Long-term Mine Planning of the proposed mine expansion.

Escondida Norte Project (July-November 2002, Santiago and Antofagasta, Chile. Principal shareholders are BHP-Billiton and Rio Tinto). Completion of the Phase V Resource Model for the Escondida Norte deposit. This Resource Model is an Update of the Phase IV Feasibility Resource Model completed earlier in the year, to include new in-fill drilling and updated estimation parameters.

Minera Escondida Ltda. (October 2002, Antofagasta, Chile. Principal shareholders are BHP-Billiton and Rio Tinto). For the largest copper-producing operation in the world, Mr. Rossi audited the October 2002 Update of the Mine Resource Model. First in-house model built, using standards and methodology developed in the previous model, the purpose of this revision was to ensure the quality of the model, and the in-house staff have developed their modeling capabilities to high standards.

Compañía Minera Cerro Colorado (December 2002-April 2003, and April-September 2002, Iquique, Chile. Owner is BHP-Billiton). For a medium-size, heap-leach Cu operation, completed a diluted Resource Model of Total and Soluble Copper, to be used for Long-term Mine Planning. Previously, completed the Phase VI Resource and Reserve Model for Total and Soluble Copper. In both cases tasks included revision of past methodology, and improving modeling and estimation methods to achieve better model-to-mine-to-mill reconciliations. Setup basic methodology for future updates. Several new modeling procedures were put in place to ensure quality of the resource model, as well as calibrations with existing production.

Cerro Vanguardia S.A. (March-December 2002, Santa Cruz, Argentina. Principal shareholders are AngloGold and Perez Companc). For the world class Au/Ag low sulfidization epithermal vein-type deposits in central Patagonia, Mr. Rossi completed a review on the risks associated with the Resource Model for Mine Operations. A series of Tasks are being developed to improve the Resource Model used in mine planning, and to devise a mining risk mitigation strategy.

Escondida Norte Project (January-April 2002, Antofagasta, Chile. Principal shareholders are BHP-Billiton and Rio Tinto). Mr. Rossi completed the Feasibility-level Phase IV Resource Model for the Escondida Norte deposit, within the Escondida district. This new BHP-Billiton project is poised to be the source of the next major expansion in copper production for Minera Escondida Ltda. This resource model was successfully audited to the AusIMM (JORC) standards.

Minera Escondida Ltda. (June 2001-January 2002, Antofagasta, Chile. Principal shareholders are BHP-Billiton and Rio Tinto). Mr. Rossi developed for the client a new methodology for obtaining medium- and short-term block models. This study was anchored with a geostatistical conditional simulation study, and included modeling of the four main variables at the mine (Total Cu, Soluble Cu, Iron, and Arsenic).

Minera Escondida Ltda. (October 2000-May 2002, Antofagasta, Chile. Principal shareholders are BHP-Billiton and Rio Tinto). For the largest copper-producing operation in the world, Mr. Rossi completed an update to the Long-term Resource Model for the Escondida Mine. This resource model was successfully audited to JORC standards. Developed the geostatistical aspects of a new Ore Resource Model for the main Escondida Model (December 2000).

Newmont Mining Corporation (May 2000, Denver, Colorado, USA). Developed an in-house Mining Geostatistics Short-Course for Newmont geologists and engineers, including advanced geostatistics and conditional simulations. Advised on the applications of geostatistical conditional simulations to Newmont's Technical Services Department.

Minera Michilla (July 1997-August 2001, Antofagasta, Chile. Principal shareholder is Antofagasta Minerals.). Mr. Rossi has designed and implemented resource estimation methodology at the main Lince (Open Pit) and Estefanía (underground) deposits, including several upgrades since. Also developed, designed and implemented deposit-wide conditional simulations of Cu grade and geology to assess the potential for a significant pit expansion.

Mr. Rossi also designed and managed a Weights of Evidence Study, based on a GIS systems, to assess exploration potential within the Michilla District, and define and prioritize exploration targets. In addition, after a detailed review of operating practices, Mr. Rossi has designed and implemented a grade control optimization process of the Lince open pit, currently in use.

Mr. Rossi also developed Scoping Studies for the Polos, Riqueza, Núcleo X, Llano del Desierto, and Buena Vista deposits, all within the main Michilla mining district. In addition, he developed a Scoping Study for the Buey Muerto porphyry copper deposit.

In addition, Mr. Rossi developed a series of conditional simulations for the main Lince-Estefanía deposits, to assess confidence intervals of reserves by sub-areas of the deposit y help define required in-fill drilling. Mr. Rossi also managed the development of a Geographical Information System to aid in district-wide exploration.

Mr. Rossi also evaluated drilling and sampling quality for down-the-hole conventional drill holes vs Reverse Circulation and Diamond drill holes. Studied also the Value of Blast Hole Sample Information, putting in economic terms the value of the samples collected from blast holes, and demonstrating its cost-effectiveness.

Compañía Minera Doña Inés de Collahuasi, CMDIC (August 1999-March 2001, Iquique, Chile. Principal shareholders are Anglo American and Falconbridge). GeoSystems International collaborated with the development of an updated resource model for the Rosario deposit, at a Pre-Feasibility level. Development of optimization methods for of short-term block models and grade control optimization for the Ujina mine. The new proposed grade control optimization procedure improves cash flow from current operations by about 3%.

Assisted the Geology Department with the transition from Pre-Feasibility to Feasibility stage for Rosario, including assisting with the quality control/quality assurance program and updating the resource block model of the Rosario deposit.

Minera Los Pelambres (March-November, 1999, Santiago, Chile. Principal shareholder is Antofagasta Minerals). Development of geostatistical conditional simulations to evaluate the risk of the long-term mine plan for the first 5 years of the Los Pelambres operation. Mr. Rossi also developed a detailed study to evaluate several alternative methods for grade control, and recommended the grade control method in use.

CODELCO Central, Gerencia de Exploraciones, (February 2000, Santiago, Chile). Reviewed all geological and resource modeling aspects of the Gaby project, at Pre-Feasibility level. Quality Control review of the geological work carried on site to date. Assistance with the development of a resource estimation methodology for future updates at Gaby.

CH2M Hill/E2 Consulting Engineers (October 1999-February 2000), Oakland, California). Management of GIS support for a Hydrologic Study performed by CH2M Hill in Oakland for EBMUD, Oakland, California. Coordination between the different consultants involved.

Cerro Vanguardia S.A. (February/March, 1998, Santa Cruz, Argentina. Principal shareholders are AngloGold and Perez Companc). For the Mine Geology group, review of open pit practices, and assessment of current grade control practices.

Jiangxi Copper Corporation, Ltd/Micon International (February-September, 1998, Jiangxi, P.R. of China). As part of a Micon International team, GeoSystems assisted in the review of the geology and ore resources work at the Dexing Cu/Au and the Yongping Cu/Ag mines, in the context of a bankable audit, according to JORC (AusIMM) resource and reserve definition standards.

In addition, developed and implemented resource estimation methodologies for both mines, and delivered an in-house Geostatistical and Resource Estimation Short Course in English. Assisted with the evaluation of commercial mining software for JCCL.

Minera Barrick Misquichilca S.A. (February 1998, Huaraz, Perú). Review of the resource block model of the Pierina mine, with emphasis in identifying risk areas. Delivered an in-house Geostatistics and Resource Estimation Short Course in Spanish.

CODELCO Div. Radomiro Tomic/Metálica Consultores (July 1997-January 1998, Calama, Chile). Development of an updated resource and reserves model for the mine, the final model prior to opening the mine. Development of a series of geostatistical conditional simulations to assess uncertainty of minable reserves and confidence intervals on a monthly mining production basis, and evaluates cash-flow risks for specific areas of the deposit. This study was used as part of the Feasibility study of an expanded mine plan (to 250,000 tons Cu production/year).

SOQUIMICH Nitratos/SQM, S.A. (March-June 1998, Antofagasta, Chile). Review and development of geostatistical methods for resource estimation for the Nitrate and Iodine- Lagunas Project and mine.

BHP Copper (February 1997/April 1998, San Francisco, California). Directed support work for environmental assessments for the Agua Rica project in Argentina. GeoSystems' responsibilities included creation of maps for field crews, digitizing hand-drawn field maps via scanning & raster-vector conversion and creation of report graphics. Also, completed topographic modeling to support dam location studies.

Inversiones Mineras del Inca/Niugini Mining (August 1994/July 1997, Antofagasta, Chile). Resource Estimation and block model development for the Toyita-Norita Gold project, including conditional simulations to obtain resource confidence intervals. Review and implementation of short-term modeling practices at the San Cristóbal mine, and employee-training.

Review of grade control methods using conditional simulations for the San Cristóbal mine (approximately 60,000 oz/year production). Implementation of a new grade control method, based on conditional simulations and loss functions, which resulted in am average 30% increase in recovered tonnage, 1% decrease in recovered grade, and a 22% increase in recovered ounces, increasing production to over 70,000 oz/year, and prolonging mine-life by about two years. October 1994/July 1995.

Ore resources and reserves estimation for the San Cristóbal gold mine in northern Chile, including several updates. August 1994/October 1995.

SRI International (July 1998, July-August 1999, Palo Alto, California). Managed and directed the development of a GIS-based system for demographic modeling to support market share analysis for telecommunications services in the United States. GeoSystems' tasks included data acquisition and conversion, modeling and map creation.

Harding Lawson Inc. (May-June 1997, Denver, Colorado). Review of contaminant assessments and risk assessment methodology for two confidential projects. Development of a conceptual evaluation strategy for both sites.

Echo Bay Mines (1994-1997, Denver, Colorado). Mr. Rossi assisted Echo Bay's Technical Services group in evaluating ore resource models of several projects, including conditional simulations for the Round Mountain operation, where a risk model for long-term mine planning and pit optimization was developed. Also, initial review of the geologic modeling and resource evaluation methods applied at the São Francisco project, Matto Grosso, Brazil, for Echo Bay Mines. Also, development of an updated resource model for the same deposit. Review of Round Mountain's mine grade control system and ore reserve estimation practices. Review of grade control methods, and development of a new, loss-function based grade control method, at McCoy/Cove Gold and Silver Operation, based on geostatistical conditional simulations.

Geologic modeling supervision for the Kurakanah Gold project in Russia. Geologic modeling and conditional simulation studies for Echo Bay's Cu-Au KingKing project. Technical support for the development of conditional simulation studies for Echo Bay's Aquarius, Canada, high grade Gold project.

Montgomery Watson Engineers (1994-1999, Walnut Creek, California). Built and supported a comprehensive GIS database for the Environmental Assessment and Cleanup at the Presidio of San Francisco under the BRAC program, April 1994-October 1999. Geostatistical assessment of contaminant plumes for approximately 60 Underground Storage Tank Sites and above-ground tanks in the Presidio of San Francisco, California,1995-1996.

Managed numerous support tasks for Feasibility Levels I and II of environmental assessments using Geographic Information Systems, including management of Montgomery Watson's spatial databases at the Presidio of San Francisco, California,1994-1999. Geostatistical assessment of a TCE plume in George AFB, southern California.

Comprehensive statistical analysis of chemical ground-water data at the Presidio of San Francisco. Twenty seven analytes were included. September 1996, updated January 1999. Site Characterization and Interim Remedial Action efforts supported with geostatistical analysis and three-dimensional visualizations for the Presidio of San Francisco, California, March 1994-December 1997.

Battle Mountain Gold Co. (December 1995/February 1996, KoriKollo, Bolivia). Review of grade control methods, and development of a new method based on geostatistical conditional simulations at Inti Raymi's (Battle Mountain Gold Co.) KoriKollo operation in Bolivia.

CODELCO Div. Chuquicamata/Metálica Consultores (1995 and 1997, Calama, Chile). Review, design, and development of a Bench Height study, analyzing selectivity and dilution for different areas of the orebody. Review of Short Term Planning methods and reconciliation practices at Chuquicamata.

Gran Colombia Resources (April-July 1997, Toronto, Canada). Review of the geology and ore resources of the Marmato project, central Colombia. Mr. Rossi also developed a Scoping Study and an updated resource model.

Rio Grande Mining Co./Altamira Mining LLC (October-December 1995, Sonoma, California). Development of a Multiple Indicator Kriging Ore Resource Model to estimate resources of the Shafter silver project, southern Texas, USA.

INTEMIN, Argentina. Conceptual Environmental Impact Statement for the Andacollo Au-Ag mine, Neuquén, Argentina, 1994.

MINERAL RESOURCES DEVELOPMENT Inc. (1992-1994)
SENIOR GEOSTATISTICIAN (1992-1994) - MANAGER /GEO/GIS DIVISION (1993-1994)

Mr. Rossi's main duties were ore reserves calculations and various others geostatistical studies, in addition to managing MRDI's **/geo/gis** environmental division.

As a geostatistician, Mr. Rossi specialized in the applications of conditional simulations to mining problems. As such, Mr. Rossi performed a detailed conditional simulation of the AMAX-Gold Guanaco deposit in northern Chile. The purpose of the study was to evaluate the sensitivities of the ultimate pit designs to uncertainty in grade and tonnage above cutoff of the high grade material.

Completed the ore reserves for the feasibility study of the San Gregorio deposit, a shear-hosted gold orebody in Uruguay. The work included geologic modeling through wireframing of ore envelopes and a multiple indicator kriging to estimate the in-situ reserves.

Prior to that, Mr. Rossi designed and implemented a three-day short course on conditional simulations for Echo Bay Mines personnel, Round Mountain operation.

Mr. Rossi also participated in the MRDI team that audited the Ashanti Goldfields Gold operation in Ghana, West Africa, and subsequently prepared the Competent Person's Report for James Capel and Co. of London, UK. The purpose of the report was to provide the technical basis for the evaluation of the property, in the light of a new stock offering. Mr. Rossi was responsible for the ore reserves aspect of the audit, and collaborated in auditing the geology and both underground and surface mining of the operation.

Developed and supervised in the field a sampling program for the Macuchi tailings project, aimed at estimating gold and base metal contents of an old tailings dump site in central Ecuador. The program supported a pre-feasibility level analysis of the economic viability of the project.

Completed a mineral resource model for the porphyry copper-gold project of Campana Mahuida, Argentina, as part of a scoping study to analyze preliminary economic parameters for the project.

Mr. Rossi has also performed a fatal flaw review of a gold project in a Central American nation (confidential client). He also built a pre-feasibility in-situ Au Resource Model for the same project.

Mr. Rossi also completed the development and implementation of a new ore reserve estimation method at Independence Mining Company's Jerritt Canyon mine, using conditional simulation of blast holes and grade control models to calibrate the reserve method.

Participated in the review and audit of the orebody model in BHP's Mt. Whaleback iron mine in Western Australia.

Participated in the Cerro Casale pre-feasibility study for BEMA Gold, assisting in the orebody modeling of a low-grade, high-tonnage Au project in north-central Chile. Prior to that, he implemented a new grade control method at IMC's Jerritt Canyon mine which led to a 5 percent increase in revenue and reported, since its implementation, a 0 percent variance between tonnages and grades predicted by grade control and received at mill.

Mr. Rossi has also reviewed reserves at Gold Fields' Mesquite and Chimney Creek Mines, and Mule Canyon and the skarn-hosted Elkhorn projects. He has also performed reviews of several other projects, including the gold, vein-type San Gregorio deposit in Uruguay.

Completed an extensive reserve modeling and reporting methodology review at Gold Fields Mining Corporation's Mesquite Operation, California, USA. The review entailed a detailed audit of the three-dimensional modeling effort.

Mr. Rossi assisted in a statistical study for optimal drill hole spacing in the Jerritt Canyon District (Nevada), and was also involved with reserve work and audits for gold projects in Nevada (USA) and Panama (Central America).

Lead the resource and reserve modeling efforts for the Ujina porphyry copper deposit in Chile and the Udokan sedimentary copper deposit in Russia. He also assisted in the development of the orebody model for Fairbanks Gold's Fort Knox project in Alaska, USA.

As the **/geo/gis** manager, Mr. Rossi was responsible for business development and project management, specializing in the environmental field, and managing three employees. Mr. Rossi provided geostatistical analysis of contaminants, support for site assessments, particularly in the area of spatial statistics, coordinated the field support provided by **/geo/gis** for site assessments, coordinated and managed Geographical Information Systems projects, and directed and performed three-dimensional visualization projects of contaminant plumes.

Mr. Rossi modeled a three-dimensional plume of soil and ground water contamination in Colorado, and a also a hydrocarbon contamination site in soil in San Jose, California.

Mr. Rossi also prepared and gave a three-day seminar on geostatistics for the environment in Bologna, Italy. The environmental seminar illustrated geostatistical techniques for Site Characterization and three-dimensional visualization.

FLUOR DANIEL, Inc. (1989-1992)

GEOSTATISTICIAN

As geostatistician, he completed several ore reserve estimation studies and reviews including massive copper deposits in Chile (Candelaria, Zaldívar, and Collahuasi), a vein-type gold deposit in Alaska, USA (Kensington Project), a sedimentary uranium deposit in Malawi, Africa (Kayelekera), and a gold-bearing tailings project in South Dakota, USA (Whitewood Creek, Lead, SD).

Responsible for the geoscience portion of the site characterization for a low-level radioactive waste Shallow Land Disposal Facility (SLDF) in Pennsylvania, USA. Also estimated the contaminant levels in a SuperFund site, in support of Environmental Site Characterization efforts.

Designed several three-day training courses in the application of geostatistics to the environmental sciences. Designed and instructed an 80 hour short course (in Spanish) on geostatistics, mine planning, and the application of computers in mining. The course was taught at the Universidad Nacional de San Juan, Argentina (August 1989). Also designed and delivered an `Introductory Geostatistics' course for Graduate students at SASIAM (School of Advanced Studies in Applied Mathematics), Valenzano, Italy, November 1990.

Other Experience

Mr. Rossi has considerable experience at presenting seminars in geostatistics at different levels: universities, privately organized short-courses, or training seminars and courses for mining and environmental companies.

Mr. Rossi designed and implemented several in-house geostatistical and ore resource estimation short courses of various durations and for several clients, in english and spanish, including BHP Billiton (in Chile and Australia), Newmont Gold, Carlin, Nevada, Minera Michilla S.A. (Antofagasta, Chile), Inversiones Mineras del Inca (Antofagasta, Chile, and Fremont, California), Minera Barrick Misquilchica S.A. (Huaraz, Peru), Jiangxi Copper Corporation Ltd. (Dexing, PRC), Echo Bay Mines Technical Services (Denver, Colorado), and Round Mountain (Nevada) mine personnel.

Mr. Rossi has delivered a course entitled “Evaluation and Design of Open Pit Mines” at the Universidad Nacional de San Juan, Argentina in 2003 and 2010. The course is part of the curricula of the Mining Engineering Postgraduate Program (MSc in Mineral Resources). He has also delivered two other courses for the same University (2004) and the University de San Luis, Argentina (2008).

Mr. Rossi presented a “Geostatistical Conditional Simulations” Workshop within the context of the 28th Application of Computers to the Mineral Industries (XXVIII APCOM, Golden, Colorado, October 1999), sponsored by the Colorado School of Mines.

Mr. Rossi has given several other short courses in Spanish, including a 9-day “Geostatistics for the Mining Industry” short course (July-August 1998, Santiago, Chile), a two-day course “Bankable Documents and Feasibility-Level Audits in the Mining Industry” (November 1997, Santiago, Chile), an additional five-day “Conditional Simulations” short course for 40 attendants in Santiago, Chile, and a five-day “Indicator Kriging Techniques” at the Universidad Católica del Norte, Antofagasta, Chile.

Mr. Rossi has also presented numerous seminars, short courses, and has been a Lecturer related to the Environmental issues. For example, a three-day short course on “Environmental Geostatistics, Scientific Visualization, and a Conceptual Approach to Environmental Project Development”, October 1993, for the Regione Emilia-Romagna Environmental Office (Bologna, Italy).

Mr. Rossi was Guest Lecturer and Researcher at the Universitá degli Studi di Bari, and the I.R.M.A.-C.N.R., Bari, Italy, in two different opportunities, September, 1990, and June-July, 1988. Presented seminars on Fundamentals of Geostatistics. Research work centered on geostatistical analysis of physical and chemical variables of the Mar Piccolo Sea, Taranto, Italy (June-July, 1988). The first visit (1988) was partially funded with a grant from the McGee Fund, School of Earth Sciences, Stanford University.

He has also worked as a consultant for Tecnópolis, C.S.A.T.A., Valenzano, Italy, investigating the feasibility of the application of geostatistical techniques to remote sensing problems. June-July 1988.

Publications

Mr. Rossi has 50 peer and non-peer reviewed publications, and is also de co-author of the book “Mineral Resource Estimation”, Rossi, M., and Deutsch, C., ed. Springer, 2014.

1. Badenhorst, C., O’Connell, S., and Rossi, M., “New Approach to Recoverable Resource Modelling: The Multivariate Case at Olympic Dam”, Proceedings of the X International Geostatistics Congress, Valencia, September 2016, pp.. ???.
2. Bruna Novillo, J., Bassan J., Rossi, M., “Los Riesgos en el Fundamento del Modelo de Recursos Recuperables”; presentated at the XIX Congreso Argentino de Geología, Córdoba, Argentina, 2-6 June, 2014.

3. Boisvert, J.B., Rossi, M.E., Ehrig, K., Deutsch C.V., “Geometallurgical Modeling at Olympic Dam”, accepted for publication, Mathematical GeoSciences, 2014.
4. Rossi, M., “Definición Óptima de la Malla de Taladros”, presented at the VIII Congreso Internacional de Prospectores y Exploradores, Pro-Explo 2013, 19-21 May, 2013, Lima, Perú.
5. Badenhorst, C., Rossi, M., “Measuring the Impact of the Change of Support and Information Effect at Olympic Dam”, Proceedings of the IX International Geostatistics Congress, Oslo, June 2012, pp.. 345-357, Springer.
6. Bruna Novillo, J., Bassan J., Rossi, M., “El Tablero de Control como Herramienta de Gestión en el Modelo de Recursos Recuperables”; Argentina Mining 2010, San Juan, Argentina, 31 de Agosto al 2 de Septiembre, 2010.
7. Rossi, M.E., Badenhorst, C., and O'Connell, S., "Collocated Cosimulation with Multivariate Bayesian Updating: A Case Study on the Olympic Dam Deposit”; Proceedings of the 4th International Conference on Minin Innovation (MININ 2010), R. Castor et al, editors, Santiago, Chile, June 2010. Peer-reviewed.
8. Baudino, M., Gardini, C., and Rossi, M., "Using Geologic Models to Support Resource and Reserve Estimation of Marble Deposits in Complex Settings”; Proceedings of the 4th International Conference on Minin Innovation (MININ 2010), R. Castor et al, editors, Santiago, Chile, June 2010. Peer-reviewed.
9. Rossi, M.E., "Accounting for Dilution in Ore Resource Estimation”; Proceedings of the 34th International Symposium on Applications of Computers and Operations Research in the Mineral Industries (APCOM 2009), Vancouver, Canada, October 6-9, 2009. Peer-reviewed.
10. Bruna Novillo, J., Bassan J., Rossi, M., “Los Fundamentos del Modelo de Recursos Mineros”; Proceedings of SIMIN 2009, XVI Mining Engineering Symposium, Santiago, Chile, August 18-21, 2009.
11. Rossi, M.E., and Baudino, M., "Modelos de Corto y Mediano Plazo”; Proceedings of GEOMIN 2009, First International Seminar of Geology in Mining, Antofagasta, Chile, June 10-12, 2009. Peer-reviewed.
12. Rossi, M.E., and Baudino, M., "Krigeage Ordinario Modificado por Indicadores: Ejemplo de Aplicación” Presented at the XVI Annual Meeting of the AIESMIN, San Juan, Argentina, October 23-24, 2008.
13. Rossi, M.E., Roco, R.R., and Camacho V., J.E., "Characterization of Uncertainty of Resources and Reserves: Case Study on the Escondida and Escondida Norte Deposits”; Proceedings of the 33rd International Symposium on Applications of Computers and Operations Research in the Mineral Industries (APCOM), Santiago, Chile, April 24-27, 2007. Peer-reviewed.
14. Rossi, M.E., "Geostatistical Uncertainty Modeling of Acid Rock Drainage” Proceedings of the 33rd International Symposium on Applications of Computers and Operations Research in the Mineral Industries (APCOM), Santiago, Chile, April 24-27, 2007. Peer-reviewed.
15. Rossi, M.E., "Indicator Simulations of Categorical Variables” Proceedings of the 32nd International Symposium on Applications of Computers and Operations Research in the Mineral Industries (APCOM), Tucson, Arizona, March 30-April 1, 2005. Peer-reviewed.
16. Rossi, M.E., "Comparing Simulated and Interpreted Geologic Models” Preprint, 2004 SME, Denver, Colorado, February 23-25. SME’s Henry Krumb Lecturer for the 2004-2005 period.
17. Rossi, M.E., "Practical Aspects of Large-Scale Conditional Simulations” Proceedings of the 31st International Symposium on Applications of Computers and Operations Research in the Mineral Industries (APCOM), Cape Town, South Africa, 14-16 May, 2003. Peer-reviewed.
18. Rossi, M.E., "El Valor de la Información” Proceedings of the 6ta Jornadas Argentinas de Ingeniería de Minas, San Juan, Argentina, May 30-June 1, 2002.
19. Rossi, M.E., "¿Recursos Geológicos o Reservas Mineras?” Proceedings of the 6ta Jornadas Argentinas de Ingeniería de Minas, San Juan, Argentina, May 30-June 1, 2002.
20. Rossi, M.E., and Camacho V., J., "Applications of Geostatistical Conditional Simulations to Assess Resource Classification Schemes", Proceedings of the 102nd Annual Meeting of the Canadian Institute of Mining, Metallurgy, and Petroleum (CIM), Quebec City, Canada, April 29-May 2, 2001.
21. Rossi, M.E., "Uncertainty and Risk-Models for Decision-Making Processes", Proceedings of the 28th International Symposium on Computer Applications in the Mining Industry (APCOM), Golden, Colorado, USA, October, 1999. Peer-reviewed.
22. Rossi, M.E., "Uncertainty Management through Stochastic Modelling", Proceedings of the 5th International Conference on Water Pollution, Lemnos, Greece, May 24-26, 1999. Peer-reviewed.
23. Rossi, M.E., "Optimizing Grade Control: A Detailed Case Study", Proceedings of the 101st Annual Meeting of the Canadian Institute of Mining, Metallurgy, and Petroleum (CIM), Calgary, Canada, May 2-5, 1999.
24. Van Brunt, B.H., and Rossi, M.E., "Mine Planning Under Uncertainty Constraints", Proc. of the Optimizing With Whittle '99 Conference, March 22-25, 1999, Perth, Australia.
25. Rossi, M.E., and Camacho V., J., "Using Meaningful Reconciliation Information to Evaluate Predictive Models”, Preprint, 1999 SME Annual Meeting, March 1-3, Denver, Colorado.
26. Rossi, M.E., and Alvarado C., S.B., "Conditional Simulations Applied to Recoverable Reserves”, Proceedings, 27th International Symposium on Computer Applications in the Minerals Industries (APCOM), London, United Kingdom, 19-23 April, 1998, peer-reviewed.

27. Rossi, M.E., "Improving on the Estimation of Recoverable Reserves", Preprint No 98-129, 1998 SME Annual Meeting, March 9-11, Orlando, Florida. Also published in the Mining Engineering magazine, January 2000.
28. Rossi, M.E., "Geoestadística de Indicadores Aplicada a Geología de Minas", Actas del Octavo Congreso Geológico Chileno, Antofagasta, Chile, Octubre 1997.
29. Rossi, M.E., "Grade Control using Conditional Simulations and Economic Optimization", Proc. of the Third Annual International Association of Mathematical Geology Conference, V. Pawlosky G., ed., Barcelona, September 1997, pp. 1003-1008, peer-reviewed.
30. Rossi, M.E., and Van Brunt, B.H., "Optimizing Conditionally Simulated Orebodies", Proc. of the Optimizing With Whittle '97 Conference, April 7-10 1997, Perth, Australia, pp. 93-100.
31. Aguilar C., A., and Rossi, M.E., "Método para Maximizar Ganancias en San Cristóbal", Revista Minería Chilena, Santiago, Chile, Ed. Antártica, No. 175, pp.63-69, January 1996.
32. Kowta, P.M., and Rossi, M.E., "GIS at the Presidio of San Francisco, A Data Management System for Environmental Monitoring and Assessment", presented at the Ninth Annual Symposium on Geographic Information Systems in Natural Resources Management, Vancouver, B.C., Canada, March, 1995.
33. Douglas, I.H, Rossi, M.E., and Parker, H.M., "Introducing Economics in Grade Control: the Breakeven Indicator Method", presented at the SME Annual Meeting, Preprint No 94-223, Albuquerque, New Mexico, February 14-17, 1994.
34. Rossi, M.E., Parker, H.M., and Roditis, Y.S., "Evaluation of Existing Geostatistical Models and New Approaches in Estimating Recoverable Reserves", presented at the XXIV APCOM'93, Montreal, Quebec, Canada, October 31 - November 3, 1993.
35. Rossi, M.E. and Parker, H.M., "Estimating Recoverable Reserves: Is It Hopeless?", presented at the Forum 'Geostatistics for the Next Century', Montreal, Quebec, Canada, June 3-5, 1993. Peer-reviewed.
36. Rossi, M.E. and Posa, D., "Measuring Departure from Gaussian Assumptions", Proceedings of the XXIII APCOM '92, Tucson Arizona, April 7-11, 1992.
37. Rossi, M.E., and Posa, D., "A Non-Parametric Entropy Estimator for Spatial Process". 'Journal of Mathematical Geology', Vol. 25, No 8, 1992. Peer-reviewed.
38. Rossi, M.E., "Assessment of Uncertainty Using Geostatistics". 'EnvironMetrics', Vol 3, No 1, pp. 71-80, March 1992. Also presented at the 3rd International Conference in EnvironMetrics, Madison, Wisconsin, October 7-10, 1991. Peer-reviewed.
39. Rossi, M.E., and Crowl, W. "Site Characterization: An Integrated Approach", Proceedings of the First Engineering and Technology Conference on Waste Management, San Juan, Puerto Rico. April 24-26, 1991.
40. Rossi, M.E., "Service Variables in Uranium Disequilibrium Studies", Presented at the SME Annual Meeting, Denver, February 25-28, 1991. Reprint No. 91-63
41. Rossi, M.E., and Posa, D., "Geostatistical Modeling of Dissolved Oxygen Distribution in Estuarine Systems", Environmental Science and Technology, Vol. 25, No 3, pp. 474-481, January 1991. Peer-reviewed.
42. Rossi, M.E., "The Use of Mathematical Models in Deposit Evaluations", GSA Abstracts with Programs, Vol. 22, No. 7, October 1990.
43. Rossi, M.E., "Impact of Clusters in Geostatistical Analysis", Proc. of the XXII APCOM, Frei Universität, Berlin, West Germany, September 17-21, 1990. Peer-reviewed.
44. Rossi, M.E., and Posa, D., "3-D Mapping of Dissolved Oxygen in Mar Piccolo: A Case Study", Environmental Geology and Water Sciences, Vol. 16, No. 3, 1990. Peer-reviewed.
45. Rossi, M.E., "Actualidad y Economía de la Flotación de Minerales de Litio, Columbio, y Tantalio", Presented at the "Cuartas Jornadas Argentinas de Ingeniería de Minas" Congress, Jujuy, Argentina, March 1990.
46. Rossi, M.E., and Posa, D., "Stationary and Non-stationary Kriging Applied to Dissolved Oxygen Data", Metron-International Journal of Statistics, Vol. 47, No 1-4, 1989, Rome, Italy. Peer-reviewed.
47. Journel, A.G., and Rossi, M.E., "When Do We Need A Trend Model?", Journal of Mathematical Geology, Vol. 22, No. 8, U.S.A., 1989. Peer-reviewed.
48. Rossi, M.E., "Simplifying the Practice of Kriging in Presence of Trends", Presented at the XXI APCOM'89, Las Vegas, U.S.A., February 28-March 2, 1989. Peer-reviewed.
49. Rossi, M.E., "Impact of Spatial Clustering on Geostatistical Techniques", Unpublished M.Sc. Thesis, Stanford University, 1988.
50. Rossi, E.E. et al, "Relaciones entre áreas de flotabilidad, variaciones en la tensión superficial, cantidad de colector adsorbido, y su solubilidad, para el sistema dodecilamina-scheelita", Presented at the "Terceras Jornadas Argentinas de Ingeniería de Minas", San Juan, Argentina, September 1986. Peer-reviewed.
51. Rossi, M.E. et al, "Flotación de Mineral de Scheelita en Columna", Presented at the "Terceras Jornadas Argentinas de Ingeniería de Minas", San Juan, Argentina, September 1986. Peer-reviewed.
52. Rossi, M.E., "Método Sísmico de Reflexión", Unpublished Mining Engineering degree thesis, Universidad Nacional de San Juan, Argentina, April 1985.