

Alejandro Luis Garrone

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Senior Resource/Mine Geologist

Enthusiastic and goal-oriented professional with over 16 years of site-based operations and mining experience leading geologic processes, ore control, near mine exploration, geological modeling, resource estimation and geostatistics. Expertise primarily centered on narrow vein LS Au-Ag deposits, Cu-Mo-Au porphyry systems, and HS Au deposits in South America. Recognized as an AusIMM Chartered professional (CP Geo-324306) and active member of the Geology Professional Board of Cordoba (N°A-623). Demonstrated a consistent track record of leadership in guiding proficient teams, interpreting complex geological and mineralization data, managing comprehensive geological databases, and creating/optimizing efficient workflows. Proficient in Leapfrog Geo/Edge; Datamine Studio EM/RM, Isatis, QGIS; Mapinfo Discover, Datamine GDMS-Acquire GIM. Expert in geological modelling and mineral resource estimation, providing invaluable support for economic evaluations. ***Proven expertise in:***

- Exploration & Production
 - Open Pit & Underground Operations
 - Data Gathering & Exploratory data Analysis
 - Database Management and QA/QC
 - Resource Modelling & Estimation
 - Regulatory Compliance
 - Project/Program Management
 - Cross-functional Team Leadership
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PROFESSIONAL EXPERIENCE

Allied Gold Corp, Canada

Senior Resource Geologist consultant, Oct 2024 - presente

Provide services in geological modeling and resource estimation for the company assets.

Rock Flow Dynamics Inc, Houston, USA

Senior Advisor Geologist (Part-time), Feb 2023 – Nov 2024

Applied advanced geological expertise to develop precise mineral deposit models, foster strategic relationships with industry professionals, and contribute to the development and optimization of the T-Navigator software for the mining industry.

Developed and presented geological models representing various mineralization styles. Introduced the software to potential clients in Argentina, Chile, Brazil, and Peru. Managed data acquisition for testing, demonstrated workflows, conducted training sessions, and facilitated knowledge transfer. Provided feedback and suggested improvements to developers. Collaborated in technical communication and represented the software throughout Latin America.

Cerro Moro Mine, Panamerican Silver, Santa Cruz, Argentina

Geology Manager, Feb 2024 to Oct 2024

Leading the mine geology and resource teams across multiple operating underground and open pit mines, ensuring efficient department operations. Collaborating with the senior management to align exploration initiatives with business objectives. Reporting directly to the site General Manager.

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Reviewed and endorsed QA/QC procedures and results. Conducted peer reviews of geology models and performed geostatistical analysis and mineral resource estimation for resource and reserve evaluation. Optimized short-term grade control modeling processes to support mine planning and execution. Oversaw mine reconciliation activities, contributing to continuous improvement initiatives. Acted as the Qualified Person for existing operations and exploration properties, signing off on NI 43-101 reports. Pursued technological advancements to enhance exploration, development, and mining activities.

Key Accomplishments:

- Successfully transitioned two diamond drilling rigs from other operations into active production. Which included hiring personnel and performing extensive maintenance. This strategic initiative replaced external contractors, reducing drilling costs from \$330 USD/m to \$200 USD/m, resulting in approximately \$1 million USD in savings in 2024 and about \$3 million USD up to 2026.

Cerro Moro Mine, Panamerican Silver, Santa Cruz, Argentina

Resource Superintendent, Mar 2023 to February 2024

Following Yamana Gold's acquisition by Panamerican Silver in March 2023, led a team of 80 professionals in production geology, resource management, and exploration. Accountable for resource estimation, strategic planning, and cross-functional collaboration, reporting directly to the Exploration Manager.

Developed and executed strategic plans to optimize resource allocation and contribute to the company's growth. Drove resource estimation methodologies, ensuring accuracy and reliability in assessments. Fostered cross-functional collaboration between teams to enhance overall operational efficiency. Collaborated closely with the Exploration Manager to align resource strategies with exploration efforts. Ensured compliance with industry regulations and best practices in resource estimation and management.

Key Accomplishments:

- Achieved production targets of 2023 in alignment with budgetary expectations.
- Peer reviewer of complex geological models and resource estimates, consistently evaluating technical risks and devising robust mitigation strategies.
- Demonstrated exceptional accuracy and reliability in resource modeling achieving reconciliation factors of 88% for gold and 87% for silver.
- Maintained superior grade reconciliation, minimizing discrepancies to 6% for gold and 2% for silver.
- Formulated and implemented strategic technical roadmap, driving operational excellence in geological exploration and mine geology initiatives.

Cerro Moro Mine, Yamana Gold Inc., Santa Cruz, Argentina

Geology Superintendent, Sep 2019 to Mar 2023

Led a team of 34 in mine geology and resource management across multiple underground and open pit operations. Developed resource block models and ensured efficient departmental operations. Reported to the site General Manager and Yamana's Director of Geology & Mineral Resources.

Coached geologists and technicians in safety, field techniques, and sampling. Led grade control, mine exploration, and resource modeling efforts, implementing technologies to improve workflows and productivity. Reviewed and endorsed QA/QC procedures and reports. Managed a team of resource geologists, overseeing geological and resource modeling for short and long-term estimates. Provided expert guidance on ore control and drilling initiatives. Led geological mapping and interpretation within active mines. Audited monthly production numbers, managed drilling and lab contracts, prepared budgets, and drafted resource statements and reconciliation reports. Conducted due diligence on other Yamana projects.

Key Accomplishments:

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- Mineral Resources CP for public disclosure reports to NI 43-101 for 2021, 2022 and 2023 resource statements.
- Led and supervised the implementation of a proactive approach in safety and risk prevention, achieving a 95% compliance in visible management. This resulted in zero lost-time accidents during the period from 2020 to 2023, showcasing a track record of excellence in maintaining a safe and secure workplace environment.
- Delivered production results, surpassing gold and silver production targets by 9% above budget for 2022. Consistently meeting production goals over 8 consecutive quarters highlights my skill in maintaining operational excellence and resource optimization.
- Championed a culture of continuous learning and growth, providing comprehensive training to 6 recent geology graduates and mentoring 10 local technicians. Dedicated over 2000 man-hours to skill development, yielding a high-performing and accomplished workforce.
- Implemented a workflow for resource modelling and estimation using Leapfrog Geo, Leapfrog Central and Datamine Studio integrating long/short term and grade control models.
- Created and implemented a grade control system integrating the underground and open pits mines.
- Implemented an integrated grade control system for both underground and open pit mines, enhancing precision in ore control. Additionally, devised and developed Power BI dashboards to monitor ore control processes, track key performance indicators (KPIs), and manage drilling performance and costs. This dual initiative streamlined operational oversight and decision-making.
- Revamped pile sampling techniques and optimized stock management processes, leading to an enhanced blending strategy and consistent feed grade stability. This initiative notably curtailed occurrences of hot metals events at the plant.
- Built a reconciliation workflow for long-term, short-term, planned and mined volumes. Successfully reduced reconciliation differences from 39% to 8% in two years for underground vein models resulting in significant cost saving and improved operational efficiency.
- Reduced 9% expenditures over budget through optimization and cost management.
- Increased MRMR inventory by 50K gold Oz and 2.0M silver Oz through RC and DDH near mine extensional drilling (25K meters) covering mine depletion and extending the mine life for the period 2021 and 2022.
- Minimized dilution figures from 2m to 0.6m through detailed mapping and hands-on supervision of drilling and blasting operations. Additionally, conducted rigorous void survey control to ensure precise excavation and optimal resource extraction.

Minera Don Nicolas S.A, CIMINAS, Santa Cruz, Argentina

Senior Resource Geologist, Nov 2016 to Sep 2019

Built resource block models and offer technical expertise and instructions to exploration and mine staff.

Trained geologists and technicians in safety, field techniques, and sampling. Interpreted geology and mineralization using Datamine Discover and Leapfrog Geo. Built resource block models with Leapfrog Edge and Datamine Studio RM. Managed geological databases with Datamine GDMS and SQL Server. Executed QA/QC analysis and corrective actions. Oversaw sampling and exploration fieldwork. Planned and managed exploration, delineation, and infill drilling programs. Developed CAPEX and budgets for lab and drilling. Acted as exploration manager, overseeing all exploration activities during their absence.

Key Accomplishments:

- Achieved health, safety, environment, and community goals (HSEC Standards); LTI=0 (lost of injury).
- Kept on budget exploration costs through monitoring of drilling and laboratory companies.
- Leveraged Leapfrog Geo to improve the delineation of complex veins systems along with building resource block models, enabling team to achieve 50K gold ounces discovered per year, resulting in company's mining life extension.

- Implemented geological database using Datamine GDMS software, which reduced data entry process and integrated data for resource modelling.
- Developed a dynamic workflow, allowing capturing, storage, analysis, and reporting of geological data from surface and drillhole data. Enabled exploration team for an efficient data collection procedure.

Self-employed, Argentina

Part-time Independent consultant, Oct 2014 to Sept 2019

Established a mining consultancy company from scratch to provide high quality geological, engineering and environmental technical advice to small industrial minerals mining companies.

Develop and maintain lasting relationships with clients. Accomplish some mining projects:

- Developed 3D geological and mineralization models for independent reasearches, Argentina, 2019.
- Executed resource evaluation in aggregate quarry located in Cordoba, Argentina, 2017.
- Carried out technical evaluation in Manganese deposits in Arica province, Chile, 2017.
- Completed technical evaluation in Diatomite deposits in Catamarca Province, Argentina, 2015.

Veladero Mine, Barrick Gold Corporation, San Juan, Argentina

Mine Geologist, Nov 2012 to Oct 2014

Provided high-level support to Chief Geologist in the management of daily activities, while overseeing the open pit grade control operation.

Updated short-term geological models, outlined ore/waste locations, and forecasted mineral grades and ore types. Managed geoscientific data and QA/QC using AcQuire software. Led drill-blast, hauling, and stockpiling operations. Monitored ore dilution, production, and reconciliation figures. Defined structural controls on mineralization through detailed bench mapping. Contributed to near-mine resource expansion. Maintained laboratory costs within budget.

Key Accomplishments:

- Utilized Leapfrog Geo and Minesight to create updates of short-term model using data from bench mapping and blastholes, resulting in optimizing mine planning, cutting costs, and raising production.
- Developed new mapping procedures from scratch to enhance efficiency.
- Devised alteration model using infrared spectroscopy data from blasthole samples that improved domaining and ore characterization.

Glencore Xstrata, El Pachón Project, San Juan and Agua Rica Project, Catamarca

Project Geologist, Oct 2010 to Oct 2012

Headed a high-performing team of 12 training geologists and 60 geologist assistants during the feasibility study phase of the projects. Reporting to Exploration manager.

Orchestrated training sessions for staff development. Supervised geologist, technicians and contractors. Designed, managed and executed exploration campaigns (DDH, RC). Planned budget for laboratory and drilling costs. Employed QA/QC programs to monitor data quality and laboratory performance. Drafted technical reports in line with NI43-101 and JORC codes. Executed geological and geotechnical core logging, as well as surface geological and structural mapping. Guided in data collection (RQD, PLT, density, and
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metallurgical sampling). Augmented domain delineation in Pachón deposit using innovative tools as Optical Televiewer and diagnostic leaching of copper minerals.

Key Accomplishments:

- Achieved health, safety, environment and community goals (HSEC Standards); LTI=0 (lost of injury).
- Proactively developed a safety culture among peers, teams and contractors.
- Managed drilling and laboratory companies by keeping operating costs within estimates.
- Played a lead role in reach 78,5k meters of drilling (8 rigs) within nine months in Pachón and Agua Rica projects via an effective design and monitoring of the drilling program.
- Provided timely updates during ongoing infill campaign in Agua Rica project by carrying out data validation and geological interpretations.
- Accomplished a QA/QC program comprising over 30k samples; oversaw hydrogeological and geotechnical investigations, allowing quality information collection for the feasibility study of Pachón project.

*Prior experience as **Mine Geologist**, Cerro Vanguardia S.A Mine, AngloGold Ashanti, Santa Cruz, Argentina (Apr 2008 to Oct 2010)*

EDUCATION AND CERTIFICATION

Citation in Applied Geostatistics, Alberta University, 2023

MSc in Mine Planning, National University of San Luis (UNSL), Argentina, 2020

MSc Mining Geology, Camborne School of Mines, Exeter University, UK, 2016

Thesis: Geological Modelling and Mineral Resource Estimation in Blackard Copper deposit, NW Qld, Australia

Graduate Diploma in Mineral Deposits Evaluation, CAMIPER, Lima, Perú | 2012

BSc in Geology, National University of Cordoba (UNC), Argentina, 2008

COURSES

Description and classification of volcanics rocks, Marcelo Arnosio, 2024

Diamond drilling and reverse circulation drilling. Panamerican Silver. Santa Cruz, 2023

Structural geology and tectonics applied to mineral exploration. Yamana Gold, 2022

Workshop Datamine-Geostat 2022 Course I to IV, Yamana Gold. Santa Cruz, 2022

Snowden Supervisor, Yamana Gold, Santa Cruz, 2022

Microsoft Power Bi, GD Capacitacion, 2022

Drilling and blasting applied to long-holes for underground mining, Yamana Gold, Santa Cruz, 2021

TEACHING AND RESEARCH

Assistant Professor, Mining Geology. National University of Cordoba. 2018 to Present.

2021 The Au-Ag (Zn, Pb, Mo, Cu) Sulfuro Vein, La Paloma district, Deseado Massif, Argentina: geochemical characterization, and new insights into controls of ore shoots formation. Fernández ML; Franchini M; Mazzoli S; Caffè, P. and Garrone A. Journal of Geochemical Exploration.

2019 Jurassic hydrothermal mineralization and Cretaceous to Paleogene exhumation in the foreland of the Patagonian Andes: new constraints from La Paloma area, Deseado Massif, Argentina. Fernández ML; Mazzoli S; Zattin M; Garrone A and Franchini M. Tectonophysics.

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