

WWW.SAXUM.US



A Lycopodium Business



MINING QUALIFICATIONS
PROJECTS & EXPERIENCE

LOCATIONS**ENGINEERING AND EPCM CAPABILITIES
ALL AROUND THE WORLD**
ARGENTINA
TUCUMAN
BUENOS AIRES
BRAZIL
BELO HORIZONTE
UNITED STATES
DALLAS, TX
AUSTRALIA
PERTH**CERTIFIED****ISO 9001
ISO 14001
ISO 45001**

SAXUM is committed to continuous improvement, aligning all its procedures with the highest international standards. We are proud to hold the ISO 9001:2015 quality certification.

SERVICES

INTEGRATED ENGINEERING SERVICES FOR PLANT DESIGN

PROCESS ENGINEERING FOR THE MINERAL PROCESSING INDUSTRIES

MECHANICAL ENGINEERING (PLANT DESIGN, PIPING, PROCESS GAS HANDLING, ENVIRONMENTAL CONTROLS, NUISANCE DUST COLLECTION AND MATERIALS HANDLING, CRUSHING AND GRINDING SYSTEMS)

CIVIL AND STRUCTURAL ENGINEERING (EARTH WORKS AND SLOPES, PONDS, TAILING DAM STABILITY, DRAINAGE, ROADS, FOUNDATIONS, STRUCTURES, CONNECTIONS DETAILING, SEISMIC ANALYSIS, ETC.)

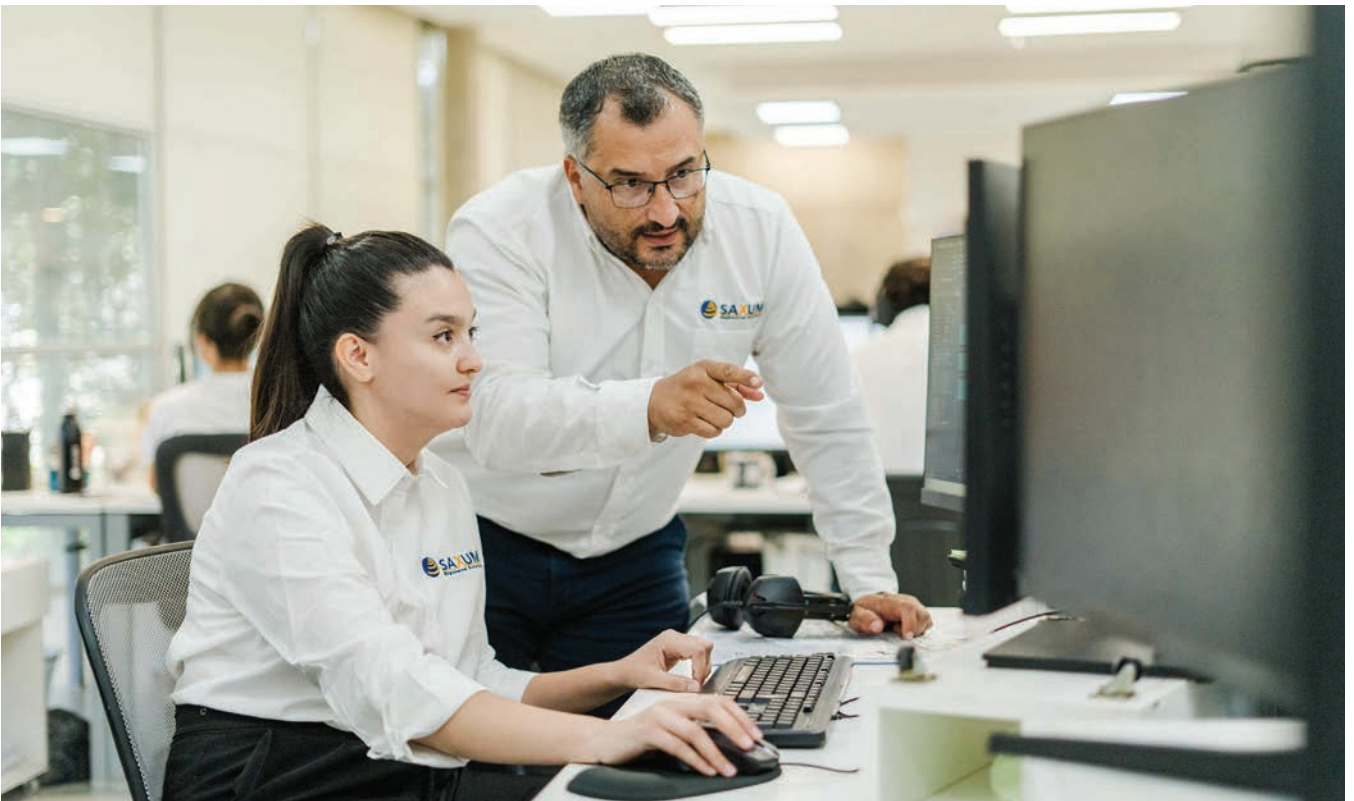
ELECTRICAL, INSTRUMENTATION AND CONTROL ENGINEERING



SERVICES

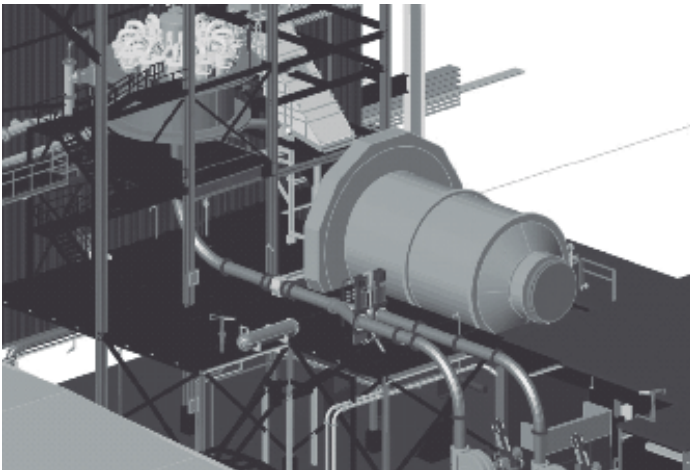
We stand out through our deep expertise in EPCM services for the mineral processing, oil & gas, and infrastructure industries. Our high-level engineering and project management teams ensure reliable execution, delivering optimized technical solutions on time and within budget—whether for new developments or facility upgrades.

Engineering & Design	Project Development	Execution & Delivery	Procurement
Multidisciplinary Engineering	Feasibility Studies	EPCM Services	Procurement
Conceptual, Basic & Detailed Designs	CAPEX/OPEX Evaluations	Site Supervision	Logistic & Expediting
Trade-Off Studies	Consulting Services	Commissioning	Auditing
		Planning & Project Control	



ENGINEERING

WE PROVIDE ENGINEERING SERVICES FROM CONCEPT TO REALITY



SCOPING STUDIES AND TRADE OFF ANALYSIS

CAPEX AND OPEX STUDIES

PREFEASIBILITY AND FEASIBILITY STUDIES BASED ON NI43-101 STANDARDS

COMPLETE ENGINEERING: CONCEPTUAL, BASIC AND DETAILED

PROCESS, MECHANICAL/PIPING/DUCT, CIVIL/STRUCTURAL, ELECTRICAL, I&C ENGINEERING

SCHEDULE DEVELOPMENT

MAIN PROCESS EQUIPMENT BID DOCUMENT PREPARATION

AUXILIARY EQUIPMENT SELECTION ASSISTANCE

CONSTRUCTION BID DOCUMENT PREPARATION

PROCUREMENT

CONSTRUCTION MANAGEMENT

SITE SUPERVISION

ENGINEERING

PROCESS ENGINEERING & PLANT OPTIMIZATION



PROCESS AUDITING, CAPACITY UPGRADES

TROUBLESHOOTING

OPERATIONS ANALYSIS

MASS AND ENERGY BALANCES

PROCESS CALCULATIONS AND FLOW DIAGRAMS

ANALYSIS OF OPTIMUM MATERIAL STORAGE REQUIREMENTS

COMMISSIONING

METALLURGY

CHEMICAL

PROCESS DEVELOPMENT & MODELLING

PILOT PROGRAMMES

HAZID / HAZOP

DYNAMIC SIMULATION

ENGINEERING

MECHANICAL ENGINEERING & PLANT DESIGN



SYSTEMS INTEGRATION WITH MULTIPLE VENDORS

PLANT LAYOUTS

GENERAL ARRANGEMENTS

FULL 3D MODELLING

EQUIPMENT TECHNICAL EVALUATIONS

EQUIPMENT SIZING AND CAPACITY DETERMINATION

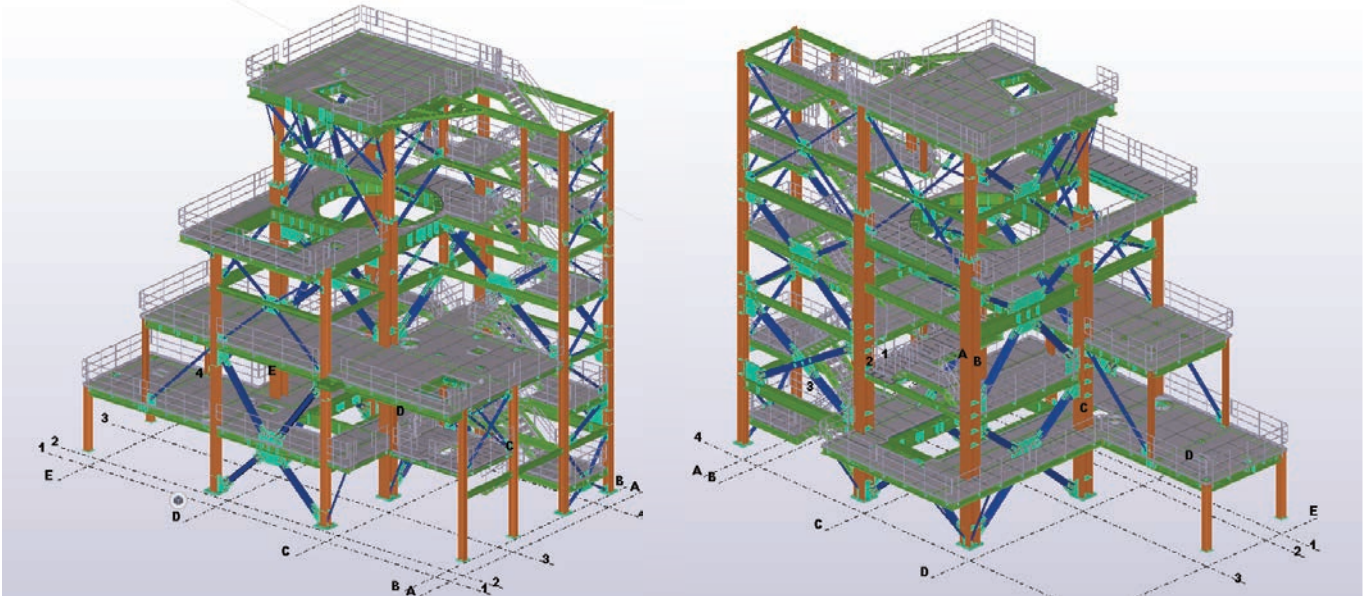
EQUIPMENT AND INSTALLATION SPECIFICATIONS

DUCTWORKS

ENGINEERING DESIGN: PIPING SYSTEMS - MATERIAL HANDLING SYSTEMS
PROCESS EQUIPMENT LAYOUTS

ENGINEERING

CIVIL & STRUCTURAL ENGINEERING



- STRUCTURAL ANALYSIS & DESIGNS (INCLUDING HIGH SEISMIC & HURRICANE ZONES) FOR INDUSTRIAL PLANTS
- EVALUATION AND IMPLEMENTATION OF GEOTECHNICAL REPORTS
- STRUCTURAL DESIGN BASED ON VIBRATION MITIGATION
- DYNAMIC FOUNDATION ANALYSIS
- DESIGN OF REINFORCED CONCRETE AND STEEL STRUCTURES
- CONCRETE SILOS AND BUNKERS
- STEEL BINS AND HOPPERS
- TUNNELS AND UNDERGROUND STRUCTURES
- DESIGN OF ROADS, EARTHWORKS, AND SLOPES.
- DESIGN OF PONDS AND TAILING DAMS.
- STABILITY ASSESSMENT OF SOIL/ROCK SLOPES.
- SOILS SLOPE STABILITY ANALYSIS

ENGINEERING

ELECTRICAL ENGINEERING



POWER DISTRIBUTION SYSTEMS

INSTRUMENTATION AND CONTROLS

HMI INTERFACE COORDINATION

PLC PROGRAMMING

MOTORS (MEDIUM VOLTAGE AND LOW VOLTAGE)

MEDIUM VOLTAGE STARTERS AND BREAKERS

TRANSFORMERS

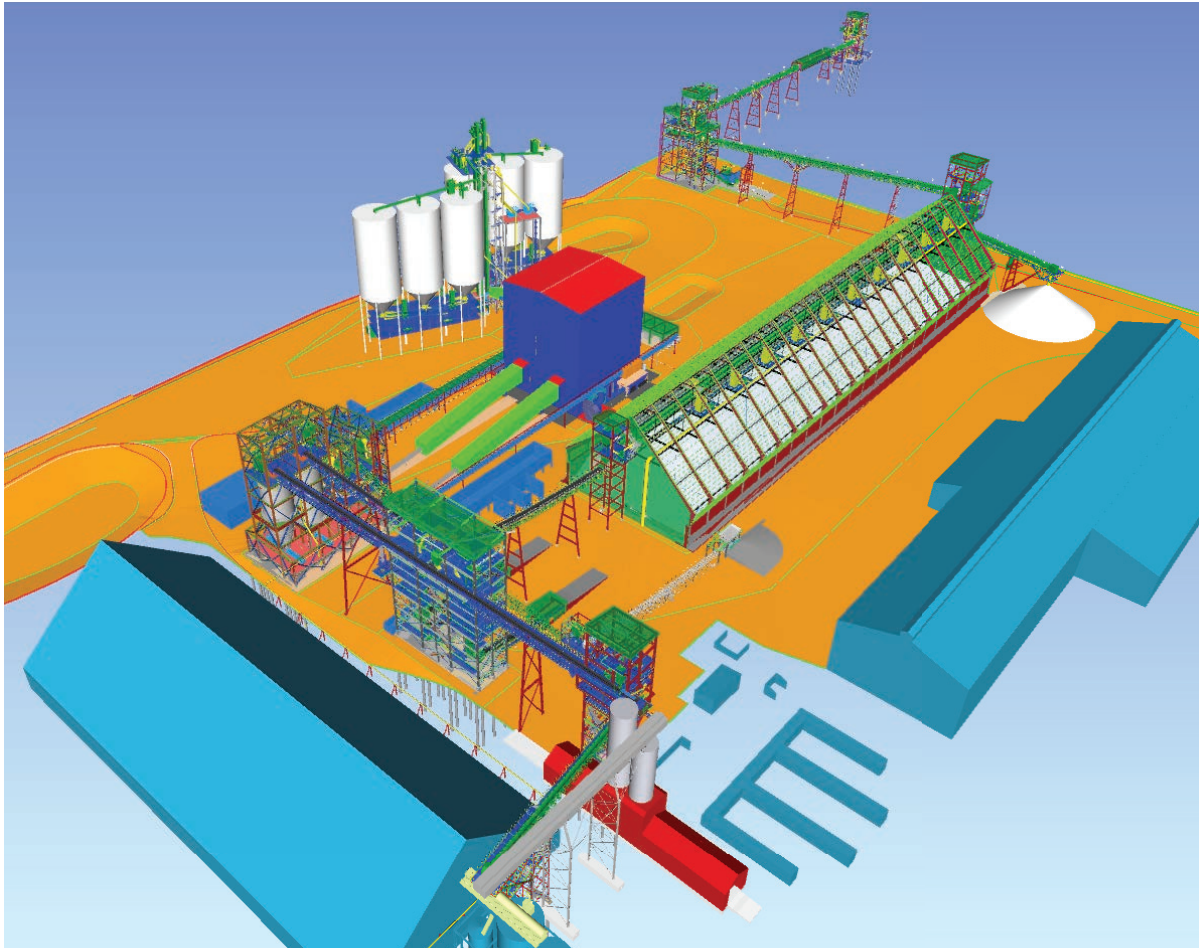
MOTOR CONTROL CENTERS

SHORT CIRCUIT ANALYSIS

POWER STUDIES

ENGINEERING

3D MODELLING FOR FULL PROJECT INTEGRATION



INTEGRATION OF EQUIPMENT ENGINEERING WITH THE CIVIL, MECHANICAL FABRICATION AND ELECTRICAL ENGINEERING

SHOP DRAWING REVIEWS

FABRICATION SHOP INSPECTIONS

COORDINATION OF MATERIALS FABRICATION FOR CONSTRUCTION AND DELIVERIES TO THE JOB SITES

WHY CLIENTS CHOOSE SAXUM

TOTAL RESOURCES IN HOUSE

KNOW-HOW AND EXPERIENCE IN MINING SOLUTIONS

LEADERSHIP IN DETAILED ENGINEERING SOLUTIONS

DEEP KNOWLEDGE OF STANDARDS AND CONSTRUCTIVE PROCEDURES

ENGINEERING MANAGEMENT ORIENTED TO SATISFY CLIENT TECHNICAL NEEDS

PROVEN PROCEDURES FOR PROCUREMENT, CONSTRUCTION
MANAGEMENT & PROJECT CONTROL.



PROJECTS

Fortuna Mining Corp. - Lindero Project

Location: Salta, Argentina

Commodity: Copper/Gold

Complete EPCM services for the Lindero gold mine project, including detailed engineering (civil, structural, mechanical, piping, electrical, instrumentation, and architectural), procurement support, construction management, and pre-commissioning and commissioning of key systems. Scope covered the full project cycle from preconstruction to start-up.

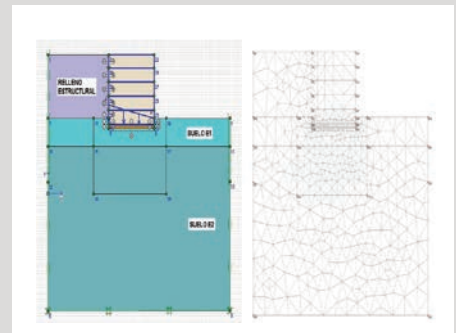


Glencore - Antapaccay Project

Location: Peru

Commodity: Copper/Gold

Value-added engineering services for CapEx optimization related to the SAG and Ball Mill foundations, as well as the structures and foundations of the secondary crushing system. Brownfield project associated with the Tintaya plant expansion.

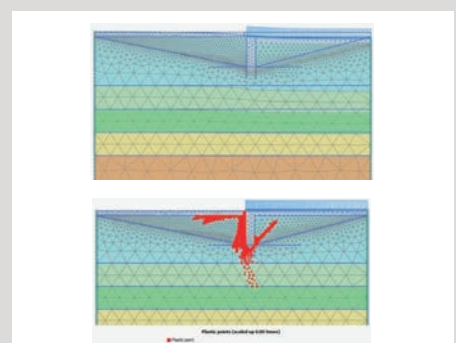


Pan American Silver - Cerro Moro Project

Location: Santa Cruz, Argentina

Commodity: Copper/Gold

Geotechnical investigations to assess the static and dynamic properties of subsoils beneath the leaching tanks, evaluating the need for soil injection to improve ground conditions and prevent future foundation settlement.

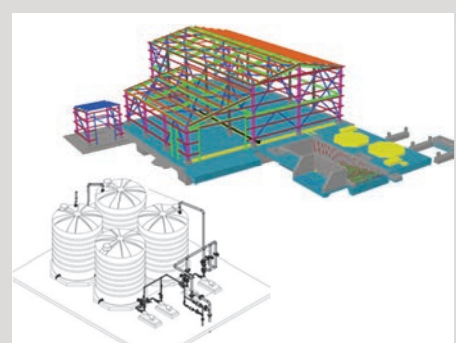


Newmont - Cerro Negro Project

Location: Santa Cruz, Argentina

Commodity: Copper/Gold

Engineering for the update of the Trackshop and Truck Wash Bay of Cerro Negro gold mine. FEL II & FEL III (Conceptual & Basic Engineering and CAPEX) and detailed mechanical and piping engineering for New Truck Ship and Truck Wash



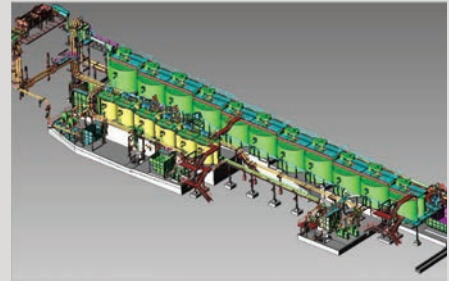
PROJECTS

Glencore - Minera Alumbreira Ltd.

Location: Catamarca, Argentina

Commodity: Copper/Gold

Complete conceptual, basic, and detailed engineering, along with CapEx analysis. Project related to the installation of new cleaning cells.



Glencore - Minera Alumbreira Ltd.

Location: Catamarca, Argentina

Commodity: Copper/Gold

Tailing Dam Water Recovery Project. Technical and economic analysis of alternative layouts and equipment configurations, along with conceptual and detailed engineering.

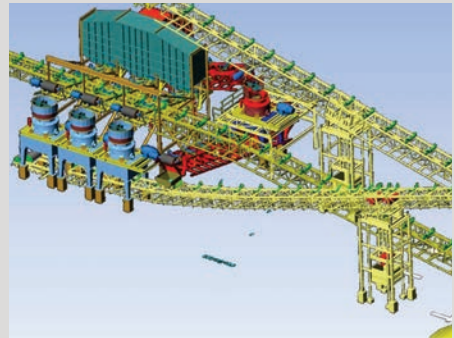


Glencore - Minera Alumbreira Ltd.

Location: Catamarca, Argentina

Commodity: Copper/Gold

Pebbles crushing plant expansion. Conceptual and detailed mechanical and structural engineering, including site supervision and RFI support during the construction phase.



Glencore - MARA Project

Location: Argentina

Commodity: Copper/Gold

Review and verification of the integrity and safety conditions of the infrastructure at the Minera Alumbreira plant in Catamarca and Tucuman provinces.



PROJECTS

Glencore - Antapaccay Project

Location: Peru

Commodity: Copper/Gold

Review and verification of the stacker design prepared by Thyssen-Krupp, along with the design of its foundation system. Brownfield project related to the Tintaya plant expansion.



CODELCO - Chuquimata Project

Location: Chile

Commodity: Copper

Detailed engineering and construction support for a value recovery project using fresh tails at the Chuquimata Concentrate Plant in Chile.



AbraSilver Resource Corp. - Diablillos Project

Location: Salta, Argentina

Commodity: Silver/Gold

Trade-off study for the Diablillos project, evaluating five energy supply alternatives. The report included CapEx and OpEx comparisons and recommended the most efficient option. Engineering support for PEA.



Pan American Silver - Manantial Espejo Project

Location: Argentina

Commodity: Silver/Gold

Engineering design and project control during construction, covering all disciplines, Mechanical, Civil, Structural, Electrical, and Instrumentation. Data sheets and specifications for equipment procurement and construction activities.



PROJECTS

Cerrado Gold - Don Nicolas Project

Location: Santa Cruz, Argentina

Commodity: Gold

Pre-Feasibility and feasibility studies, including preliminary process design criteria, plot plan, and facilities layout. Scope also covered tailings management design, hydrological studies, and water development planning.

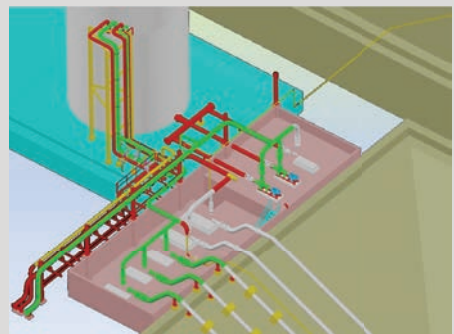


AngloGold Ashanti - Cerro Vanguardia Project

Location: Santa Cruz, Argentina

Commodity: Gold

Basic and detailed engineering, along with construction assistance services, for a crushing/agglomerating plant and a heap leach pumping station.



Newmont - Cerro Negro Project

Location: Santa Cruz, Argentina

Commodity: Gold

Engineering support for multiple sites, including tunnel portals, facility installations, auxiliary services, and infrastructure works, with CapEx estimates. Onsite project control and field support at Cerro Negro, working alongside client teams to plan and monitor construction through a detailed work schedule.

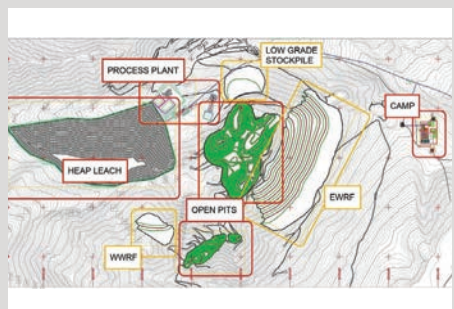


Orvana Minerals Corp. - Taguas Project

Location: San Juan, Argentina

Commodity: Gold

Project Economical Assessment (PEA) issued according to the NI43-101 standards.



PROJECTS

Newmont - Cerro Negro Project

Location: Santa Cruz, Argentina

Commodity: Gold

Engineering design and project control during construction, covering all disciplines—mechanical, civil, structural, electrical, and instrumentation. SAXUM also prepares data sheets and specifications for equipment procurement and construction activities.



Intrepid Mines Ltd - Casposo Project

Location: San Juan, Argentina

Commodity: Gold

EP & CM services from basic engineering, covering process, mechanical, civil/structural, electrical, and instrumentation, plus procurement and construction management.

Current owner: Austral Gold Ltd.

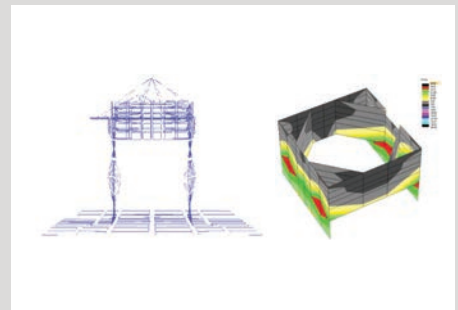


Barrick Gold Argentina - Veladero Project

Location: San Juan, Argentina

Commodity: Gold

Detailed mechanical and structural engineering for the primary and secondary crushing systems at the Veladero greenfield project.

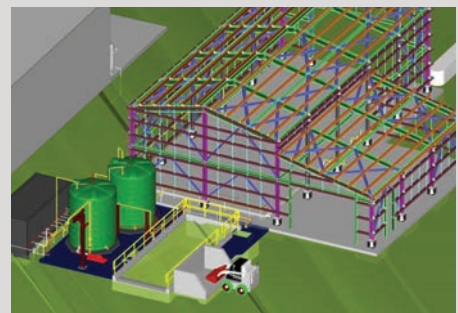


Newmont - East District Project

Location: Santa Cruz, Argentina

Commodity: Gold

Engineering for mechanical, civil/structural, electrical, and I&C disciplines to support early-stage capital estimates. Developed plans, drawings, and specifications for the San Marcos Portal, along with basic and detailed engineering for Bajo Negro and Silica Cap.



PROJECTS

Zijin Mining - 3 Quebradas Project

Location: Catamarca, Argentina

Commodity: Lithium Carbonate

Multidisciplinary engineering designs and procurement support for greenfield lithium carbonate plant.

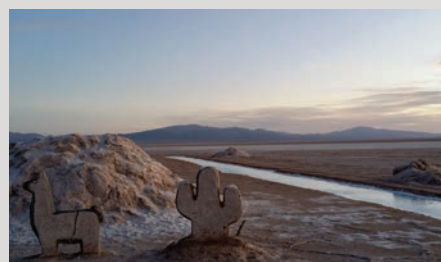


Sales de Jujuy S.A. - Olaroz Project

Location: Jujuy, Argentina

Commodity: Lithium Carbonate

Conceptual and detailed engineering for CO₂ recovery and re-injection, including equipment sizing and gas consumption analysis. Thermal energy evaluation for new steam generator.

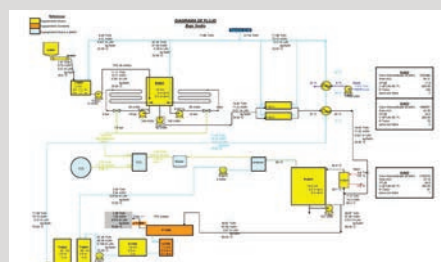


Rio Tinto - Salar del Hombre Muerto Project

Location: Salta, Argentina

Commodity: Lithium Carbonate

Conceptual and basic engineering for a low-sodium lithium chloride brine plant, including process, civil, structural, mechanical, piping, electrical, and instrumentation.

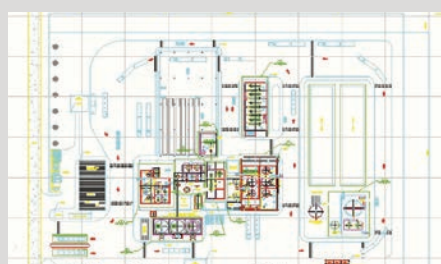


Eramet Ingenierie - Salinas Grandes Project

Location: Salta, Argentina

Commodity: Lithium Carbonate

Full conceptual and basic engineering, including process, civil/structural, mechanical/piping, electrical, and instrumentation/control, for CapEx and OpEx evaluation.

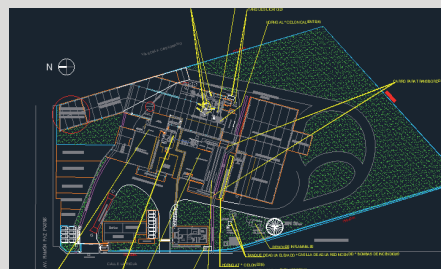


IMERYS Argentina - Plant Relocation Project

Location: Mendoza, Argentina

Commodity: Industrial Minerals

Feasibility study for relocating the entire plant from Tucumán to Mendoza. Engineering and project management support for plant demobilization, new facility planning, and CapEx/OpEx evaluation.



PROJECTS

Project/Study	Scope	Location	Commodity
Feasibility Studies			
Farallon Negro Gold Mine	FS	Argentina	Au, Ag
Minera IRL	FS	Argentina	Au, Ag
Josemaria Project	PFS	Argentina	Cu
Cerro Negro Project	FS/BE	Argentina	Au, Ag
Minera Alumbrera Project	FS	Argentina	Cu, Au
Fortuna Silver Inc.	DFS	Argentina	Au
Doncella Project	FS	Argentina	Li
Sal de los Angeles Project	FS	Argentina	Li
Tincalayu Expansion Project	FS	Argentina	
Taguas Project	PEA	Argentina	Au
3 Quebradas Phase II Project	FS	Argentina	Li
Cauchari Olaroz Project	FS	Argentina	Li
Cauchari Olaroz Project KT/Y expansion	FS	Argentina	Li
Alpha Lithium	FS	Argentina	Li
Argosy Minerals	FS	Argentina	Li
Galaxy Lithium	FS	Argentina	Li
Salinas Grandes / San Antonio de los Cobres Project	PFS	Argentina	Li
Centenario Project	PFS	Argentina	Li
Minera del Altiplano	PFS	Argentina	Li
Cerro Moro Project	FS	Argentina	Au, Ag
Minera Santa Cruz	FS	Argentina	Au
Kachi Lithium Carbonate Project	FS	Argentina	Li
Casposo Gold-Silver Project	FS	Argentina	Au
Diablillos Gold Mine Project	PEA	Argentina	Au
MARA Project - Glencore	FS	Argentina	Au
CAP Oeste Gold Mining Project	PFS	Argentina	Au, Ag

PROJECTS

Project/Study	Scope	Location	Commodity
Rincon Lithium	PFS	Argentina	Li
Doncella Project	FS	Argentina	Li
Salar del Hombre Muerto Project	FS	Argentina	Li
Panamerican Silver - Cerro Moro Project	FS	Argentina	Au, Ag
Minera Santa Cruz	FS	Argentina	Au
Kachi Lithium Carbonate Project	FS	Argentina	Li
Diablillos Gold Mine Project	PEA	Argentina	Au
Detailed Engineering			
3 Quebradas Lithium Project		Argentina	Li
Minera Alumbrera Project		Argentina	Au, Cu
Veladero Greenfield Project		Argentina	Au
Olaroz Project		Argentina	Li
Cerro Moro Project		Argentina	Au
Veladero Project		Argentina	Au
Sal de Vida Project		Argentina	Li
Lattimore Materials Corp		USA	Sand
3 Quebradas Phase I Project		Argentina	Li
Cerro Negro Project		Argentina	Au, Ag
Consulting Services			
AbraSilver – Trade Off Study for Electrical Supply		Argentina	Ag, Au
AbraSilver – Trade Off Study for Tailing Dam location		Argentina	Ag, Au
Josemaria Project – Sismic Risk Assessment		Argentina	Cu
Josemaria Project – Design Criteria Definition/Review		Argentina	Cu
Los Azules Project – McEwin – Construction Costs Review		Argentina	Cu, Au
MARA Project – Engineering Verification		Argentina	Au
Kachi Project – Owners Engineering		Argentina	Li
Cia Minas Buenaventura - Due Diligence service for mine acquisition		Argentina	Ag, Au

PROJECTS

ADBRI – Angaston Slag Dryer	Trade Off	Australia	
Argosy Minerals – Basis of Design	BoD	Argentina	Li
EPCM Services			
Lithium Americas – Minera EXAR	EPCM	Argentina	Li
Fortuna Silver Inc.	EPCM	Argentina	Au
Minera Triton	EPCM	Argentina	Au, Ag
Cerro Vanguardia (Anglo Gold Ashanti)	EPCM	Argentina	Au, ag
Minera Santa Cruz	EPCM	Argentina	Au
Minera Alumbrera Expansion Projects	EPCM	Argentina	Cu, Au

Providing multidisciplinary technical assistance with excellence since 1996





A Lycopodium Business

CONTACT US

United States

Dallas, Texas

Office: +1 972 859-0013

Mob: +1 484 515 2840

jared.weston@saxum.us

Australia

Perth, WA

Office: +61 047 444 0235

Mob: +61 474 440 235

melanie.etse@saxum.us

Mob: +61 402 014 016

david.magee@saxum.us

Argentina

Buenos Aires & Tucumán

Offices: +54 11 5128 4800

Mob: +54 911 58831583

constanza.unzaga@saxum.us

Mob: +54 9 381 5860957

facundo.zavaleta@saxum.us

Brazil

Belo Horizonte

Office: +55 11 963114943

Mob: +55 11 963114943

barbara.schilman@saxum.us

