

WWW.SAXUM.US



LITHIUM QUALIFICATIONS

PROJECTS & EXPERIENCE

OFFICES

ENGINEERING AND EPCM CAPABILITIES ALL AROUND THE WORLD



ARGENTINA
TUCUMAN
BUENOS AIRES

BRAZIL
BELO HORIZONTE

UNITED STATES
DALLAS, TX

AUSTRALIA
PERTH



SAXUM in its continuous improvement process has adapted all the procedures to the highest international requirements with the ISO 9001:2015 quality certification.

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

DEVELOPMENT OF COST-EFFECTIVE ENGINEERING SOLUTIONS

COMMISSIONING

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

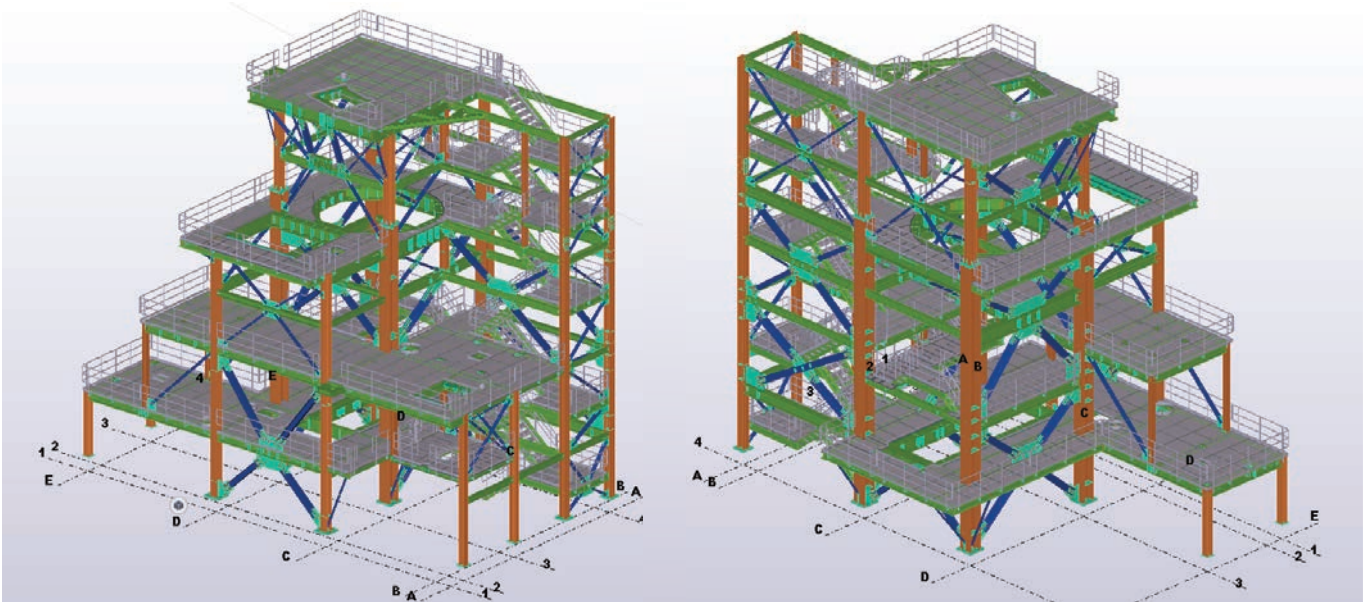
EQUIPMENT AND INSTALLATION SPECIFICATIONS

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.

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

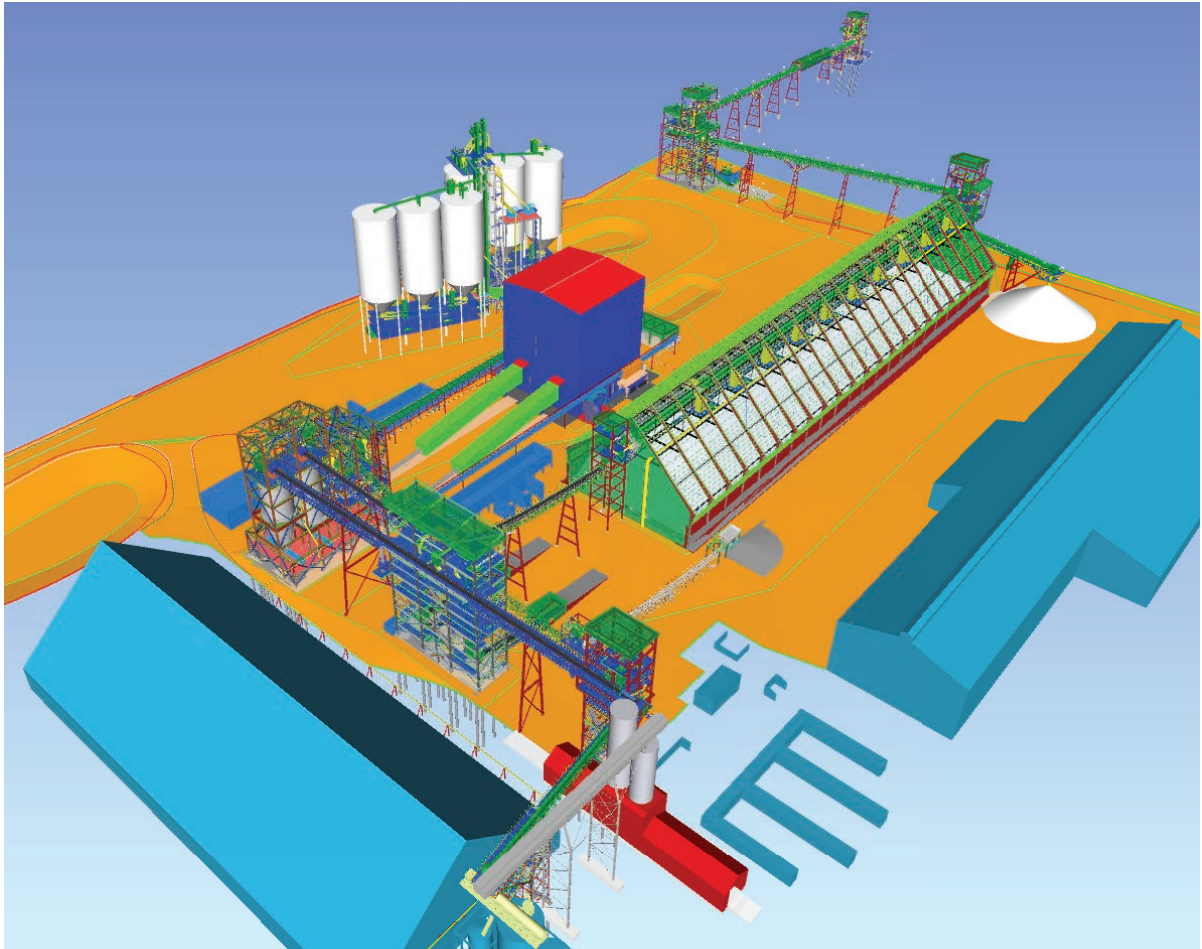
MOTOR CONTROL CENTERS

SHORT CIRCUIT ANALYSIS

POWER STUDIES

ENGINEERING

3D MODELLING FOR FULL PROJECT INTEGRATION



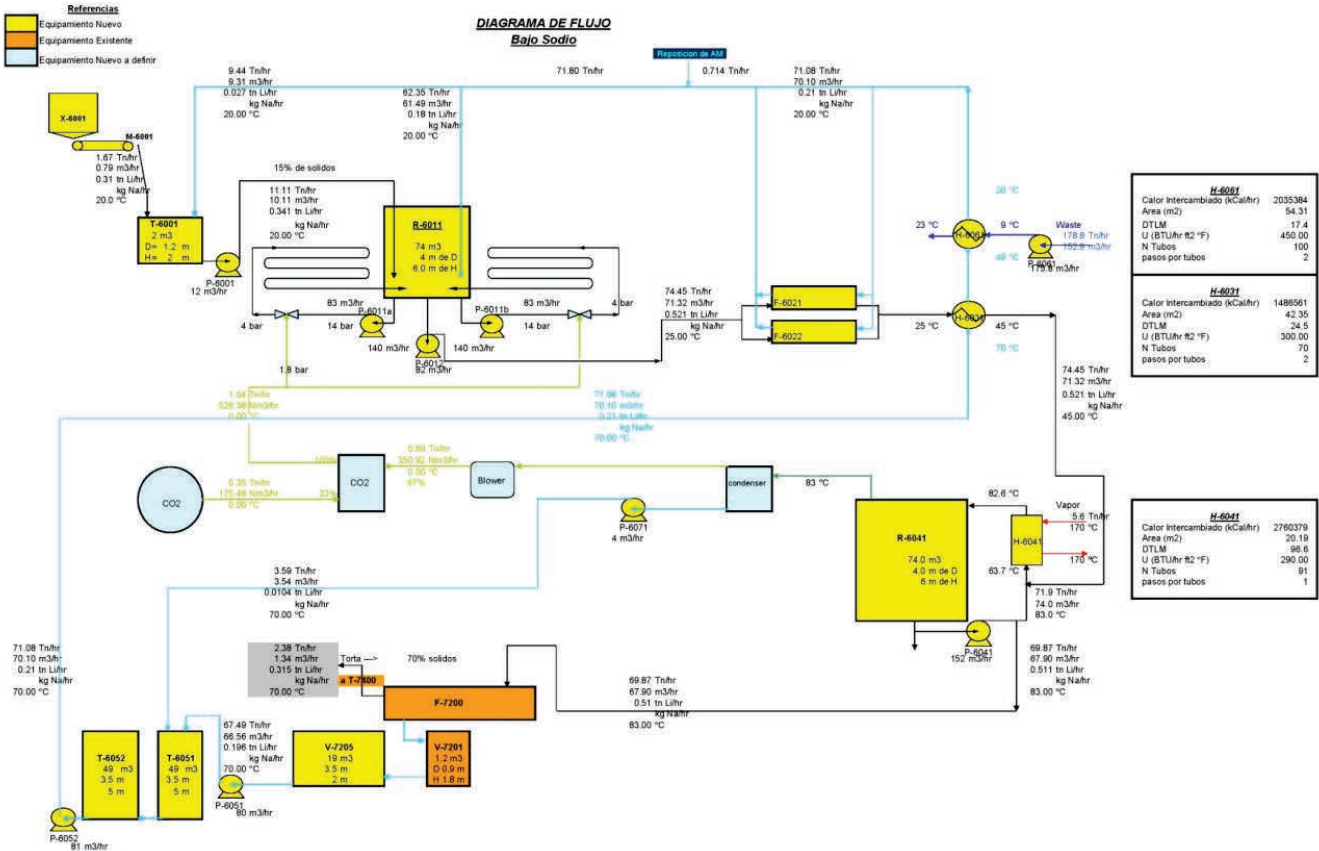
INTEGRATION OF EQUIPMENT ENGINEERING WITH THE CIVIL, MECHANICAL FABRICATION AND ELECTRICAL ENGINEERING

SHOP DRAWING REVIEWS

FABRICATION SHOP INSPECTIONS

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

LITHIUM PROJECTS



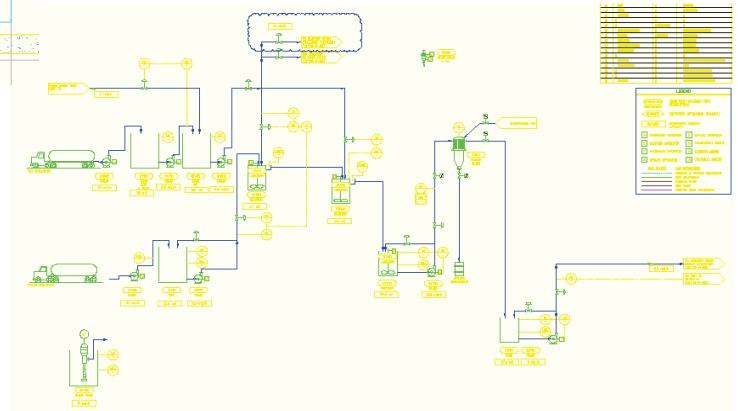
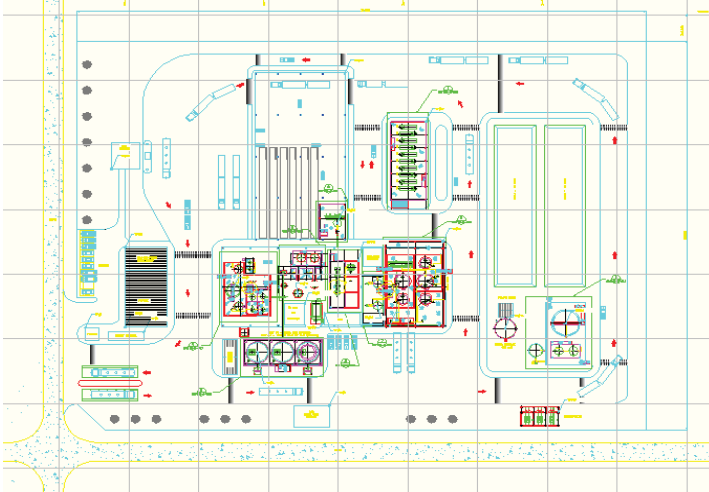
FMC Lithium - Argentina - Salar del Hombre Muerto

Project Budget: US\$ 25 M.

SAXUM scope of work: Complete conceptual and basic engineering for low sodium lithium chloride brine plant. Process, Civil & Structural, Mechanical & Piping, Electrical, Instrumentation & Control Engineering.

Project related to the extension of the salts and lithium production in the FMC plant in Salar del Hombre Muerto, Salta province, Argentina.

LITHIUM PROJECTS

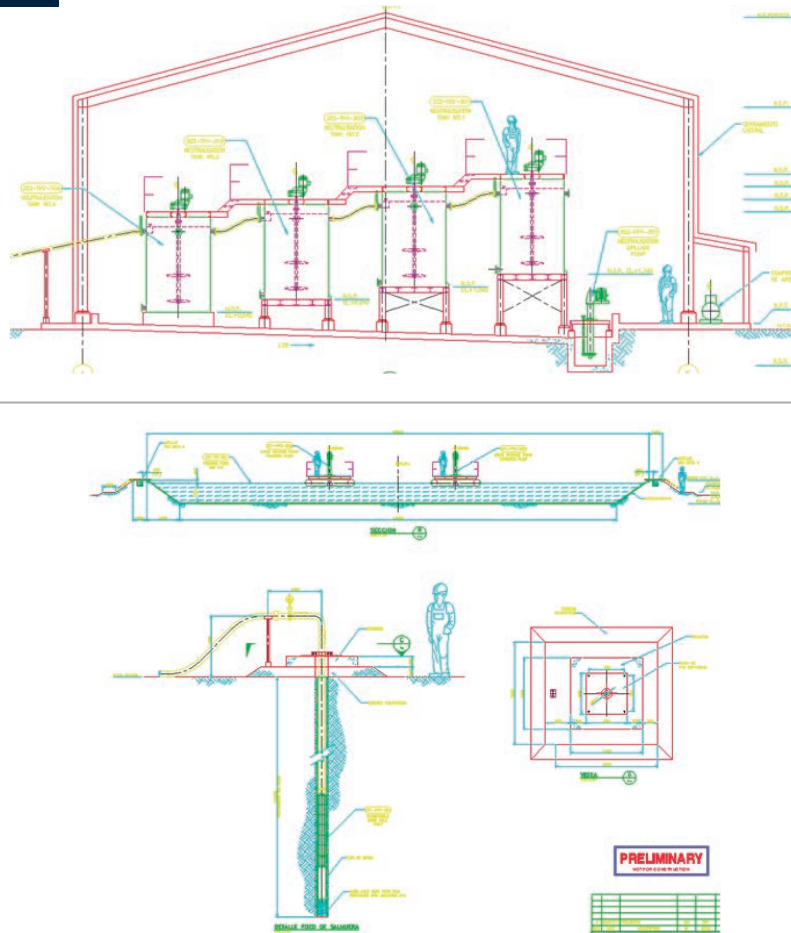


Eramet Ingenierie- Argentina - Salinas Grandes

Project Budget: US\$ 160 M

SAXUM scope of work: Complete conceptual and basic engineering (including process, civil/structural, mechanical/piping, and electrical, I/C) for CapEx and OpEx evaluation. Lithium carbonate and potassium chloride plants in the province of Salta, Argentina.

LITHIUM PROJECTS



Bolera Minera (Eramet Ingenierie)- Argentina - Salinas Grandes

Project Budget: US\$ 250 MM

SAXUM scope of work: Basic engineering for the Pilot Plant for Lithium Brine Evaporation. CapEx an OpEx update. Development of technical specifications and equipment data sheets

LITHIUM PROJECTS



Sales de Jujuy S.A. - Argentina - Olaroz Project

Project Budget: US\$ 240 M

SAXUM scope of work:

DEVELOPMENT OF CONCEPTUAL AND DETAILED ENGINEERING FOR CO2 RECOVERY: Complete engineering for gas recovery and re-injection. Dimensioning of all involved equipment. Evaluation of gas consumption.

STEAM SYSTEM OPTIMIZATION: Definition of the thermal energy balance. Evaluation of the most appropriate procedure for incorporating the new steam generator to the system.

LITHIUM PROJECTS



Minera EXAR S.A. - Argentina - Salar de Cauchari Project

Project Budget: US\$ 250 M

SAXUM scope of work: Local technical office for a lithium project to be situated in northern Argentina. Technical support, revision and adaptation to Argentinean standards of all engineering documents and services and materials bid packages, done by an overseas engineering company. Contracts management and Bidding processes support. Engineering Services and Procurement . Feasibility phase : Revision of Basic Engineering . Total HHs by SAXUM: 3,500 hs

LITHIUM PROJECTS

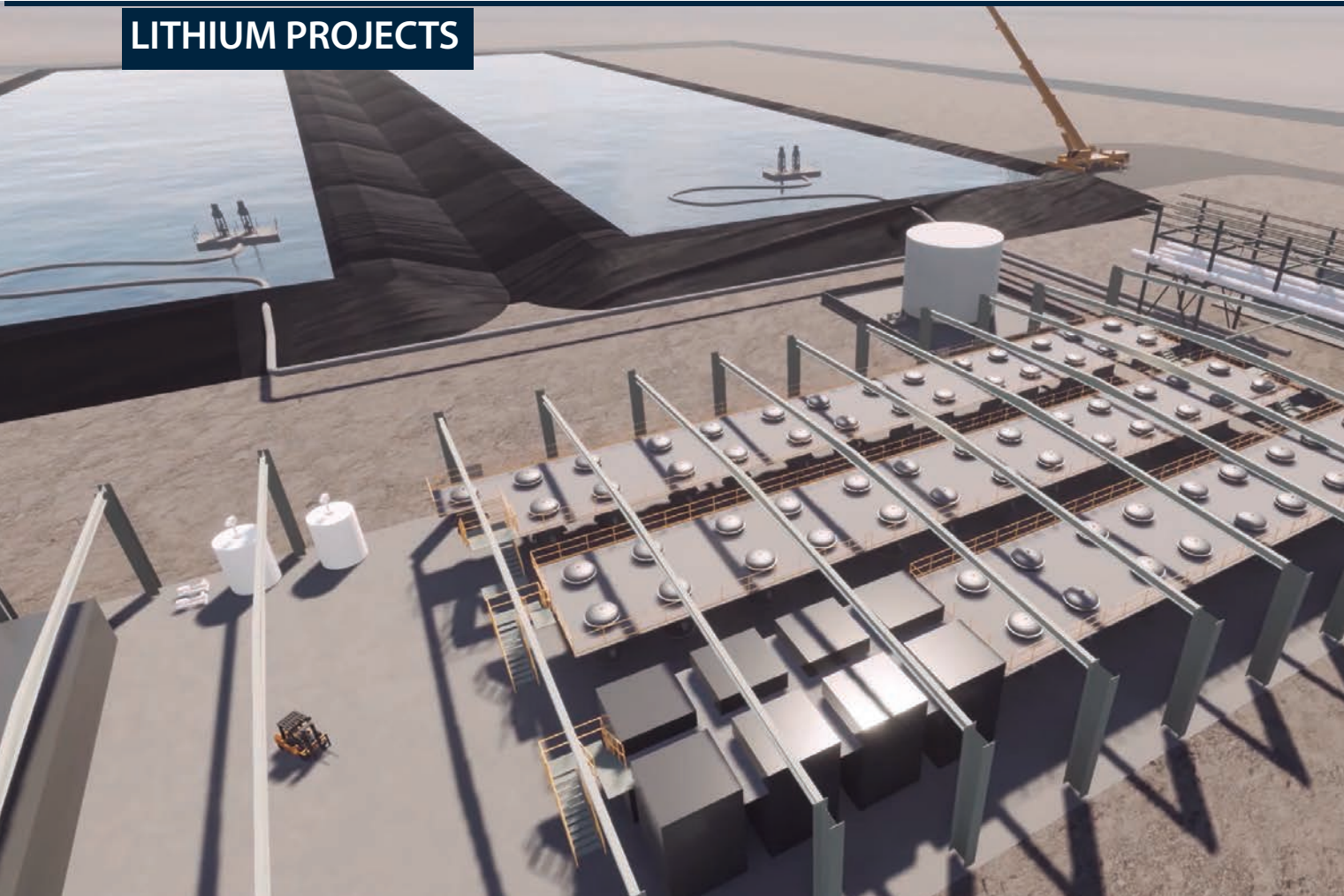


GALAXY Resources Ltd. - Argentina - Sal de Vida Project

Project Budget: US\$ 150 M

SAXUM scope of work: SAXUM was responsible for the development of the P&IDs of the greenfield lithium project Galaxy in the province of Salta, Argentina. Also SAXUM made the cost estimate of the portion of that project related to the P&IDs. Total HHs by SAXUM 6.280.

LITHIUM PROJECTS



Lake Resources / Morena del Valle Minerals – Kachi Lithium Carbonate Project

Project Budget: US\$ 544 M

SAXUM scope of work: SAXUM represented owner's engineering team for the development of a definitive feasibility study, reviewing lithium carbonation process and multidisciplinary FEED engineering. Also contributing to the DFS by providing a full report on operation logistics and strategies, access roads, ports availability, customs and schedules.

CLIENTS





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