ASX ANNOUNCEMENT

19 December 2023

LAKE RESOURCES KACHI PROJECT PHASE ONE DEFINITIVE FEASIBILITY STUDY

Lake Resources N.L. (ASX: LKE; OTC: LLKKF) ("Lake" or the "Company"), is pleased to announce the results of its Definitive Feasibility Study ("DFS") for Phase One of the globally significant Kachi lithium brine project in Argentina.

The Kachi Project ("Kachi", "Kachi Project" or "Project") Phase One DFS demonstrates that Kachi is a tier one project, backed by a significant resource and strong economics positioning it competitively within the growing lithium market.

Kachi Project Phase One Financial Highlights

- The Project boasts a post-tax NPV$_8$ of US$2.3 billion and an internal rate of return ("IRR") of 21%.
- Targets battery grade lithium carbonate revenue of US$21 billion and US$16 billion EBITDA for the 25-year life of mine ("LoM").
- Targets annual average EBITDA of US$635 million and EBITDA margin of 76%.
- US$1.38 billion estimated initial Capex for Phase One is within the range provided in the previous operational update[1].
- US $6.05 / kg of lithium carbonate equivalent ("LCE") estimated run rate Opex for Phase One is within the range provided in the previous operational update[2].

"Kachi commands an NPV$_8$ of US$2.3 billion and an IRR of 21% with targeted $21 billion revenue and $16 billion EBITDA for Phase One. These are very strong and competitive economics," Lake Resources CEO David Dickson said.

Mr. Dickson added: "Demand growth is expected to continue with strong forecasts for the next two decades – at the time our top tier Project comes into production. Kachi will be producing a high-quality, high-specification battery grade product to match this increasing demand."

This Project will bring much needed lithium into the expanding electric vehicle automotive and energy storage systems markets. Currently, lithium demand is on pace to grow from less than one million tonnes LCE in 2023 to over four million tonnes LCE in 2040, a 9% compound annual growth rate ("CAGR")[3].

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[1],[2] See LKE ASX Announcement dated 19 June 2023

[3] See section 13 of DFS Summary for Wood Mackenzie review of the lithium market

Kachi has taken an innovative approach to lithium brine extraction to advance sustainable and responsible lithium production through the application of ion exchange Direct Lithium Extraction ("DLE"). The process design for Kachi has been developed in partnership with Lilac Solutions ("Lilac") and is supported by a rigorous field-testing program.

Project and Resource Highlights

- Total resource is estimated at 10.6 Mt LCE[4], a globally significant resource.
- 25-year mine life supported by maiden Ore Reserve[5] statement.
- Phase One targets a production of 25 thousand tonnes per annum (ktpa) over the LoM to meet the growing demand and specifications of the battery market.
- DLE process tailored to mitigate impact on the local community with minimal disruption to land, freshwater table, and water usage.
- The Project targets production of consistent battery grade lithium carbonate (>99.5% purity) at site without the need for further refining or processing.
- Kachi is targeting first lithium in 2027 with ramp-up to full capacity by the end of 2028, which is forecast to coincide with the start of a prolonged period of structural deficit for battery grade lithium chemicals[6].
- Long-term pricing forecasts used in the DFS are reflective of the forecasted lithium supply deficit[7].

Proven Process from Brine Extraction to Battery Grade Lithium Carbonate[8]

- The Project operated two campaigns at the demonstration plant at site from October 2022 to November 2023, processing 5.2 million litres of brine and producing over 200,000 litres of lithium chloride eluate while also allowing for increased operational experience and optimization of Lilac's DLE technology.
- Additionally, the Project has produced in excess of 1,300 kilograms of >99.5% purity lithium carbonate at Saltworks demonstration facility to ensure that the commercial flowsheet will meet expectations and to have in place product samples for potential offtake parties.
- Utilizing Lilac's proprietary ion-exchange DLE technology eliminates the need for upstream or downstream evaporation ponds for lithium concentration, reducing the footprint of a traditional brine evaporation operation by >90%.
- The demonstration plant vessels, which hold the ion-exchange material, are approximately one-third the size of commercial-scale vessels. This significantly reduces scale-up risk and increases process uptime.
- The extraction plant is conservatively designed for 80% lithium recovery within the DLE process and an overall plant recovery of lithium >75%. This is significantly higher than traditional evaporation pond recoveries (40%-60%).

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[4] See LKE ASX Announcement dated 22 November 2023, and section 4 of this DFS Summary for details of the Mineral Resource & Reserve estimate

[5] See section 4 of this DFS Summary for details of the Ore Reserve estimate

[6],[7] See section 13 of this DFS Summary for Wood Mackenzie review of the lithium market

[8] See LKE ASX Announcement dated 26 September 2023

- The Project is designed to inject the de-lithiated (spent) brine directly back into the salar, minimizing the risk of subsidence and impact to the reservoir in this semi-desert ecology. This would be the first application of brine reinjection in an Argentinian lithium brine project and the extensive project field work in 2023 has demonstrated that this plan can be deployed.

This Phase One DFS marks the next important milestone in the development of the Kachi Project, building on the field, test and engineering work performed over the past two years and represents a credible, de-risked execution plan to support delivery of the Project.

Next Steps

The critical next steps of the Kachi Project involve:

- Initiation of a strategic partnering process for the Kachi Project, led by Goldman Sachs.
- Commencement of negotiations with potential offtake partners to secure binding offtake agreements, in tandem with strategic partnering process.
- The submission of the Environmental and Social Impact Assessment ("EIA") in early 2024, in support of the Catamarca Province development permit application.
- Selection of a Front-End Engineering Design ("FEED") / Engineering, Procurement and Construction Management ("EPCM") contractor for the Process Plant.
- Selection of an Independent Power Producer ("IPP") for design, permitting, regulatory approvals, construction and operation in accordance with the Power Purchase Agreement ("PPA"), which is to be negotiated.
- Continued engagement with Export Credit Agencies and the supporting commercial banks for project financing.
- Opportunities to further improve overall project Capex and Opex.
- Final Investment Decision ("FID") is targeted for Q1 2025.

A detailed Summary Report of the Kachi Project DFS is attached to this announcement.

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About Lake Resources:

Lake Resources NL (ASX:LKE, OTC: LLKKF) is a responsible lithium developer utilising state-of-the-art ion exchange extraction technology for production of sustainable, high purity lithium from its flagship Kachi Project in Catamarca Province within the Lithium Triangle in Argentina. Lake also has three additional early-stage projects in this region.

This ion exchange extraction technology delivers a solution for two rising demands – high purity battery materials to avoid performance issues, and more sustainable, responsibly sourced materials with low carbon footprint and significant ESG benefits.

Forward Looking Statements:

Certain statements contained in this announcement, including information as to the future financial performance of the projects, are forward-looking statements. Such forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Lake Resources N.L. are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies; involve known and unknown risks and uncertainties and other factors that could cause actual events or results to differ materially from estimated or anticipated events or results, expressed or implied, reflected in such forward-looking statements; and may include, among other things, statements regarding targets, estimates and assumptions in respect of production and prices, operating costs and results, capital expenditures, reserves and resources and anticipated flow rates, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions and affected by the risk of further changes in government regulations, policies or legislation and that further funding may be required, but unavailable, for the ongoing development of Lake's projects. Lake Resources N.L. disclaims any intent or obligation to update any forward-looking statements, whether as a result of new information, future events or results or otherwise. The words "believe", "expect", "anticipate", "indicate", "contemplate", "target", "plan", "intends", "continue", "budget", "estimate", "may", "will", "schedule" and similar expressions identify forward-looking statements. All forward-looking statements made in this announcement are qualified by the foregoing cautionary statements. Investors are cautioned that forward-looking statements are not guarantees of future performance and accordingly investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein. Lake does not undertake to update any forward-looking information, except in accordance with applicable securities laws.

The ASX Listing Rules contain a number of reporting obligations on mining production and exploration activities, including, without limitation, requirements applicable to reports of mineral resources for material mining projects (ASX Listing Rule 5.8), reports of ore reserves for material mining projects (ASX Listing Rule 5.9), reports of production targets (ASX Listing Rule 5.16) and reports containing forecast financial information derived from a production target (ASX Listing Rule 5.17).

This DFS Summary Report includes all required information to comply with these rules. This information may be referred to and explained in a number of the sections of this report; however, for ease of reference, the Company has listed in the tables below the information required by these rules, and provided cross-references to the key sections of this report which contain this information.

Listing Rule 5.8

Item	DFS Summary Report Section(s)
Geology and geological interpretation	Section 3
Sampling and sub-sampling techniques	Appendix E
Drilling techniques	Appendix E
The criteria used for classification, including drill and data spacing and distribution. This includes separately identifying the drill spacing used to classify each category of mineral resources (inferred, indicated and measured) where estimates for more than one category of mineral resources are reported	Section 4 & Appendix E
Sample analysis method	Appendix E
Estimation methodology	Section 4 & Appendix E
Cut-off grade(s) indicating the basis for the selected cut-off grade(s)	Section 4 & Appendix E
Mining and metallurgical methods and parameters, and other material modifying factors considered to date	Sections 4, 5, 6, 7, 8 & Appendix E

Listing Rule 5.9

Item	DFS Summary Report Section(s)
Material assumptions and the outcomes from the preliminary feasibility study or feasibility study (as the case may be). If the economic assumptions are commercially sensitive to the mining entity, an explanation of the methodology used to determine the assumptions rather than the actual figure can be reported	Section 14
The criteria used for classification, including the classification of the mineral resources on which the ore reserves are based and the confidence in the modifying factors applied	Section 4 & Appendix E
The processing method selected and other processing assumptions, including the recovery factors applied and the allowances made for deleterious elements	Section 8 & Appendix E
The basis of the cut-off grade(s) or quality parameters applied	Section 4 & Appendix E
Estimation methodology	Section 4 & Appendix E
Material modifying factors, including the status of environmental approvals, mining tenements and approvals, other governmental factors and infrastructure requirements for selected mining methods and for transportation to market	Section 4 & Appendix E

Listing Rule 5.16

Item	DFS Summary Report Section(s)
All material assumptions on which the production target is based. If the economic assumptions are commercially sensitive to the mining entity, an explanation of the methodology used to determine the assumptions rather than the actual figure can be reported	Section 14
A statement that the estimated ore reserves and/or mineral resources underpinning the production target has been prepared by a competent person or persons in accordance with the requirements of the JORC Code.	Competent Person (CP) Statement & Appendix E
The relevant proportions of: • Probable ore reserves and proved ore reserves; • Inferred mineral resources, indicated mineral resources and measured mineral resources; • An exploration target; and • Qualifying foreign estimates, underpinning the production target.	Section 4 & Appendix E
The appropriate disclaimers if a proportion of the production target is based on inferred mineral resources or an exploration targe, or if the production target is based solely on inferred mineral resources.	Not Applicable

Listing Rule 5.17

Item	DFS Summary Report Section(s)
All material assumptions on which the forecast financial information is based. If the economic assumptions are commercially sensitive to the mining entity, an explanation of the methodology used to determine the assumptions rather than the actual figure can be reported	Section 14
The production target from which the forecast financial information is derived (including all the information contained in rule 5.16)	Section 14
If a significant proportion of the production target is based on an exploration target, the implications for the forecast financial information of not including the exploration target in the production target	Not Applicable

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0 Glossary of Terms

Term	Definition
Acronymns	
3D	three-dimensional
AACE	Association for the Advancement of Cost Engineering
AGMG	Australian Groundwater Modelling Guidelines
amsl	Above mean sea level
bgs	below ground surface
BMR	Borehole Magnetic Resonance
BOP	Balance of Plant
C-A	Chlor-alkili
CAGR	Compound Annual Growth Rate
Capex	Capital Expenditure
CLN	Connected linear network
CRP	Community Relation Plan
DFS	Definitive Feasibility Study
DIA	Declaración de Impacto Ambiental (Environmetnal Impact Declaration)
DLE	Direct Lithium Extraction
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortization
EMS	Environmental Management System
EPCM	Engineering, Procurement, and Construction Management
EIA	Environmental and Social Impact Assessment (also called ESIA)
EOD	Environments of Deposition
ET	Evaprotranspiration
EV	Electrified Vehicle
FEED	Front End Engineering Design
FID	Final Investment Decision
GES	Groundwater Exploration Services
GWMP	Groundwater and Surface Monitoring Plan
HCL	Hydrochloric Acid
HQ	Sizing nomenclature for drill rod
HDPE	High Density Polyethylene
InSAR	Interferometric Synthetic Aperture Radar
IPP	Independent Power Producer
IRR	Internal Rate of Return

Term	Definition
IT	Information Technology
IX / IXM	Ion Exchange / Ion Exchange Media
JORC	Australasian Joint Ore Reserves Committee
kg	kilogram
KLP	Kachi Lithium Pty Ltd
kPa(g)	kilopascal
km	kilometre
Kt	kilotonne
ktpa	Kilo (1000) tonnes per annum
kV	kilovolt
Lake	Lake Resources N.L.
LCE	Lithium Carbonate Equivalent
Lilac	Lilac Solutions
LoM	Life of Mine
lps	litres per second
m	metre
m/d	metre/day
mg/L	Milligram per litre
ML/d	Megalitre/day
mm	millimetre
Mt	Million tonnes
MVM	Morena del Valle S.A.U.
MW	Megawatt
NaOH	Sodium Hydroxide
NPV	Net Present Value
O&M	Operations and Maintenance
Opex	Operational Expenditure
PPA	Power Purchase Agreement
RFQ	Request for Quotation
RO	Reverse Osmosis
TDS	Total dissolved solids
tpa	Tonnes per annum
Kachi Project	Kachi lithium brine project
US / USA	United States of America
WACC	Weighted Average Cost of Capital

Term	Definition
TEM	transient electromagnetic
WFDP	Well Field Development Plan
ZLD	Zero Liquids Discharge

Term	Definition
Aquifer	a consolidated or unconsolidated geologic unit (material, stratum, or formation) or set of connected units that yields water of suitable quality to wells or springs in economically usable amounts. Confined (sub-artesian or artesian) - an aquifer that is immediately overlain by a low-permeability unit (confining layer). A confined aquifer does not have a water table
Battery grade	Greater than 99.5% purity
Boundary condition	The hydraulic head or flux assigned at the boundaries of a numerical model domain.
Brackish water	water with a salinity between 1,000 and 10,000 mg/L
Brine	a fluid of with significant quantities of dissolved solute or salts, defined variously as (where definitions 2 and 3 are more relevant to the project): 1. water with a salinity > 10,000 mg/L; 2. In Hem's (1985) classification, a brine has a salinity >35,000 mg/L (greater than sea water); 3. A heavily mineralized or high saline water commonly containing heavy metals and organic contaminates
Calibration	the adjusting of parameters of numerical model input data until model output matches a set of field observations with some degree of accuracy. Sometimes referred to as "history matching".
Conceptual model	A narrative and visual description of the geologic and hydrologic conditions in a basin (Anderson et al., 2015). Conceptual models commonly form the basis for numerical flow and transport model development.
Freshwater equivalent heads	the height of freshwater from a vertical datum that would create the equivalent pressure exerted by more dense water of a specific height from the same vertical datum. This correction for salinity allows for the inclusion of water levels from brackish-zone wells in the construction of a potentiometric surface maps of areas with both fresh and brackish water present.

1 Introduction

Lake Resources N.L. (“Lake”), an Australian Securities Exchange listed company (ASX: LKE; OTC: LLKKF), is advancing the Kachi lithium brine project (“Kachi”, “Kachi Project” or “Project”) in northern Argentina. The project is located in Argentina’s Catamarca province, near the southern end of the Lithium Triangle. The project utilizes direct lithium extraction (“DLE”) technology to selectively extract lithium from the brine resource, followed by the conversion of that lithium into a battery grade lithium carbonate using conventional production methods.

The Kachi Project contains one of the largest lithium brine resources in Argentina, at an estimated 10.6 million tonnes (Mt) of Lithium Carbonate Equivalent (“LCE”).[9] Applying the Lilac Solutions (“Lilac”) DLE technology to this resource brine allows the Kachi Project to produce battery grade lithium carbonate (>99.5%) directly at site without the need for additional offsite refining or processing.

This Kachi Project will bring much needed lithium into the growing electric vehicles (“EV”) automotive and energy storage systems markets. According to market consultant Wood Mackenzie, lithium demand is on pace to grow at a 9% compound annual growth rate (“CAGR”) from 2023.

Over the last 24 months, the Kachi Project has worked to delineate and understand the resource, prove-up and de-risk application of DLE technology in a field setting, embed the Kachi Project within the local communities and is now pleased to present the results of the Kachi Project Phase 1 Definitive Feasibility Study (“DFS”).

The DFS is a key milestone for the Kachi Project to show forward progress and advancement toward successful development of an important lithium brine resource. This summary document is a consolidation of the key information from each section of the DFS.

1.1 Definitive Feasibility Study Objectives

The main objective of the DFS is to develop the project definition sufficiently to support an economic decision for Phase 1 of the Kachi Project which targets production of 25 ktpa of battery grade lithium carbonate for a 25-year life of mine (“LoM”). Following completion of the DFS, the Kachi Project partners have a key decision tool to move the Project to the next phase of development through next steps including project financing, permitting, Front End Engineering Design (“FEED”) and construction.

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[9] See LKE ASX Announcement dated 22 November 2023.

Tasks completed to meet the DFS objective include:

- Produced process deliverables including the process design criteria (“PDC”), process flow diagrams (“PFDs”) and mass/energy balance including incorporating available test data and information provided by Lilac for the ion exchange DLE.
- Completed trade-off studies to establish the plant configuration.
- Investigated power supply options and selected forward plan.
- Developed a 3D model of the facility and associated site plans.
- Supported the permitting effort including providing emissions inventory data.
- Progressed discipline engineering to DFS level including discipline design criteria, mechanical equipment list, piping and instrument diagrams (“P&IDs”), and single line diagrams (“SLDs”), among others.
- Prepared technical specifications for major equipment supply packages and issued to vendors to obtain budgetary proposals to support the capital expenditure (“Capex”) estimate and project execution schedule.
- Prepared a project execution strategy and level 3 schedule - in Primavera P6.
- Developed a capital cost estimate as per AACE Class 3 guidelines with an intended accuracy of +/- 15%.
- Developed an operating cost (“Opex”) estimate with an intended accuracy of +/- 15%.
- Developed the DFS final report.
- Provided support to the Competent Person in completion of a Mineral Resource and Ore Reserve assessment.

The DFS was completed through the collaboration of a multi-disciplinary team to provide comprehensive coverage of geology, hydrogeology, engineering, estimating, project management, construction, logistics, market analysis and financial and commercial modelling. Table 1-1 recognizes these service providers and their contribution to the DFS.

Table 1-1: The Kachi Project Phase 1 DFS Contributors

Company	Company Expertise	Role in the DFS
Groundwater Exploration Services (GES)	GES is an independent water management consultancy with broad hydrogeological experience with a focus in lithium brine. GES has experience in preparation of JORC and National Instrument NI 43-101 compliant reports on lithium and potash projects covering resource estimates, exploration results, exploration program design and supervision. GES has been involved with the Kachi Project since late 2017.	GES was responsible for leading geologic and lithium resource modelling, conceptual modelling and numerical hydrogeologic models for Reserve estimates and Competent Person review of the DFS.

Company	Company Expertise	Role in the DFS
Lake Resources	Lake is a responsible lithium developer, with an international team of experts from extractive industries, driving the production of sustainable, high purity lithium.	As the manager of the Kachi Project, Lake has overseen the development of the project since its initial exploration in 2017.
Hatch Ltd	Hatch is a consulting engineering and project delivery company covering industries including mining. Headquartered in Canada, they have global operations.	Developed definitive feasibility level designs and cost estimates related to overland brine transfer systems and the process plant areas upstream and downstream of the DLE area.
Lilac Solutions	Lilac is a process technology provider and offers resource developers a full-service approach to lithium extraction through design, build, and operation of lithium extraction systems globally.	Lilac is the DLE technology provider and equity partner on the Kachi Project. Beyond the DLE technology package, Lilac has provided wellfield design and subsurface advisory services, product and filtration test work services and flowsheet input, drawing upon our broader technical capabilities and portfolio of brine projects to support optimization of the DFS.
Daniel B. Stephens & Associates, Inc. (DBS&A)	Daniel B. Stephens & Associates, Inc. (DBS&A) provides multidisciplinary geologic, engineering, water, and environmental consulting.	DBS&A was responsible for extraction methods and well design for the Kachi Project wellfield, but not the wellfield layouts. Additionally developed a high-level operations and maintenance plan, groundwater monitoring plan and built a web-based Data Management System, which is being used to manage hydrogeologic and water related environmental data.
Distrocuyo Corporation (DC)	DC is an Argentine company specializing in power transmission works and services. Present in different countries of the Latin American region, DC operates and maintains an extensive network of remote-controlled high-voltage transformer lines and stations within the northwestern region of Argentina.	Evaluation of various options for the supply of grid power to the project site. Pre-feasibility, feasibility, route selection, Capex and Opex estimates were completed to support completion of the DFS.

Company	Company Expertise	Role in the DFS
Grupo Mercados Energeticos (GME)	GME is a leading consultant to the Latin American energy market.	GME was engaged to provide advisory services and perform technical and commercial reviews of the high voltage transmission line and on-site power island (solar + backup diesel).
Hazen Research Inc.	Hazen provides chemical analyses and laboratory-scale research on new processes, pilot plant demonstration, flowsheet development, preliminary engineering, and cost analysis. Headquartered in Colorado, USA, they support the global mining industry.	Hazen completed bench-scale testwork to prove out the Balance of Plant (BOP) for battery grade lithium carbonate production.
Transmining SA	Transmining is an Argentinian mining logistics service provider based in the Province of Salta, with branches in Jujuy and Tucumán. Member of the Argentine Chamber of Mining Companies (CAEM).	Transmining was responsible for assessing and validating the logistics routes fand reporting findings and recommendations for inclusion in the logistics plan.
Knight Piesold (KP)	KP is an internationally recognized consulting firm with a global presence and operations in Argentina.	KP was responsible for the inputs to the DFS related to the EIA and are working to support exploitation / production permit submission activities.
KPMG	KPMG is a global network of professional firms providing a full range of services to organizations across a wide range of industries, governments, and not-for-profit sectors. KPMG service areas include Audit & Assurance; Deals Advisory & Infrastructure; Enterprise; Tax & Legal; Consulting; and KPMG Futures.	KPMG was responsible for generating and administering the economic model (including tax assumptions).

Company	Company Expertise	Role in the DFS
Saltworks Technologies	Saltworks is pioneering the future of sustainable water and lithium: designing, building, and delivering innovative solutions for industrial wastewaters and refining lithium.	Saltworks performed carbonization on 120,000 litres of lithium chloride (eluate) from the Lilac DLE Demonstration Plant into 1,300 kg Lithium Carbonate at their facility in Canada.
Summa Ingeniería	Summa Ingeniería is an experienced development, construction, commissioning and operations and maintenance provider for sustainable power plants based in Argentina.	Summa Ingeniería was responsible for pricing all local labour for the mechanical, electrical and civil work disciplines.
Watershed HydroGeo	Watershed HydroGeo is a small independent consultancy that focuses on the analysis of hydrological and geological data and conceptualisation of how a development interacts with hydrogeological systems. Watershed also specialises in the provision of groundwater and surface water modelling services.	Watershed HydroGeo was a key member of the Groundwater / Brine numerical modelling program in collaboration with the Lake technical team and was instrumental in developing the Reserve estimate and EIA.
Wood Mackenzie	Wood Mackenzie is an internationally recognized independent market consultancy and analyst. Wood Mackenzie is supported by a global network of research professionals, covering every significant asset, company and market in the energy & natural resource sectors.	Wood Mackenzie provided the lithium market analysis, including supply and demand projections and forward price estimation to support completion of the DFS economic assessment.

1.2 Competent Person Statement

The information contained in this announcement relating to Exploration Results, Mineral Resources and Ore Reserve is based on, and fairly represents, information and supporting documentation that has been compiled by Mr. Andrew Fulton. Mr Fulton is a Hydrogeologist and a Member of the Australian Institute of Geoscientists and the Association of Hydrogeologists. Mr Fulton has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a competent person as defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.

Andrew Fulton is an employee of Groundwater Exploration Services Pty Ltd and an independent consultant to Lake Resources NL. Mr Fulton consents to the inclusion in this announcement of this information in the form and context in which it appears. The information in this announcement is an accurate representation of the available data from initial exploration at the Kachi Project as prepared by Mr Fulton.

1.3 Legal Disclaimers

Forward Looking Statements:

Certain statements contained in this announcement, including information as to the future financial performance of the projects, are forward-looking statements. Such forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Lake Resources N.L. are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies; involve known and unknown risks and uncertainties and other factors that could cause actual events or results to differ materially from estimated or anticipated events or results, expressed or implied, reflected in such forward-looking statements; and may include, among other things, statements regarding targets, estimates and assumptions in respect of production and prices, operating costs and results, capital expenditures, reserves and resources and anticipated flow rates, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions and affected by the risk of further changes in government regulations, policies or legislation and that further funding may be required, but unavailable, for the ongoing development of Lake's projects. Lake Resources N.L. disclaims any intent or obligation to update any forward-looking statements, whether as a result of new information, future events or results or otherwise. The words “believe”, “expect”, “anticipate”, “indicate”, “contemplate”, “target”, “plan”, “intends”, “continue”, “budget”, “estimate”, “may”, “will”, “schedule” and similar expressions identify forward-looking statements. All forward-looking statements made in this announcement are qualified by the foregoing cautionary statements. Investors are cautioned that forward-looking statements are not guarantees of future performance and accordingly investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein. Lake does not undertake to update any forward-looking information, except in accordance with applicable securities laws.

Non-Reliance Statement:

The DFS was prepared by Hatch Ltd. (“Hatch”), together with certain other consultants (the “Other Consultants”), for the sole and exclusive benefit of Lake Resources N.L. (the “Principal”) for the purpose of undertaking a study for the Project, and may not be provided to, relied upon or used by any other party. This DFS summary report was created by the Principal to summarize material and key matters from the DFS. The use of the DFS by the Principal is subject to the terms of the relevant services agreement between Hatch and the Principal. This DFS summary report is meant to be read as a whole, and sections should not be read or relied upon out of context. The DFS summary report includes information provided by the Principal, the Other Consultants and by certain other parties on behalf of the Principal. Unless specifically stated otherwise, Hatch has not verified such information and does not accept any responsibility or liability in connection with such information. In particular, Hatch does not accept any responsibility or liability in connection with the sections of this DFS summary report that have been prepared by the Principal or by the Other Consultants. This DFS summary report contains the opinion of Hatch using its professional judgment and reasonable care, based upon information available at the time of preparation. The quality of the information, conclusions and estimates contained in the report are consistent with the intended level of accuracy as set out in this report, as well as the circumstances and constraints under which this DFS summary report was prepared. As the DFS is a feasibility study and the DFS summary report is a summary of a feasibility study, all estimates and projections contained in this DFS summary report are based on limited and incomplete data. Accordingly, while the work, results, estimates and projections in this DFS summary report may be considered to be generally indicative of the nature and quality of the Project, they are not definitive. No representation or prediction in this DFS summary report is intended as a guarantee of the results of future work, and Hatch does not promise that the estimates and projections in this DFS summary report will be realized.

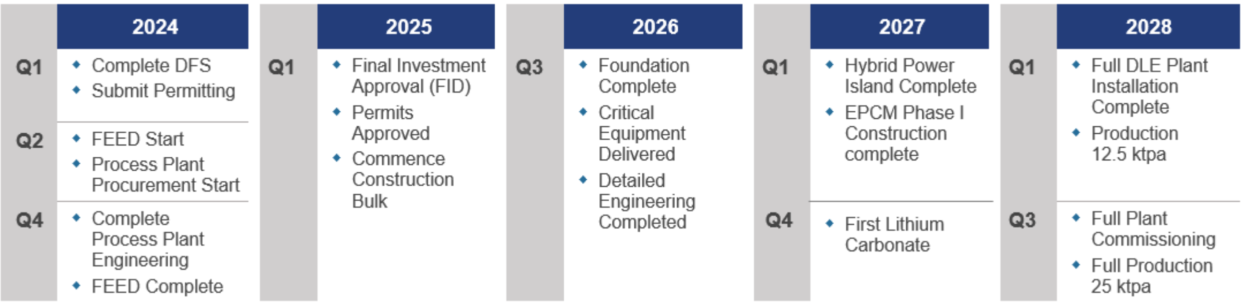
2 The Kachi Project Overview

The Kachi Project is targeted to reach first lithium by 2027 with an annual production of 25 ktpa from Phase 1. This section highlights some of the key elements that make up the plan for the Phase 1 development.

2.1 Project Schedule

During the completion of the DFS, a project execution plan and schedule have been created which reflect a 42-month duration from Engineering, Procurement, and Construction Management (“EPCM”) contractor selection to full Phase 1 capacity production. The Kachi Project carries a 30-month duration from Final Investment Decision (“FID”) to first lithium carbonate production. The project schedule critical path runs through submission of Environmental and Social Impact Assessment (“EIA”), in support of the Catamarca Province production / exploitation permit application, in Q1 2024 and full approval to proceed with the execution at FID in Q1 2025 following project financing. Figure 2-1 illustrates the major milestones for the Kachi Project (5-yr look ahead).

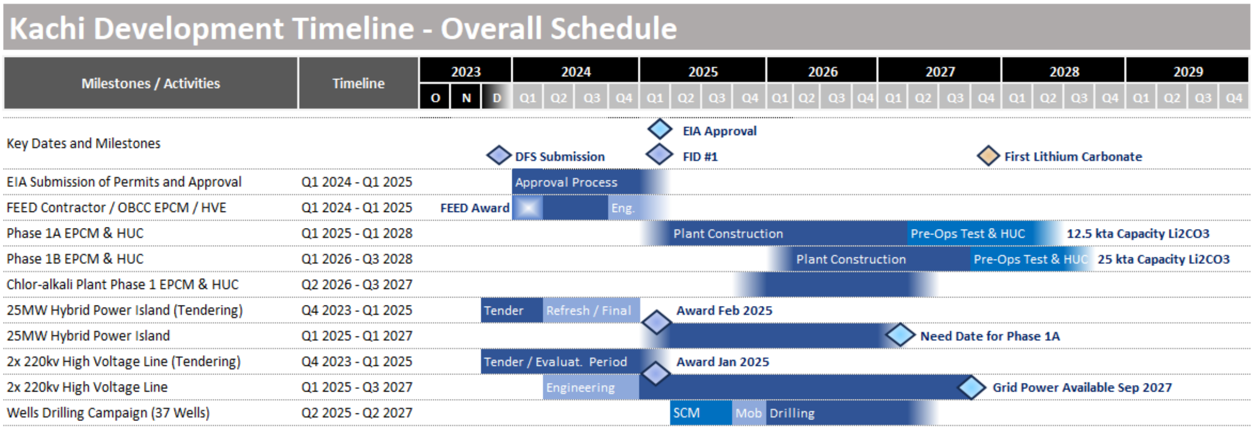
Figure 2-1: The Kachi Project – Targeted Major Milestones



Year	Quarter	Milestones
2024	Q1	Complete DFS Submit Permitting
	Q2	FEED Start Process Plant Procurement Start
	Q4	Complete Process Plant Engineering FEED Complete
2025	Q1	Final Investment Approval (FID) Permits Approved Commence Construction Bulk
2026	Q3	Foundation Complete Critical Equipment Delivered Detailed Engineering Completed
2027	Q1	Hybrid Power Island Complete EPCM Phase I Construction complete
	Q4	First Lithium Carbonate
2028	Q1	Full DLE Plant Installation Complete Production 12.5 ktpa
	Q3	Full Plant Commissioning Full Production 25 ktpa

To maintain project alignment and promptly address emerging risks, regular monitoring and adjustments are essential throughout the execution process. The Master Schedule has been developed at Level 3 detail. The Level 1 schedule is presented in Figure 2-2 below.

Figure 2-2: The Kachi Project Level 1 Schedule



Kachi Development Timeline - Overall Schedule

Milestones / Activities	Timeline
Key Dates and Milestones	
EIA Submission of Permits and Approval	Q1 2024 - Q1 2025
FEED Contractor / OBCC EPCM / HVE	Q1 2024 - Q1 2025
Phase 1A EPCM & HUC	Q1 2025 - Q1 2028
Phase 1B EPCM & HUC	Q1 2026 - Q3 2028
Chlor-alkali Plant Phase 1 EPCM & HUC	Q2 2026 - Q3 2027
25MW Hybrid Power Island (Tendering)	Q4 2023 - Q1 2025
25MW Hybrid Power Island	Q1 2025 - Q1 2027
2x 220kv High Voltage Line (Tendering)	Q4 2023 - Q1 2025
2x 220kv High Voltage Line	Q1 2025 - Q3 2027
Wells Drilling Campaign (37 Wells)	Q2 2025 - Q2 2027

De-risking the schedule is critical and involves identifying potential risks, assessing their impact, and implementing strategies to mitigate or eliminate them. Project risks (threats and opportunities) are discussed further in Section 16 of the DFS and Appendix B. A key aspect of de-risking the schedule will be early engagement with local authorities and key vendors. Work has already begun in preparation for FEED studies for the process plant, power solution and sub-surface elements for the next phase of the Project.

2.2 Project Ownership

LEGAL ENTITY REVIEW

Lake is the manager of the Kachi Project. The mineral owner of the project is Morena Del Valle SA ("MVM") which is owned by Kachi Lithium Pty Ltd ("KLP"). Lake is currently an 80% shareholder and Lilac is a 20% shareholder in KLP after successful completion of the demonstration plant Key Performance Indicators ("KPIs"). It is anticipated that Lilac will earn a further 5%[10] stake in KLP and ownership will be 75% Lake and 25% Lilac prior to FID.

TENEMENTS

Mineral rights in Argentina are awarded by the provincial governments as either exploration or mining licenses. On the Kachi project, all tenements are granted as mining licenses. Such licenses have no expiry date so long as annual fees are paid, and all obligations are met under the national mining code.

The Kachi Project encompasses 53 mineral concessions (52 granted, 1 pending) covering 103,898 hectares. These are in good standing, with only one mineral property application still pending approval (Appendix C). At the time of writing and according to information and belief, they are free and clear of any liens or other encumbrances registered in the title with the mining authority. Moreover, there are no competing third-party claims for the tenements, and the Company is not aware of any litigation or undisclosed liabilities. As noted previously, Lake is the manager of the Kachi Project.

With respect to royalties, a mining royalty cap of 3% exists under the Argentine Federal Regulations over the value of mineral products at the project (mine) gate. This is paid to the Province of Catamarca. In addition to the Catamarca royalty regime, there are multiple additional taxes and levies payable under the relevant codes in Argentina. These are subject to negotiation to finalize final levels and current assumptions used for economic modelling are detailed in Section 14 of this DFS Summary Report. During the next phase of the Project, and prior to FID, Lake will negotiate final terms on all material elements of the fiscal regime which will be stabilized for the life of the Project.

PRECEDING DEVELOPMENT ACTIVITIES

The Kachi Project, over the last three years, has completed a series of development and exploration activities designed to enhance the knowledge of the project's brine resource, testing the Lilac patented Ion Exchange ("IX") DLE technology and the wider process flow sheet. A short summary of the activities that have been critical in completing the DFS are noted below but are discussed in further detail in subsequent sections of this report.

BENCH AND PILOT SCALE TESTING

Kachi brine was sent to the Lilac facility in Oakland, California, USA where successful bench-scale and pilot scale (20,000 litres) testing was completed.

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[10] See LKE ASX announcement 22 September 2021. "Stage 3" earn-in KPI of a potential additional 5% to be confirmed by potential offtake parties

DEMONSTRATION SCALE TESTING[11]

With successful offsite testing completed at a small scale, Lilac, in partnership with Lake, constructed a demonstration-scale facility at the Kachi site. From October 2022 until November 2023, the demonstration plant operated in several campaigns and produced over 200,000 litres of concentrated lithium chloride ("LiCl") product and processed more than 5.2 million litres of brine. During the campaigns, the plant operated continuously 24/7, while achieving approximately 90% uptime.

PRODUCTION AND INJECTION WELLS

The Kachi Project is designed to inject the delithiated or spent brine back into the alluvial fans and salar at roughly the same volume that was removed for lithium carbonate production. Three successful injection tests lasting from 12 to 31 days have been completed from test wells in the salar demonstrating the viability of this approach to spent brine management.

During exploration, the Project has drilled and collected samples from multiple exploration and test wells with the aim of expanding both the knowledge of the reservoir and the estimated size of the resource. These have resulted in three Mineral Resource updates through the course of 2023 culminating in the most recent update in November 2023[12] which incorporated the most recent wells including two wells drilled to more than 600 m below ground surface (bgs) showing that the resource is not only more laterally expansive but also present at deeper depths than previously confirmed.

2.3 Project Description

PROJECT LOCATION

The Project is based on the Salar de Carachi Pampa which is located in the high plateau of northwestern Argentina known as 'La Puna'. The Project has an average elevation of 3,010 metres and a Universal Transverse Mercator (UTM) location of 7,074,000mN and 650,000mE (Zone 19J). It is 22 kilometres west of the town of El Peñon in the Department of Antofagasta de Sierra in the Province of Catamarca (Figure 2-3), and 50 km from the town of Antofagasta de Sierra, the regional administrative centre. The Project is in a region that is sparsely populated but accessible. The closest communities to the Project are El Peñon (pop. ~250) and nearby Antofagasta de Sierra (pop. ~1000), both of which lie on provincial road RP43.

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[11] See LKE ASX Announcement dated 26 September 2023

[12] See LKE ASX Announcement dated 22 November 2023

Figure 2-3: The Kachi Project Location

PROJECT HISTORY

In early 2016, MVM undertook initial surface sampling and property leases were consolidated in a number of acquisitions. The initial results from surface sampling was announced in February 2017[13].

Exploration planning and acquisition of approvals throughout 2017 culminated with the start of exploration drilling in November 2017 on the salar (now the Kachi Project). Drilling included HQ diamond and rotary drilling methods with 17 holes on 6 platforms. The initial drilling campaign ended in December 2018.

The low grades relative to existing projects required a strategic pivot and advancement of modern metallurgical techniques to make low-concentration resources viable through DLE, providing an opportunity to advance the Kachi Project.

In April 2020, the existing test wells at platforms K03, K04 and K08, installed in 2018 were used to source brine for bulk test work. Additional bulk samples were collected for bench testing in August 2021. These wells provided samples with average grades of approximately 250 mg/L lithium with screened intervals at depth of 295 to 390 metres. In total, more than 200,000 litres of Kachi brine were sent to different laboratories and test facilities in different countries.

In March 2021, the Kachi Project contracted Knight Piesold to conduct the EIA for a commercial plant in Antofagasta de la Sierra and El Peñon and in September 2021, exploration was relaunched. Exploration drilling, process test work and engineering continued throughout 2022 and 2023.

COMMUNITY PROFILE

The principal economic drivers in the area are agriculture (sheep, alpaca, and some crops) and tourism. The Project will have a significant impact on the demographics and economies of the adjacent towns.

The land upon which the Project lies is owned by the Provincial Government of Catamarca. Nevertheless, there is informal, or traditional occupancy by pastoralists who utilise the vega and freshwater sources for grazing near the existing Kachi exploration camp. Some members of this community have recently initiated an official process for recognition as Diaguita ethnicity, under the name “Comunidad Indigena Diaguita de Carachi Pampa”. In addition, there is an established indigenous group called “Kolla Atameña – Pueblo de Antofalla” based in la Villa de Antofalla near Antofagasta de la Sierra.

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[13] See LKE ASX Announcement 6 February 2017

CLIMATE

The regional physiography of La Puna is complex with high altitude ranges, valleys and salt lakes. The valleys are endorheic (closed) basins with salt lakes and lagoons like that at Carachi Pampa, large areas of erosion, alluvial fans, scoria cones, and dunes. The stand-out geomorphological features are tilted fault blocks and volcanic cones. The Carachi Pampa basin is characterized by the presence of intermittent streams that infiltrate into the basin sediments and feed groundwaters that support the salt lake and wetlands, the most important in the Project area being the Rio Colorado and the Rio Pirica.

Locally, the Carachi Pampa volcano occupies the centre of the salar at the lowest part of the basin. It has a diameter of about 10 km, and is characterised by a scoria cone, basaltic flows and a wide detritus fan. The other prominent volcanic accumulations locally are the ignimbrite flows and acid pyroclastics to the immediate south, which includes the "Campo de Piedra Pomez" of pyroclastic deposits that emanated from the Cerro Blanco volcano at the southern limit of the basin.

The climate of the area is cold desert with high solar radiation, and potential evaporation exceeding precipitation by a wide margin. Daytime temperatures in summer may reach 25ºC but at night they drop to 0ºC. The area can be subject to thunderstorms in summer, but winter is rigorous, with rain and light snowfall, and temperatures down to minus 30ºC with wind chill. Indeed, strong winds occur throughout the year.

KEY PROJECT AIMS

Phase 1 of the Kachi Project is targeting production of 25 ktpa of battery grade lithium carbonate (>99.5% Li_2CO_3) with a LoM of 25 years, whilst maintaining the option to review potential future capacity expansion.

3 Geology & Hydrogeology

The Project exploration and hydrogeological characterization work has been ongoing since 2017 and has led to a robust understanding of the geologic framework of the basin geology, hydrogeology, hydrogeochemistry, and the lithium resource itself. A brief description of these topics are provided in the subsequent sections and additional details can be found in the Lake's most recent Mineral Resource update[14].

3.1 Regional Geology

The Carachi Pampa Basin is a large (9,494 km^2), arid, closed basin, comprised of interbedded lacustrine and alluvial sediments of gravels, sands, silts, and clays, with episodic volcanic deposits of ignimbrites, tuffs, and basalts (Figure 3-1). The basin is bounded to the east and

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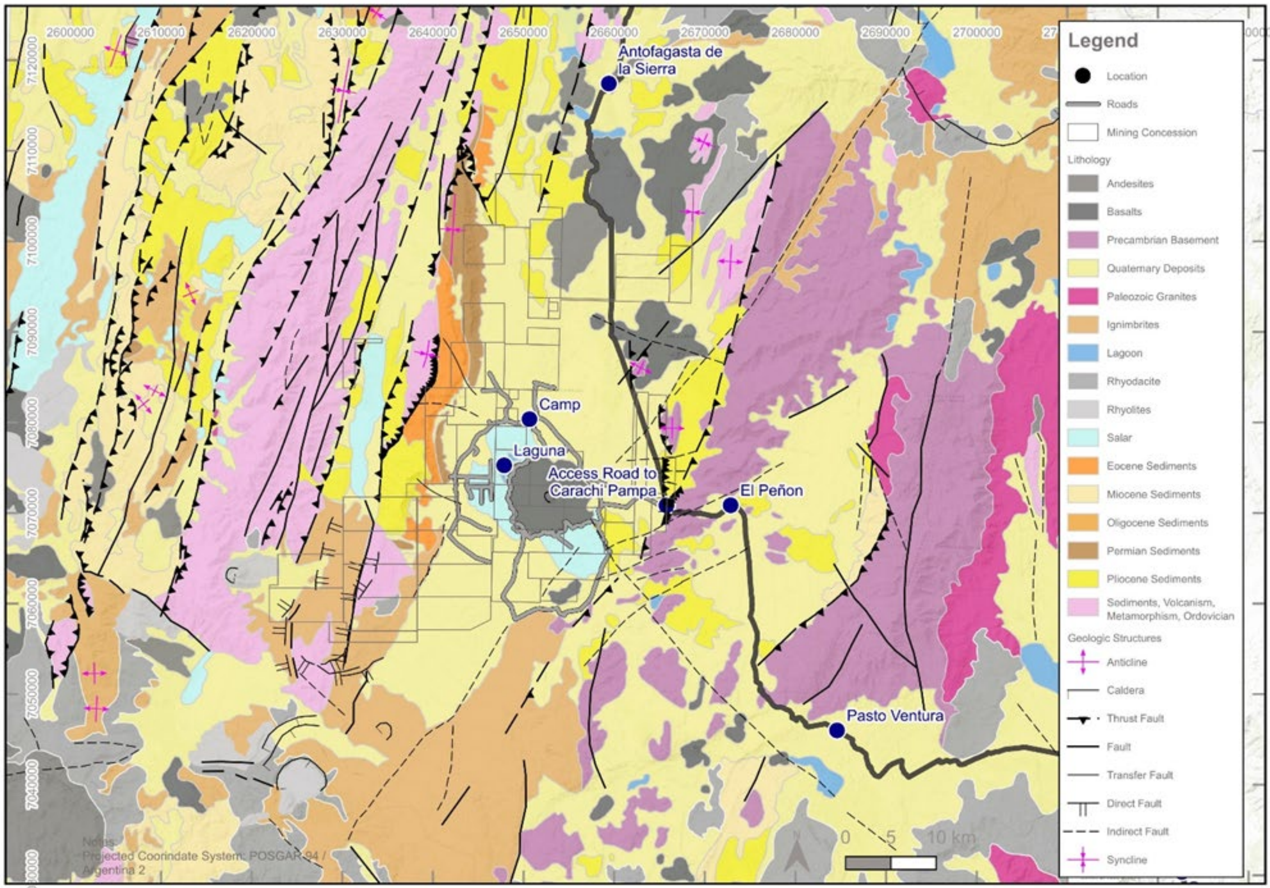
[14] See LKE ASX Announcement 22 November 2023

west by north-south trending mountain ranges formed by thrust faulting, exposing basement sequences in outcrops that rise to an elevation of about 5,100 m amsl. The lowest point on the floor of the basin is at the Laguna Carachi Pampa approximately 3,003 amsl. The most prominent feature within the basin adjacent to the project is Volcan Carachi Pampa, which is an extinct volcano rising to approximately 3,393 amsl (i.e. almost 400 m above the floor of the basin). The volcano penetrates basin sediments to the east of the salar, with flow and air fall basalts creating a veneer over the lacustrine sediments. The volcano has a northwest-southeast striking fissure vent that is interpreted to be underlain by a northwest-southeast aligned intrusive dyke or plug of much smaller dimensions than the basalt cone has at the surface.

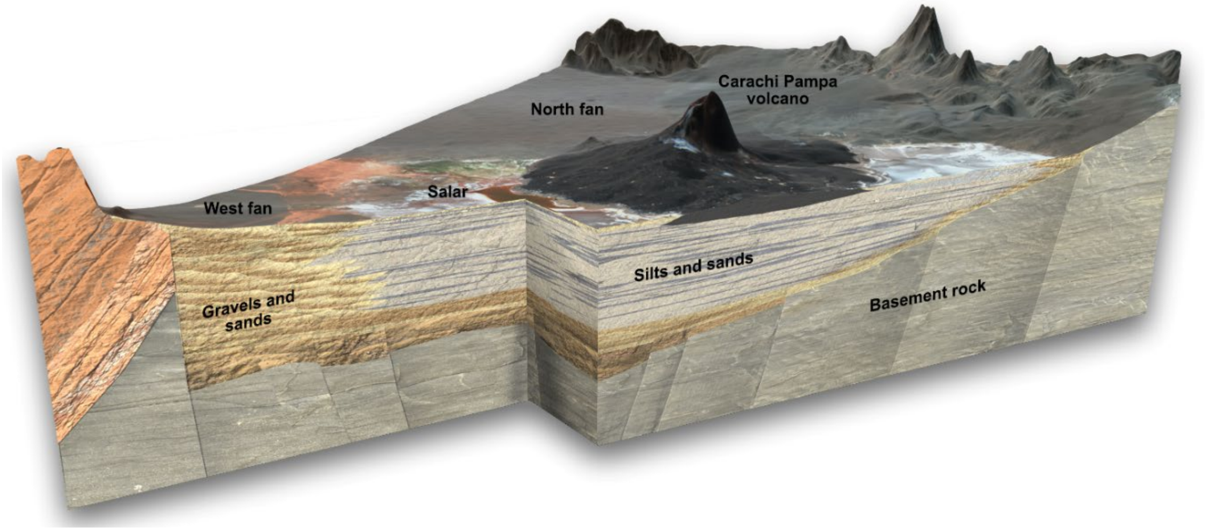
Figure 3-1: Geologic Map of the Kachi Project and Surrounding Areas



The Cerro Blanco pyroclastic complex is located on the south of the basin and is the primary source of the pyroclastic flows that deposited the ignimbrites and tuffs, while the Antofagasta de la Sierra and the Cerro Galan volcanic complex form the highlands in the north and northeast borders of the basin. Extensive alluvial fan deposits form to the north, south, east and west of the central salar as coarse-grained, high-energy sediments were shed from the nearby steep terrains.

The depth to basement rock is interpreted to increase significantly from east to west based on passive seismic data and two drillhole intercepts. This increasing thickness of basin fill sands and clays is conceptually shown in Figure 3-2 and lithium brine has been measured to the base of the basin fill deposits.

Figure 3-2: Conceptual Model of the Kachi Project Hydrostratigraphy



3.2 Local Geology

The central salar in the basin contains a lithium-rich sodium-chloride (NaCl) type brine deposit. Two types of salars are classified by Houston et al[15], being: (1) mature, halite dominant and (2) immature, clastic dominant. The salar at the Carachi Pampa Basin appears to be transitioning from an immature, clastic dominated salar, to a more mature system with the beginning formation of a surficial salt layer with halite that extends to several meters depth.

In the Carachi Pampa basin area the major segments of sediment types were differentiated by the geologic environments they were deposited in. The three primary Environments of Deposition ("EOD") for the modern Carachi Pampa basin are (1) lacustrine deposits of the salar (fine sand with minor gravel lenses, silt and clays, and evaporites); (2) clastic alluvial fans with minor fluvial and eolian deposits (coarse gravels and sands with minor fine sequences of silt and clay); and (3) volcanics (basalts, ignimbrites, or tuffs). Pre-basin sediment stratigraphy of Tertiary clastic deposits and basement metamorphic rocks were not differentiated.

Four major assemblages of alluvial fan complexes enter the basin from north, east, south, and west directions, each with a different provenance of source sediments from the surrounding highlands. At the terminal distal toes of the alluvial fans, where fine grain sediments commonly

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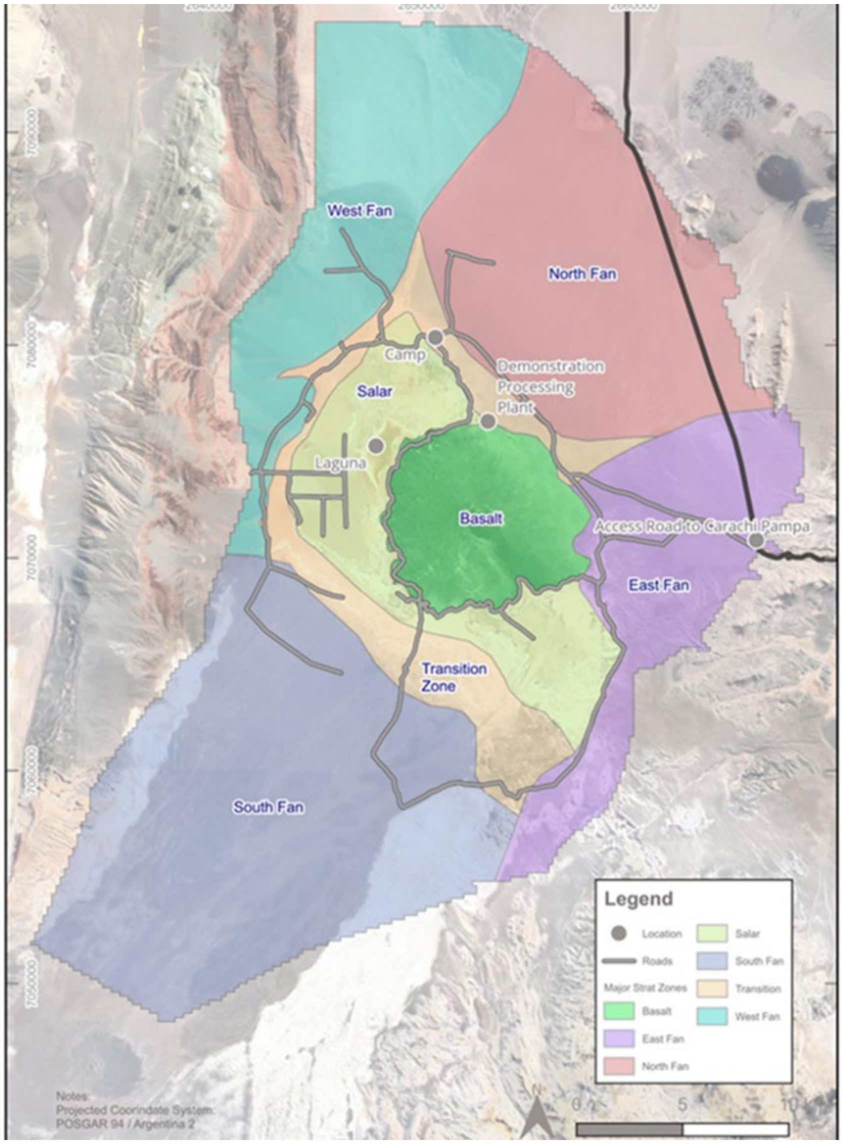
[15] Houston, J., Butcher, A., Ehren, P., Evans, K., & Godfrey, L. 2011. The Evaluation of Brine Prospects and the Requirement for Modifications to Filing Standards. Economic Geology, 106(7), 1225–1239.

collect, the alluvial fan sediments transition to the finer, more mature sediments of the lacustrine salar.

The EOD classifications were simplified to reflect the seven primary depositional areas immediately in and surrounding the Kachi Project. These EODs are the Basalt Cinder-Cone, the Salar, Fan-to-Salar Transition Zones, the West Fan Complex, the South Fan Complex, the North Fan Complex, and the East Fan Complex (Figure 3-3).

Figure 3-3: The Kachi Project EOD Classifications

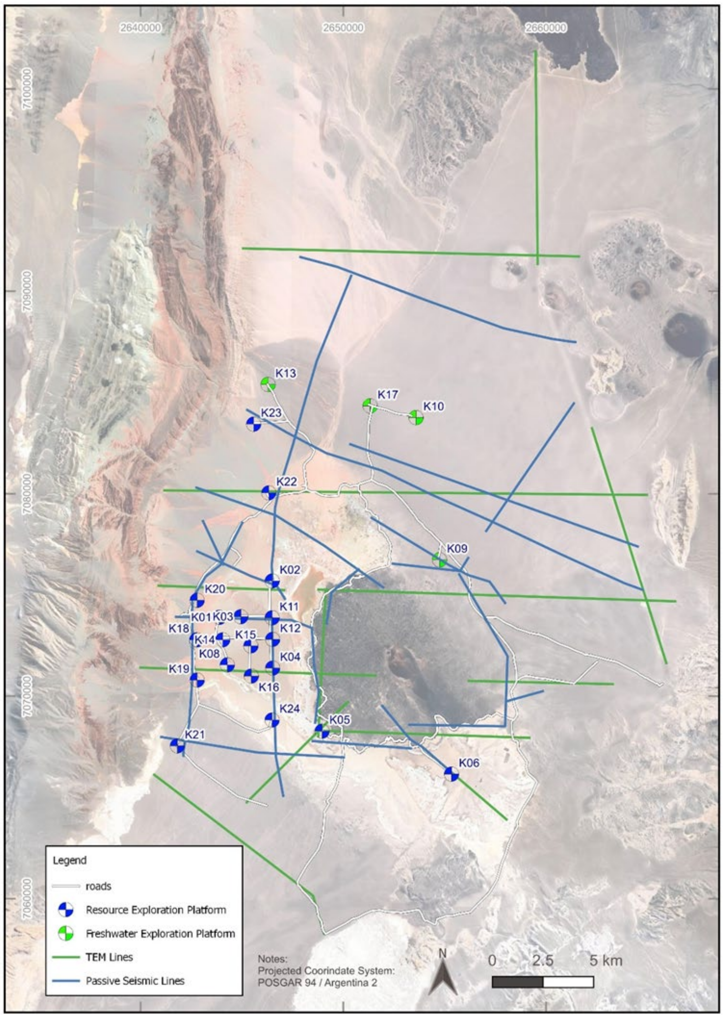


3.3 Hydrogeologic Characterisation

The hydrogeologic characterization program included a variety of methods. Surface geophysics was used to identify highly conductive sediments and brine and to estimate depth to bedrock.

Rotary and core drilling provided high quality geologic and brine samples. Borehole geophysics assisted with geologic characterization and the physical hydraulic properties of the brine reservoir. Data from hydraulic tests including slug test, pumping tests, and injection tests were used to characterize hydraulic properties of aquifers and reservoirs, identify hydraulic boundaries or lack thereof, and the vertical connectivity between different hydrostratigraphic units. Hydrogeochemistry data provided a wealth of information to understand regional groundwater flow patterns, recharge and discharge relationships, spring source waters, and the spatial and vertical distribution of lithium brine. The locations of surface geophysical studies and resources and freshwater platforms are presented in Figure 3-4.

Figure 3-4: Locations of Surface Geophysical Studies and Resources and Fresh Water Platforms



PASSIVE SEISMIC

More than 500 geophysical stations were utilized across the basin. The technique proved to be effective in developing an understanding of the Carachi Pampa basin geometry and the top of bedrock surface. A strong seismic velocity contrast was detected between unconsolidated to weakly consolidated basin sediments hosting the brine (low seismic velocity) and the underlying crystalline metamorphic basement rocks of the Famabalasto Formation.

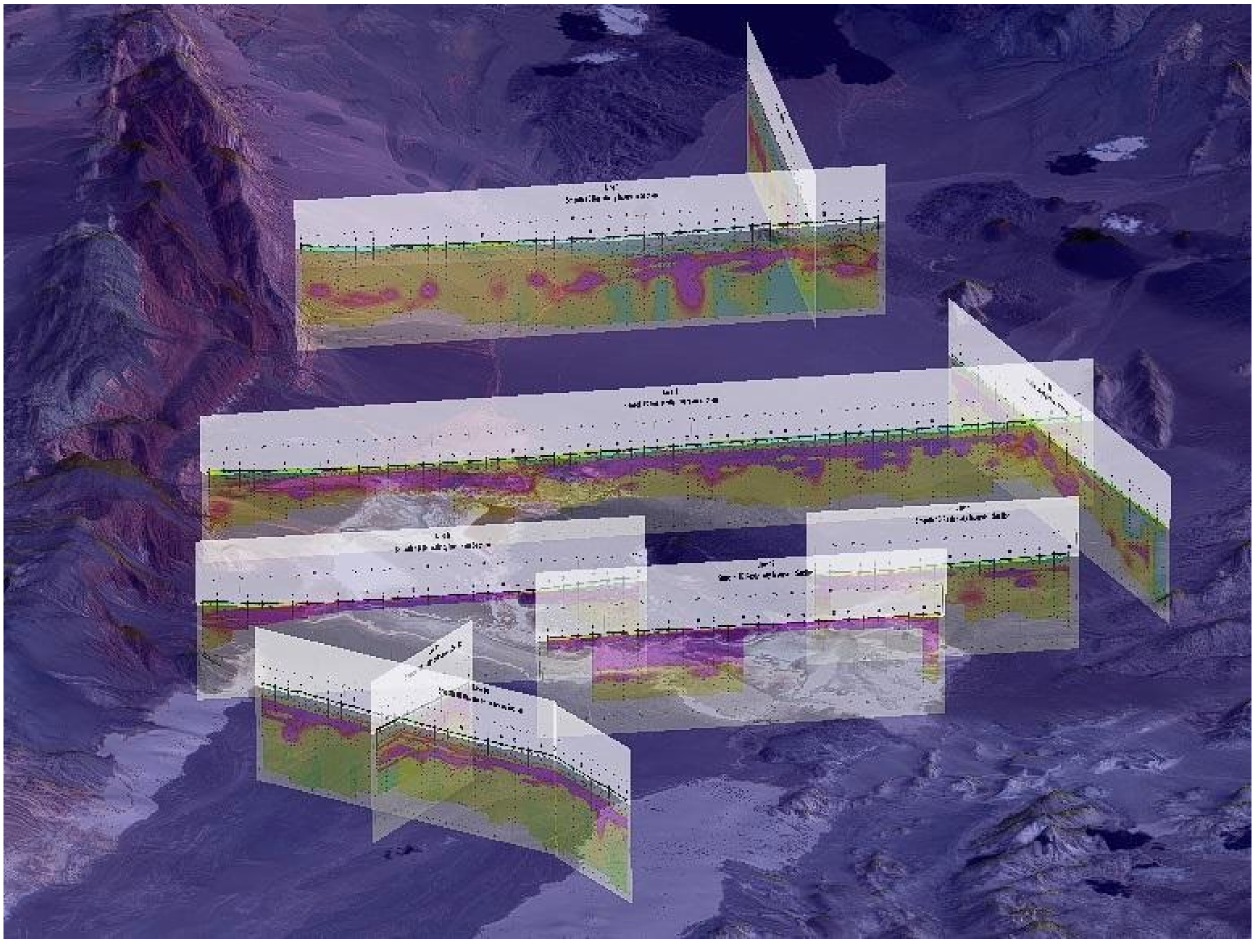
The seismic data indicates that the basin is 700-800 m deep in the western part of the resource area. A similar contrast in seismic velocities was observed between the loosely consolidated basin fill and the episodic volcanic facies deposited into shallower sections of the basin. The absence of bedrock at K23 (drilled to 610 m bgs) and K22 (drilled to 425 m bgs) and the interpreted metamorphic basement rock encountered at 595 m at K24 (drilled to 610 m bgs) is further confirmation of a thickening sequence of basin fill sediments to the west.

TRANSIENT ELECTROMAGNETIC (“TEM”) SURVEY

An extensive, basin-wide TEM survey was conducted in 2023 by Quantec Geoscience with a total of 140 km of survey lines. This proved to be effective in delineating the brine, brackish water, freshwater, and zones of dry sediments throughout the basin. The TEM results were also used to develop an understanding of the regional groundwater levels and indicative salinity levels.

The brine signatures from the TEM survey indicate the prevalence of brine outside of the central resource area (i.e. salar footprint), which were validated in drillholes K21D38 (K21) and K22D39 (K22), located south and north of the central resource area. Results from K23D40 (K23) further to the north of K22 provides further evidence of an extensive brine body within the basin. Georeferenced TEM section lines imported into Leapfrog software provide a high-level indication of the potential distribution of brine in the Kachi basin (Figure 3-5). The TEM, in combination with passive seismic and geochemical data was used to identify additional drill targets.

Figure 3-5: Georeferenced TEM section lines (after importing into Leapfrog)



DRILLING AND LOGGING

Since the initiation of the exploration campaign by Lake in late 2017, a total of 31 resource investigation holes have been drilled on 19 platforms (Figures 3-4). These holes were drilled up to a maximum depth of 630 m with rotary and diamond drilling methods. Twenty-five diamond and rotary drillholes were completed since the discovery of the maiden resource[16]. Drillholes are labelled by platform and sequential hole number (i.e., in the format KxxDyy) and drilling methods are denoted with Diamond core (D) and Rotary (R). Drillholes K22D39, K23D40, and K24D41 are the first locations to explore the potential resource below 400 m bgs. These holes intersected lithium bearing brines primarily occurring in coarse and fine-grained sands[17].

DOWNHOLE GEOPHYSICS

Downhole geophysical logs have been collected since May 2019 on most drillholes where conditions are suitable to do so. There is an extensive set of logs including gamma ray,

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[16] See LKE ASX Announcement dated 27 November 2018

[17] See LKE ASX Announcement dated 22 November 2023

resistivity, acoustic televiewer, inclination, calliper, temperature, and Borehole Magnetic Resonance ("BMR") that have been used to understand small scale lithology and aid in delineating major hydrostratigraphic units as well as inferer hydraulic properties and changes in water quality (i.e., fresh, brackish and brine transitions). Several older wells were installed with polyvinyl chloride ("PVC") casing which facilitated the use of the BMR tool retrospectively at wells K03R12, K04R15 and K08R14. A total of 16 drillholes have been logged with BMR. BMR logs have been highly useful for identifying zones of movable, capillary and immobile water, specific yield estimates, and relative assessments of hydraulic conductivity. The geophysical logs were limited to 400 m and therefore deeper holes also only have geophysical logs to 400 m.

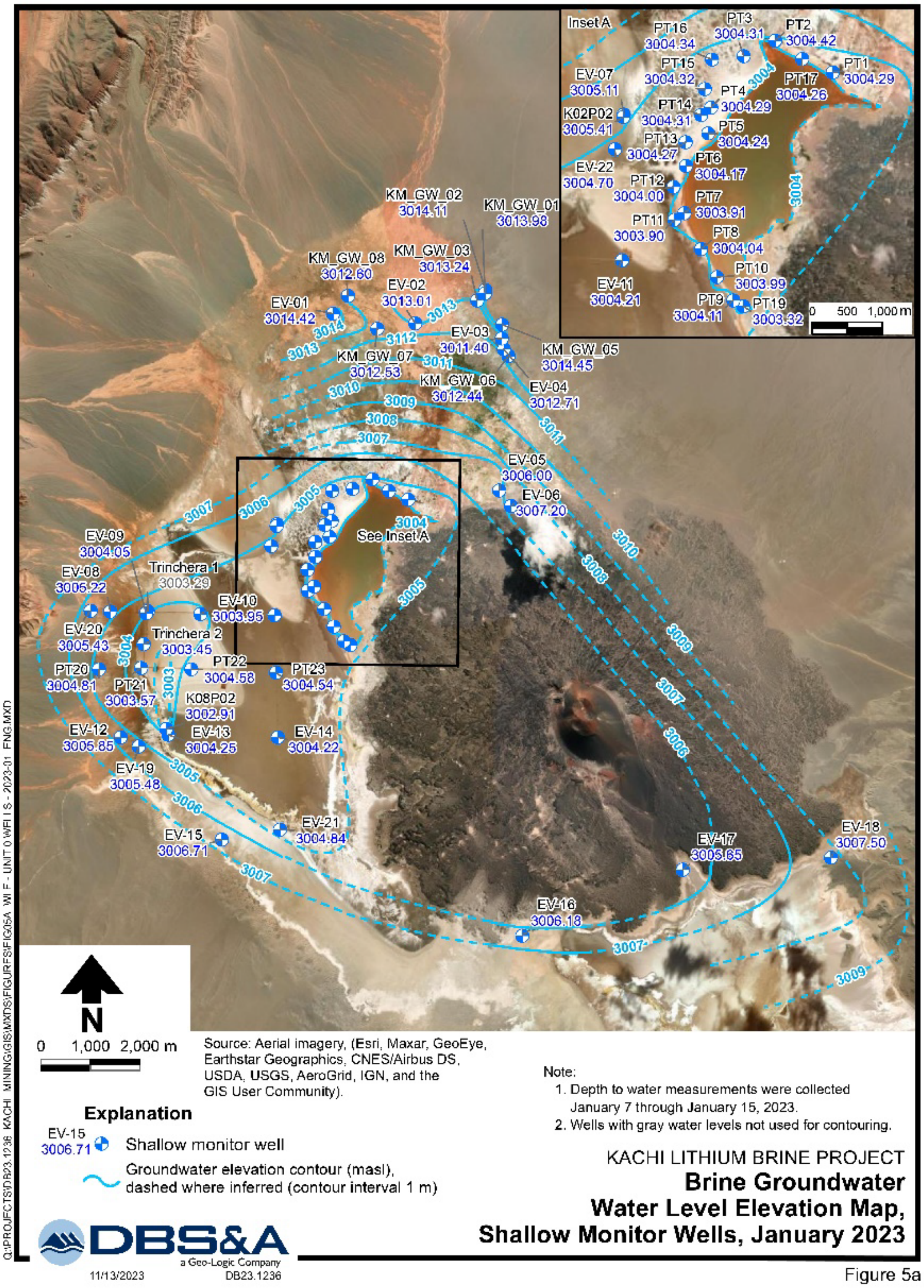
3.4 Groundwater Flow and Piezometry

Groundwater monitoring of existing wells and piezometers is completed monthly, and an extensive water and brine level database has been developed. Shallow groundwater and brine phreatic surface elevations are shown in Figure 3-6. Shallow observation sites are those with screen within 25 m of the ground surface (Unit 0), and similar analyses have been completed using deeper total heads from Units A, B, and C. At all depths, Groundwater flow exhibits a radial flow pattern towards the discharge zone at and around the Carachi Pampa Laguna, including through the vega where the flow is to the south-southwest. On the western and southern slopes of the Carachi Pampa volcano, several brackish water springs are present that feed directly into the laguna.

Freshwater in Units 0 and B (northern portion of the maps) tends to flow towards the vegas and has a south-southwest horizontal hydraulic gradient. Flow in Unit 0 is unconfined while Unit A is interpreted to be semi-confined as the higher proportion of finer grained interbeds confine more permeable sand zones. Units B and C are confined. Freshwater equivalent heads indicate upward vertical gradients indicating that deeper brine is flow vertically upwards and ultimately discharges via evpotranspiration, springs or to the laguna.

A freshwater aquifer or "wedge" overlies the brine in some areas and is thickest in the north and northeast sectors where a large portion of the groundwater enters the basin. The density contrast between the brine and the freshwater wedge is interpreted to be an important mechanism for freshwater discharge to the vegas. Little to no freshwater is present in the central resource area that encompasses the planned extraction well field.

Figure 3-6: Brine Groundwater Water Level Elevation Map (Shallow Monitoring Wells)



Source: Aerial imagery, (Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGrid, IGN, and the GIS User Community).

Note:
1. Depth to water measurements were collected January 7 through January 15, 2023.
2. Wells with gray water levels not used for contouring.

3.5 Water Balance

The water balance for the catchment has been constrained using a detailed analysis of evapotranspiration at the basin floor based on field data collected on the salar surface and satellite assessment of land surface types. The range of estimated total discharge is between 471 to 1307 lps with a best estimate of 889 lps.

RECHARGE

At Kachi, the three local meteorological stations (with more than one year of data) and the TerraClimate Model (a monthly climate dataset for global terrestrial surfaces from 1958-2019) were evaluated. The TerraClimate Model was determined to most closely match both the trends and magnitudes of precipitation observed at the high-quality stations in the region.

Rainfall over the sub-catchments is the ultimate source of groundwater recharge which is focused within drainage channels higher in the catchment, which then provides point source recharge to the basin via drainage pathways. This is described as mountain front recharge that dissipates onto alluvial / colluvial fan structures. Based on extensive hydrogeochemical studies (more than 100 samples for stable O and H isotopes, strontium, tritium and general chemistry) most of the recharge and lateral groundwater inflow to the Kachi Project area occur from the east, northeast and north of the project area, with more than 71% of the recharge estimated to flowing into the basin floor from these areas.

Overall, groundwater recharge across the basin is estimated to range from 1.3% and 1.6% of annual precipitation or between 1 and 2.3 mm/yr.

GROUNDWATER DISCHARGE

Evapotranspiration ("ET") is the only discharge component of the water balance in this hydrologically closed basin. Evaporation occurs via three dominate mechanisms, being: (1) open water evaporation from the laguna, (2) evaporation from the water table around the margins of the salar and (3) ET associated with the expansive vega complex north of the salar. As noted above, ET is estimated be between 471 to 1,307 lps with a best estimate of 889 lps, and is used constrain the basin water balance.

Five relatively large inflow springs along the western flank of the volcano are monitored for flow rate, temperature, and salinity. Flow rates range from 1.1 lps at the southern end of the basalt shield to a high of 29.7 lps that feeds one of the largest brackish water lagunas. These springs are interpreted to be mostly old groundwater that infiltrated into the basin from the north and east highlands, with some contributions of shallow local groundwater that infiltrated the cinder-cone shield of the central volcano.

The spring discharge, shallow fresh and brackish water discharge to the vegas (via ET) and the laguna itself are the primary environmental receptors consider in the hydrologic impact analysis.

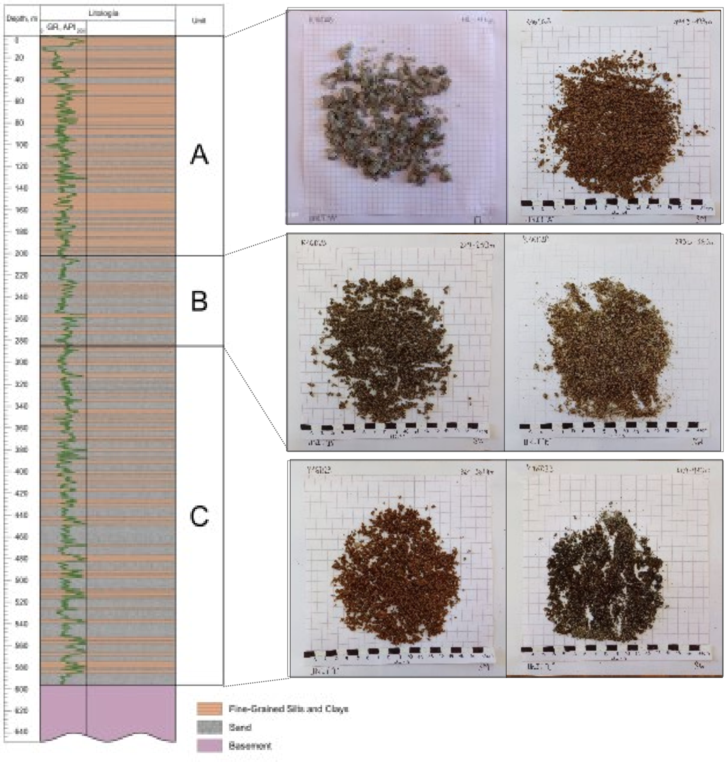
HYDROSTRATIGRAPHY

The salar depositional environment is comprised of basin filling lacustrine sediments, primarily medium to fine well-sorted, sub-rounded sands with interbedded intervals of silts and clay and occasional volcanic ignimbrites. Confining sedimentary layers of silts, clays, or ignimbrites within the basin have the potential to impede brine flow in the basin, particularly in the vertical direction. Several meters of evaporites, primarily halite, have been deposited at the playa surface, and older layers of evaporite deposits are noticeably absent from the lacustrine well penetrations deeper into the salar basin. The laguna and vega areas of the salar are associated with fine-grain clays and silts that are deposited in and around the open bodies of water at the core of the basin.

The lacustrine deposits that host the lithium-rich brine in the salar have been organized into three hydrostratigraphic units (Figure 3-7):

- Unit A: medium to fine well-sorted, sub-rounded sands with significant interbedded intervals of silts and clay; approximately the upper 200 m bgs in the salar core.
- Unit B: medium to fine well-sorted, sub-rounded sands with minor interbedded intervals of silts and clay; approximately 200 m to 300 m bgs in the salar core, lower natural gamma ray response, located below prominent gamma peak at base of Unit A.
- Unit C: medium to fine well-sorted, sub-rounded sands with interbedded silt and clay; approximately 300 m to >600 m bgs in the salar core.

Figure 3-7: Hydrostratigraphic Units



Outside of the salar, hydrostratigraphy is comprised of the major EODs, namely Basalt Cinder-Cone, Fan-to-Salar Transition Zones, the West Fan Complex, the South Fan Complex, the North Fan Complex, and the East Fan Complex, shown in Figure 3-3.

3.6 Hydraulic Properties

Hydraulic properties govern the ability of a porous media to store and transmit fluids. Property values were derived from field program and laboratory testing and then augmented with a literature review for modelling purposes.

DRAINABLE POROSITY

Drainable porosity, also known as specific yield in unconfined aquifers, is considered equivalent to the mobile free water content from the BMR log and was used as the primary input to the geologic model for resource estimation. This data was verified against laboratory tested core samples.

More than 240 drainable porosity tests have been completed and fine sands average about 8% drainable porosity. BMR surveys indicate a median value of 7.5% for all lithologies surveyed (Table 3-1). The BMR data, lithologic logging and laboratory testing completed since August 2023 (i.e., not included in Table 3-1) on K23 and K24 indicate considerably higher drainable porosity values in the alluvial fans (K23) than the central salar area (e.g., K24), as would be expected.

Table 3-1: Drainable Porosity and specific yield results from core samples analysed through August 2023

Lithological Group	n	RBR P_t – Total Porosity		RBR S_y – Specific yield		RBR Drainable Porosity @ 120 mbar	
		Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Consolidated material	28	0.36	0.10	**0.07**	0.04	0.04	0.03
Semi-consolidated fines	8	0.40	0.10	**0.04**	0.02	0.02	0.01
Fines dominated material	46	0.39	0.09	**0.05**	0.02	0.03	0.02
Fines and moderate dominated material	41	0.36	0.04	**0.12**	0.05	0.07	0.04
Medium dominated material	71	0.37	0.05	**0.21**	0.07	0.15	0.07
Volcanics	2	0.66	0.14	**0.13**	0.07	0.07	0.04

HYDRAULIC TESTING – PUMPING AND INJECTION TESTS

Based on rig and material availability, the test well program to-date has focused on short screened (e.g., ~50 m) test wells that were used to both extract and inject water during various tests. The short screens, coupled with observation wells at different depths, allowed for understanding the hydraulic properties of specific horizons within the hydrostratrigraphy, as well as the vertical connectivity between Units A, B, and C.

Pumping tests demonstrate highly favorable hydrogeological conditions in the proposed production horizons (e.g., 200 m to 400 m bgs).and that the clean fine-grained sands of Unit B have hydraulic conductivity values of about one to three m/d. Deeper fine-grained sands in tested areas of Unit C had a lower hydraulic conductivity of about 0.5 m/d.

Table 3-2: Calculated Geometric Mean Hydraulic Conductivity Estimates for Slug Test and Pumping Test

Hydrostratigraphic Unit	Number of Estimates	Geometric Mean Hydraulic Conducitivity (m/d)
Unit A	9	0.5
Unit B	6	2.9
Unit C	6	0.5
Alluvial Fans	3	26.0

Drawdown during pumping tests was primarily observed in monitor wells screened at the same depth as the pumping well. No detectable drawdown was observed in monitor wells screened in the shallow Unit A. Similarly, no responses were observed in Unit C. Due to the layered nature of the aquifer, vertical anisotropy associated with fine-grained lacustrine deposits, particularly in the upper 150 - 200 m, limit the vertical hydraulic connection between shallow aquifers and deep production horizons. The implications of the testing are that the production horizons in Unit B and Unit C can support high-capacity production wells (e.g., 65 lps) and that extraction within this zone will not rapidly affect overlying Unit A water/brine levels, if at all.

Short-term pumping tests completed in the alluvial fans north of the salar indicate that freshwater occurs in highly transmissive alluvial fan materials capable of sustaining high well yields, despite the limited saturated thickness of freshwater (e.g., approximately 30 to 45 m).

Injection tests into the Unit B production horizons comprised of 12, 15, and 31 days demonstrates the viability of this spent brine management option and has the added benefit of maintaining reservoir pressures closer to the present-day conditions. Injection into production horizons needs to be located close enough to positively impact pressures but far enough to minimize dilution effects of spent brine transport through the relatively permeable sand reservoir.

Alluvial fans west of the salar are coarser-grained, have higher specific yield, higher hydraulic conductivity and slightly lower lithium brine concentrations. Injection west of the salar will increase pressures and displace lithium brine towards an extraction wellfield in the salar. Generally, there is little freshwater in the western fans and the higher permeability makes them an ideal target for injection.

Infield injection strategies that maintain pressures in the reservoir closer to natural conditions (e.g., less than 40 m of drawdown) minimize risks associated with subsidence, reductions in hydraulic conductivity from depressurization and potential impacts to spring flows and natural discharge mechanisms important to local flora and fauna.

3.7 Brine Chemistry

Brine sample chemistries are dominated by Na+ and Cl- ions with minimal concentrations of carbonate and bicarbonate, thus classifying the brines as sodium-chloride (Na-Cl) dominant. The aqueous geochemistry is very similar across the project (Figure 3-8) both laterally and vertically with only subtle differences at several locations to the southeast (lower in solutes such as Li+ and SO42- but higher in Ca2+) and southwest. Brine temperatures tend to be higher in the south (up to 35^{0}C) and decrease towards the north, where solutes also tend be slightly lower.

Figure 3-8: Brine Chemistry Piper Plots from Different Project Sectors

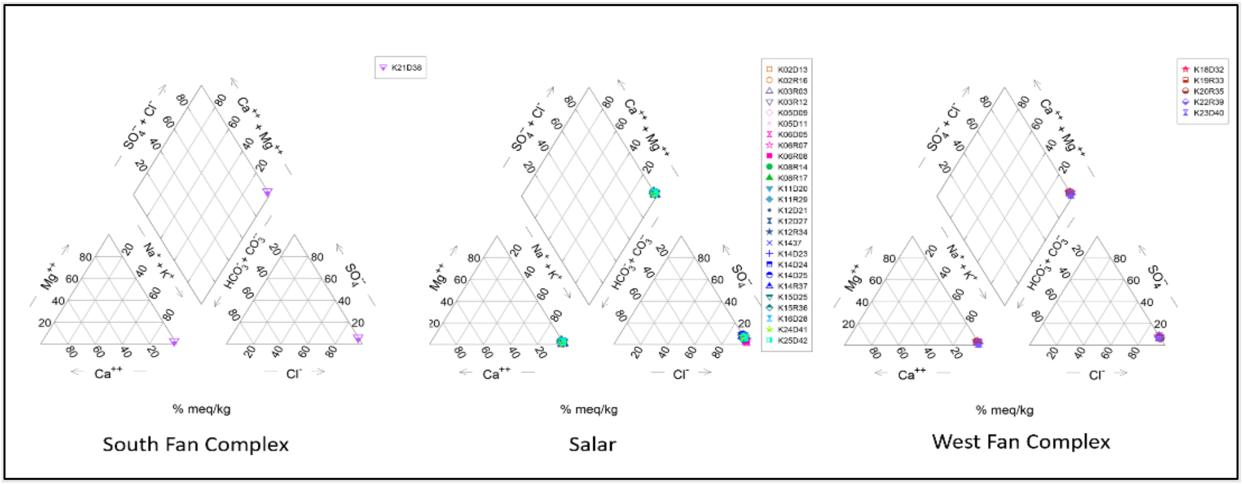
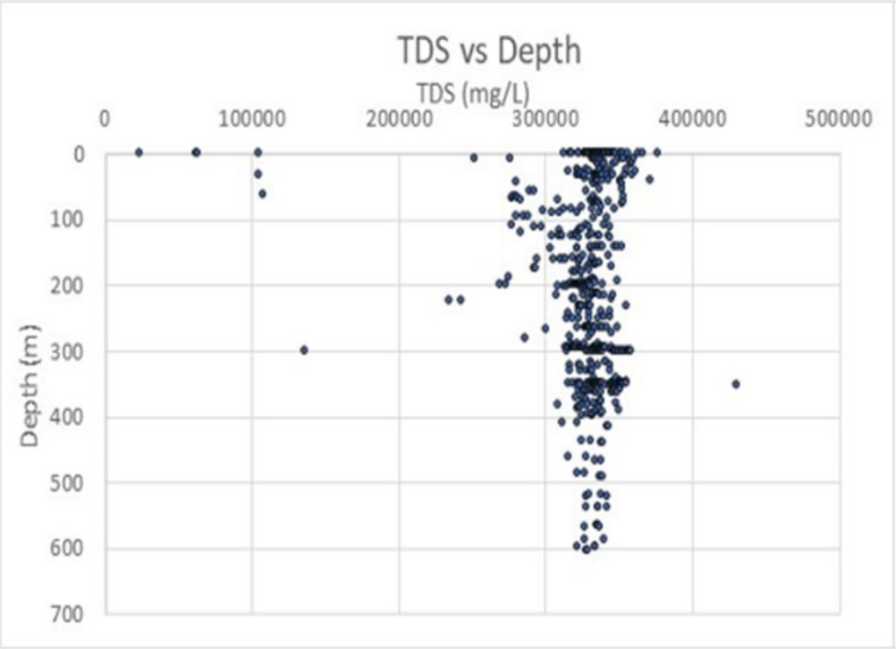


Figure 3-9: TDS vs Depth Graph



The high level of consistency in hydrogeochemistry observed throughout the exploration program is also apparent in total dissolved solids (TDS) and chloride (Cl-). Figure 3-9 (above) illustrates a narrow range of TDS and lithium concentrations which is very uniform throughout the stratigraphic column. Characterization data shows that this trend is both laterally and vertically consistent to depths more than 600 m bgs.

The importance of this observation is that the hydrogeologic system is well-mixed at the basin scale over geologic time scales and except local variations associated with near surface groundwater recharge or evapotranspiration, the porous basin fill is interpreted to be filled with brine.

4 Mineral Resource & Reserve

This section is related to Mineral Resource and Reserve estimates for the Kachi Project. The basis for the materials presented in this section are the mineral resource updates, being Lake ASX Annoucement dated 22 November 2023 relating to Lake's JORC update of Measured and Indicated Resource and Lake ASX Announcement dated 19 December 2023 relating to Lake's Maiden Ore Reserve Statement and additional geologic and hydrogeologic details are presented in those announcements.

Preparation of the resource estimate has been led by Mr. Andrew Fulton, CP and Principal Hydrogeologist at GES with support from Mr. Murray Brooker (Hydrominex) and Lake's technical team. Mr. Fulton also led the development of the hydrogeologic model used to develop the reserve estimate with support from Will Minchin of Watershed Hydrogeo and Lake's technical team.

4.1 Mineral Resource

Estimation of a lithium brine resource requires definition of:

1) The spatial distribution of the host sediments (the reservoir distribution)
2) The external limits (geological or property boundaries) of the resource area
3) The distribution of drainable porosity (i.e., specific yield) values
4) The distribution of lithium in the brine

The resource grade is a combination of the reservoir volume, the drainable porosity (portion of the aquifer volume that is filled by brine that can potentially be extracted) and the concentration of elements of interest in the brine. Based on available test work and modelling of these factors, a Measured and Indicated Resource of 7.3 Mt was estimated (Table 4-1).

Table 4-1: The Kachi Project Resource Estimate[18]

Resource Classification	LCE (Mt)
Measured Mineral Resource	3.0
Indicated Mineral Resource	4.3
Inferred Resource	3.3
Total Resource Estimate	10.6

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[18] See LKE ASX Announcment dated 22 November 2023

Resource Model Development

GEOLOGIC FRAMEWORK

Since the start of the Project's exploration campaign in late 2017, drilling has been undertaken on 24 platforms (locations) to a maximum depth of 630 m with diamond and rotary drilling methods. A large proportion of these were geophysically logged to provide stratigraphic information. The initial drill hole pattern was undertaken with a spacing averaging on the order of 1.5 km within the central resource area, which provides a high level of confidence in correlation of the geology between holes. Recent drill holes stepped out to test the brine extent within the basin.[19]

The accumulation of drill hole data resulted in significant improvement and understanding of both the spatial and the vertical extent of lithium brine. Characterization of the conceptual geological model was incorporated into the resource geology block model. Most notable points leading to the characterization of geology model are as follows:

- Fine grained lacustrine sediments which include intercalated sand, silt, and clay are limited to the salar footprint.
- Outside the salar and beneath gravel fans (north and west) and fan / ignimbrite (south), stratigraphy is predominantly sandy gravels to depth with minor finer grained intervals.
- An interpreted transition zone delineating the rapid transition between salar finer sediments and coarser fan gravels.
- Lithium bearing brine extent is open laterally and vertically beyond the defined limits of the assessed resource, with the Exploration Target defined beneath and lateral to the resource.

The stratigraphy can be correlated laterally and for the purpose of resource estimation, has been divided into four primary hydrogeological and resource intervals, Unit A, Unit B, Unit C and Gravel Fans. The geological units were defined on the basis of the completed geophysics in the wells, with BMR data and Gamma response in particular to define the boundaries of the geological units and are listed in Table 4-2.

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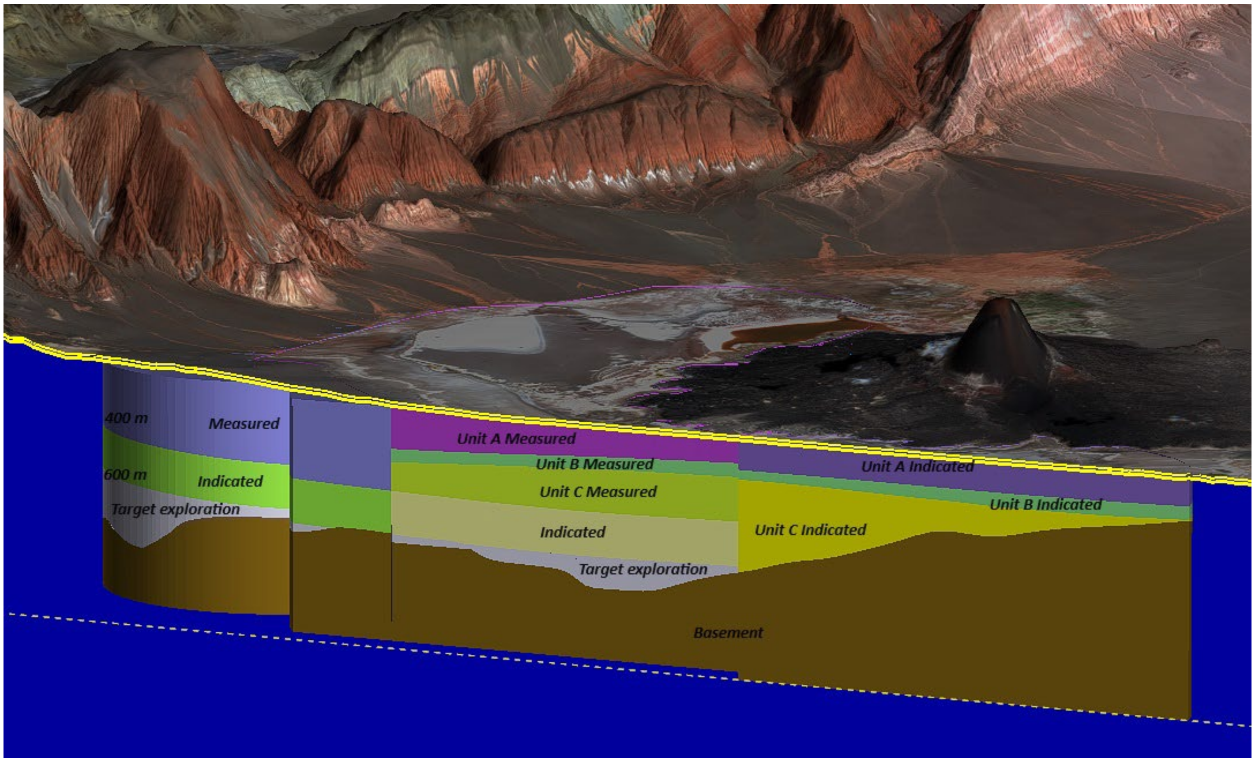
[19] See LKE ASX Announcement dated 4 October 2023

Table 4-2: Resource Unit Descriptions

Local Unit	Geologic Description
A	Intercalated sand, silts and clays. High frequency of thin clay bands. Clay rich aquitard with leaky properties (25-50 m). Central salar area includes intercalated sands, clays and silts but with predominantly finer grained silts and clays. Variable transmissivity.
B	Higher sand proportion. Interpreted as higher permeability zone, lower natural gamma ray response, located below prominent gamma peak.
C	Similar to Unit B but with higher frequency of clay bands between 300 and 400 m bgs with limited intersections below 400 m but interpreted to extend to bedrock.
Gravel fans	Coarser grained alluvial fan deposits surrounding the central salar area (Units A, B, C). The fan deposits are predominantly gravel and sand, with notably higher hydraulic conductivity and specific yield defined to date in the Northern Fan.
Basalt Volcano	A classic shield volcano that has pierced lake sediments (approximately 0.75 Myr (Báez et al. 2015) with air fall and flow deposits. The geometry of the supply vent at depth is at present unknown. The shield is interpreted to cover lake sediments as a veneer.

Using the thickness of each hydrostratigraphic unit, a geological model was generated (Point 1 in Section 4.1). For the model boundaries (Point 2 in Section 4.1), a polygon layer was generated, based around the distance from drill holes. The depth of the model was extended to the basement surface modelled from passive seismic data and underlying the gravels and lacustrine sediments and Figure 4-1 shows the classifications looking north through the resource area.

Figure 4-1: Resource Classification by Hydrostratigraphic Unit



DRAINABLE POROSITY

To develop the three-dimensional distribution of drainable porosity (Point 3 in Section 4.1) or specific yield (Sy) available BMR and laboratory data were analysed and compared. It was determined that while the BMR data provided consistently lower average drainable porosity values relative to the laboratory testing of core, the vastly larger BMR data set provided a more robust assessment of spatial and vertical variability in drainable porosity. As a result, the BMR data were used to generate a block model across the model domain, applying ordinary kriging to the drainable porosity results. The kriging used 10 m scale composited BMR results to smooth out small scale variations.

The deviations between the BMR results and the laboratory results for coarser grained alluvial fan materials are significantly greater compared to the fine-grained sands of the salar. For example, laboratory data from K23D41 had a 50-percentile estimate of 21%, while BMR estimates were about 9.5%. As a result, the modelled Sy for the alluvial fans was increased beyond the BMR estimates of 8.1 to 9.2% but was still below the 10th percentile laboratory value for Sy for K23 (16.3%) and is therefore conservative with respect to lithium brine volume estimates.

A mean specific yield of 0.074 was calculated for all units in the model.

SPATIAL AND VERTICAL DISTRIBUTION OF LITHIUM

This task involves assigning lithium concentrations to the varies blocks within the model based on interpolations and extrapolations of the available data (Point 4 in Section 4.1). The brine characterization program included a variety of sampling techniques and quality control measures to improve confidence in the reliability of the lithium data. Additionally, geochemistry data is analysed to evaluate spatial and statistical trends in brine chemistry and degree of mixing in the hydrogeologic system.

Samples were generally taken in triplicate, with primary sample analyses split between two analytical laboratories. In total, there are 695 total samples in the database at the time of November 2023 update with 375 resource samples and 57 quality assurance/quality control (QA/QC) samples. A mean lithium concentration of 228 mg/L lithium was measured.

BASIN GEOMETRY AND BRINE EXTENT

There is a 375 m deep borehole on the Luz María tenement (~2.5 km north of the basalt flows) drilled by the former owner NRG Metals, which published the lithium concentration data, as between 141 and 144 mg/L lithium supporting the interpreted large-scale spatial extent and extrapolation of the lithium brine resource beyond the drillholes to the north and east and beneath the volcano.

Resource Classification and Approach

The block model was constructed with 400 m by 400 m blocks, with 10 m vertical extent with variograms developed for the drainable porosity point samples and the lithium concentrations. Estimation was undertaken using ordinary kriging for the much higher number of BMR drainable porosity samples and Inverse Distance Squared estimation for lithium concentrations sample points, which are much more limited. Details of the modelling approach, constraints and variograms are provided in Lake's most recent Mineral Resource release[20].

Resource Classification

The Kachi Project delineated the Mineral Resource where 29% of the resource is categorized as measured, 40% is categorized as indicated and 31% is categorized as inferred.

MEASURED MINERAL RESOURCE

The Measured Resources (Purple shading in Figure 4-2 below) is defined within the center of the resource area, where the stratigraphy is continuous and well correlated, brine chemistry and grades are consistent and as a result there is a high degree of confidence. There are two components of the Measured Resource, the salar deposits and a portion of the West Fan Complex. The drill spacing in the Measured Resource area ranges from 1.1 to 1.9 km and averages approximately 1.5 km. The average is less than published guidance for an appropriate drill spacing for Measured Resources in clastic salars[21].

Furthermore, pumping tests that extracted more than 16 million litres (K12R34) and 31 million litres (K11R29) demonstrated remarkably consistent lithium concentration, further confirming grade continuity with a high degree of confidence indicative of a Measured Resource designation.

The Measured Resource category only extends to 400 m depth, given that few holes extend below this depth, despite drilling intercepts to the current maximum depth of 630 m bgs.

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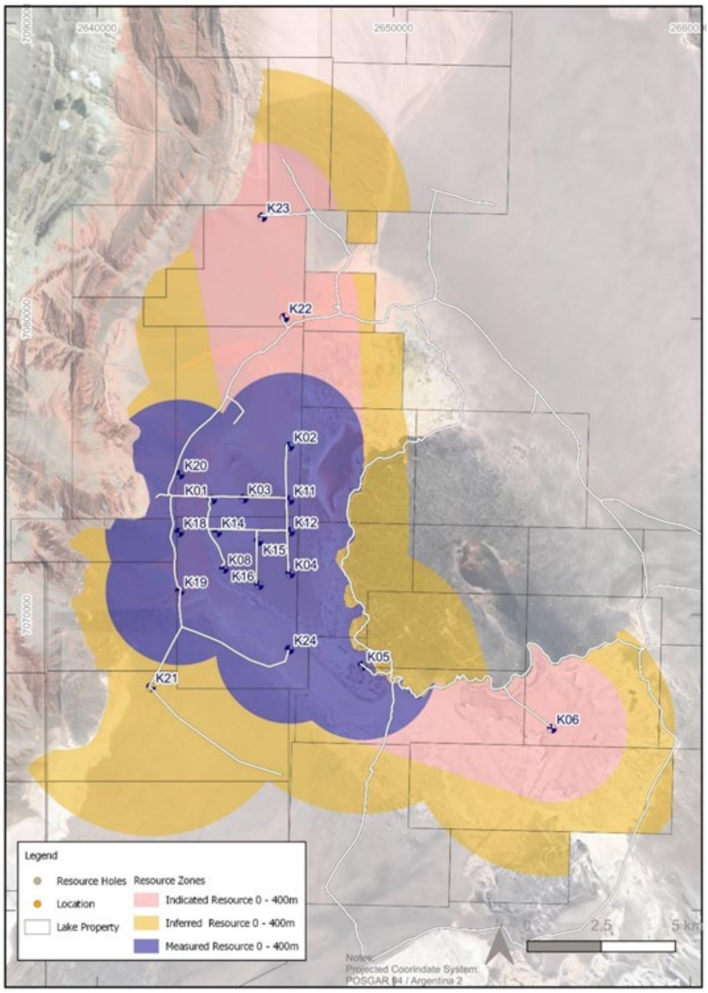
[20] See LKE ASX Announcment dated 22 November 2023

[21] Houston, J., Butcher, A., Ehren, P., Evans, K., & Godfrey, L. 2011. The Evaluation of Brine Prospects and the Requirement for Modifications to Filing Standards. Economic Geology, 106(7), 1225–1239.

Figure 4-2: Resource Category



INDICATED MINERAL RESOURCE

Indicated resources are defined in the southern sector of the deposit between drillholes at sites K05 and K06, where it is clear that lithium enriched brine continues, as does the same generalized stratigraphy. The recent TEM survey also supports the continuity of the brine through this sector of the project, which further supports the drilling and lithological correlations. However, the lithium grades in this sector tend to be lower, and the brine chemistry of these holes has subtle differences compared to the Measured Resource area. These earlier drillholes had some difficulties with sample collection and it is possible there was dilution of some brine samples from overlying zones. There may also be freshwater dilution in this sector associated with groundwater inflow from the east or elsewhere. As a result of these considerations, the resources were classified as an Indicated Mineral Resource.

The results of K23D40 confirm the presence of brine north of the salar, as identified in the TEM survey. The grade from K23D40, averaging 228 mg/L over 322 m, is consistent with lithium concentrations further south in the salar area and with K22D39, between K23D40 and the

Measured Resource. Based on this continuity of results Indicated Resources are defined extending north of the Measured Resource, with a 2.5 km radius around K22 and K23, as the southern area of Indicated Resources is defined around K06.

Indicated Resources are also defined in the deeper sediments between 400 m bgs and 600 m bgs in the salar area (highlighted pink in Figure 4-2 above). As discussed above, deeper drilling at K23D40 and K24D41 has led to an understanding that the lithium brine extends at least to the top of the basement rock (bedrock) below salar sediments or gravels, filling the void spaces in the sediments. The geologic sediments encountered in the deeper drilling, to 600 m, are a continuation of the overlying depositional environment with the same fine-grained sands dominating the stratigraphy. The consistency in lithium concentrations, fluid density and hydrochemistry with respect to shallower samples are further evidence of the continuity and connectivity of the lithium brine throughout the unconsolidated materials in the central resource area.

In the absence of hydrogeologic boundaries (e.g., basin bounding fault to the west of the salar), the continuity of the Indicated Resource has been constrained to a 2.5 km radius despite the hydrogeological and hydrogeochemical evidence that it may potentially be more expansive.

INFERRED MINERAL RESOURCE

Much of the data collected in the Inferred Resource area is associated with more recent step-out holes with reliable data collection (i.e., K21D38, K22D39, K23D40). While the drill spacing is greater in these step-out areas to north and south, the intersected stratigraphy is highly favourable to lithium extraction and generally coarser-grained than in the salar (highlighted yellow in Figure 4-2 above).

The lithium concentrations, fluid density and brine chemistry within these recent step-out holes are very consistent and comparable to that observed within the central resource area. Given the consistency and continuity of both the hydrogeological flow regime and hydrochemistry, locations within the interpolated area and within accepted extrapolation areas around are categorized as an Indicated resource, with further extrapolation to five km being an Inferred Resource.

Brine saturated sediments extend beneath the shield volcano east of the salar, but to date, no drilling has been carried out in these areas. However, TEM survey results confirm that the highly conductive brine body extends beneath the shield volcano to the north, west, and south, and is likely to continue beneath the entire volcano, except in the (assumed to be vertical) feeder structure along which the lava was injected before flowing out at the land surface. Additionally, drilling immediately adjacent to the surface lava flows have intersected lithium brine (e.g., K05) and wells north of the volcano, on mineral concessions owned by third parties, also intersected lithium brine. Given the continuity of stratigraphy, lithium brine intersects and brine TEM signatures, the Inferred Resource is reasonably extrapolated beneath the volcano.

Interpolated and Extrapolated Resources

A portion of the various mineral resources have been extrapolated beyond drillhole locations. Such judgements are common within resource estimation and the concept of relative interpolated vs extrapolated resources are in part, important for conveying confidence in the resource estimation process (Table 4-3).

Table 4-3: Interpolation and Extrapolation

Mineral Resource Category	Total Resource Estimate (t LCE)	Interpolated Fraction (% / LCE)	Extrapolated Fraction (% / LCE)
Measured	3,035,000	78	22
Indicated	4,258,000	58	42
Inferred	3,352,000	18	82

Exploration Targets

The exploration target is unchanged from Lake's most recent Mineral Resource update[22] and is divided into components which include:

- Under the indicated resource within the central resource area from 600 m to basement
- Under the inferred resource defined under the basalt shield limited to 4 km from nearest borehole
- Under the southern fan between 400 m depth and basement contact
- Under western and northern fan between 600 m depth and basement contact
- In area outside the resources inside the properties (out of reserve and southern PP) from top of conductive unit to basement contact

Exploration target areas include the target area from 600 to approximately 700 m depth below measured and indicated resource. From 400 to basement outside of the inferred resource and from top of highly conductive brine signature to basement outside of five km radius from intersected resource.

Future exploration drilling aims to convert at least a portion of the exploration target volume to resources but to date insufficient exploration has been conducted to conclude with any certainty that the exploration target could be converted to resources and were not included in any of the three resource estimate categories discussed above but has potential to add anywhere from 3.7 to 14.7 Mt of LCE to the Kachi Project Resource.

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[22] See LKE ASX Announcment dated 22 November 2023

Cut-off Grade

Grade-tonnage curves for the project indicate that a cut-off grade of 150 mg/L would result in less than a 0.1% reduction in total lithium resource. As a result, Mineral Resources are estimated utilizing a conservative cut-off grade of 150 mg/L lithium.

The proposed DLE technology has been demonstrated to operate cost-effectively at much lower lithium concentrations (e.g., less than 75 mg/L). Effectively no Mineral Resources have been quantified below 150 mg/L, however, the opportunity exists for incorporation of lower grade resources should they be discovered or otherwise evolve at the planned extraction wells. In this instance, the cut-off grade could be revised lower based on operating costs for the lithium grade considered.

4.2 Ore Reserves

An 'Ore Reserve' is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified[23].

The methodology used to develop estimates of the Mineral Resource is different to the method used to develop estimates of the brine Ore Reserve as the Resource model only considers static conditions. The Ore Reserve estimate is based on extraction of the brine that is transmitted in the subsurface in response to wellfield pumping. As a result, a calibrated hydrogeological model (simulating flow and solute transport) is the most appropriate tool to estimate the brine Ore Reserve through time[24].

Numerical Hydrogeological Model Development

A numerical hydrological model ("Model") has been developed by a collaboration between consultants Watershed HydroGeo, GES and the Lake Resources technical team. The Model is a fundamental tool to for understanding the hydrogeological system, simulating the brine extraction, and providing quantified estimates of hydrogeological system behaviour because of that extraction. Additionally, by using DLE technology at the Kachi Project, the spent brine will be returned to the hydrogeologic system in approximately the same proportions that the brine is

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[23] The JORC Code 2012 Edition. Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Effective 20 December 2012. Prepared by the Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC)

[24] Association of Mining and Exploration Companies, 2020. Guidelines for Resource and Reserve Estimation for Brines. https://www.jorc.org/docs/Brine_Guideline_final.pdf

pumped out of the system. This dynamic interaction of lithium brine pumping with concurrent injection of spent brine is simulated in the Model.

This model assessment has been undertaken with consideration of the Australian Groundwater Modelling Guidelines (“AGMG”)[25]. The AGMG have been adopted throughout the groundwater industry as a benchmark for best practice.

MODEL OBJECTIVES

In addition to modelling the system behaviours and simulation of the brine extraction and injection, the Kachi Project uses the Model to:

- Evaluate extraction and injection wellfield layouts and designs to maximize efficiency and effectiveness of the brine system
- Verify that planned designs (extraction and injection) and operational plan meet targets of the Well Development Plan
- Quantify Lithium mass for LoM of the wellfield
- Evaluate potential effects of injection on lithium grades and mass through LoM
- Test injection wellfield design to minimize dilution and impacts on environmentally sensitive areas
- Estimate changes to the hydrogeologic system throughout LoM including drawdown, changes in baseline fluxes and TDS in environmentally significant areas, and evaluate post-closure conditions and recovery of the hydrogeologic system
- Simulate freshwater well layouts to evaluate if they can meet design targets as well as predict how freshwater operations may impact freshwater quantities (if at all)

MODEL VARIANTS

Three versions of the numerical Model have been developed for different purposes. All three have consistent model domain, consistent layer geometry, and consistent boundary conditions other than time variant boundary conditions. These three models are:

1) Catchment-processes model (historical /calibration model);
2) Pumping-test model (historical /calibration model); and,
3) Predictive model (for forecasting mine operations).

The Model comprises of 15 layers which represent variable stratigraphy laterally and vertically and based on the hydrostratigraphic units which are directly related to the resource geological model. Additional layers were added for improved numerical resolution including vertical hydraulic gradients in the salar and to minimize dispersion in contaminant transport modelling. All model variants consider the variable density effects of flow and transport, as doing so was important for calibration and simulating fresh / brackish water discharge to the vegas and springs.

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[25] Barnett B, Townley LR, Post V, Evans RE, Hunt RJ, Peeters L, Richardson S, Werner AD, Knapton A and Boronkay A., 2012. Australian Groundwater Modelling Guidelines. National Water Commission

Separately, a water balance model has been developed to simulate the stage-area-volume relationship of the laguna using climatic and hydrological inputs on a daily time-step. Results from the one model are used with the other model to better estimate potential effects, (e.g. flux changes estimated by the groundwater model can be input to the water balance model to understand what those fluxes mean in terms of reduced lake stage).

Discharge of water from the basin is through evapotranspiration, and the average total evaporative flux has been estimated at approximately 55-90 ML/d (630-1040 lps).

HYDRAULIC PROPERTIES

Field hydraulic testing data (hydraulic conductivity and specific storage) and laboratory analyses (drainable porosity or Sy) were used to define initial estimates and appropriate ranges for hydraulic properties, with minor supplementation from literature values. For the hydrogeological modelling, these parameters include:

- Horizontal hydraulic conductivity (Kh).
- Vertical hydraulic conductivity (Kv), and for automated calibration, this is calculated using vertical anisotropy ratio (VKA), to avoid vertical K exceeding horizontal K. Such a situation is possible, but conceptually unlikely in this environment.
- Specific yield (Sy) and specific storage (Ss).

Model calibration to catchment-processes and multi-day pumping tests (presented in Chapter 3) has led to the range in modelled parameters, where there can be multiple zones in multiple layers for the combination of depositional environment and Resource Unit, (e.g. there are multiple shallow alluvial fans). The modelled Kh values are in good agreement with those from pumping tests at K11, K12 and K15 platforms. For example, pumping tests in the centre of the salar (K11 and K12, Unit B) where K is 2 to 4 m/d, versus the interpolated model values of 1.9 to 2.7 m/d.

Modelled alluvial Sy ranges from 5% to 10%, Unit B in the centre of the salar is 7.5 to 8%. This compares well with the core-testing and the BMR-derived estimates used in the Leapfrog modelling.

SOLUTE TRANSPORT PARAMETERS

Dispersivity has been set to 10 m (longitudinal), 0.1 m (transverse) and 0.01 m (vertical). These values agree with contemporary literature[26]. Effective porosity was set equal to the specific yield.

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[26] Zech, A. et al. (2015) 'Is unique scaling of aquifer macrodispersivity supported by field data?', Water Resources Research, 51(9), pp. 7662–7679. Available at: https://doi.org/10.1002/2015WR017220

Model Calibration

The approach to model calibration or history-matching is the adjustment of model parameters and boundary conditions to improve the model's simulation of several observation types (6 for the Kachi Project). The focus of the calibration has primarily been on reproducing observed and measured transient processes given that model predictions will be highly transient in nature.

Steady-state calibration of the catchment model was to achieve an approximate match to the groundwater levels while matching the estimated average evapotranspiration flux. The steady-state mass balance indicates that the average modelled evapotranspiration (71 ML/d or 8221.8 lps) matches well with the estimated range with a discrepancy of 0.01%.

Transient calibration uses the same model as for the steady state, with the model run combining a single steady state stress period with successive transient stress periods. For the catchment model, transient calibration involved simulating groundwater levels at the range of monitoring wells, and also using the transient lake level series inferred from remote sensing, and TDS concentrations. There are a total of 1,519 transient water level targets. The pumping test model is used to reproduce the measured pressure changes in the formation during extraction and injection tests at K11 and K12, as well as the measured lithium concentrations during the tests.

SUMMARY OF MODEL PERFORMANCE

The catchment model has a cumulative flow mass balance error of 0.06% and within that, the transient model run has only a single timestep with mass balance error greater than 1% (1.59%). These are within the guidelines suggested by the AGMG. The solute transport mass balance error for Lithium is very low (<0.01%).

Once the model was able to simulate absolute groundwater levels, and the longer-term transient variation in these heads in the catchment model reliably, the focus was on matching results from the pumping and injection tests at K11 and K12 (Figure 4-3). The K12 and K11 pumping tests had durations and rates of 15-days and 12-days and 24.5 lps and 16.0 lps, respectively. These tests are described in detail in a previous market release[27].

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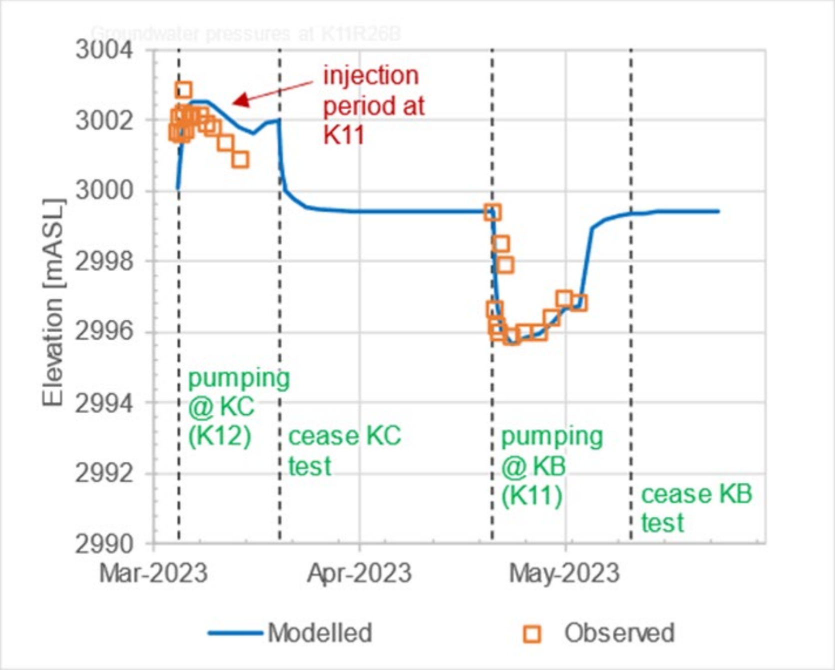
[27] See LKE ASX Announcment dated 16 August 2023

Figure 4-3: Hydrograph for K1126B - Example of Transient Calibration to Pumping/Injection Test Data



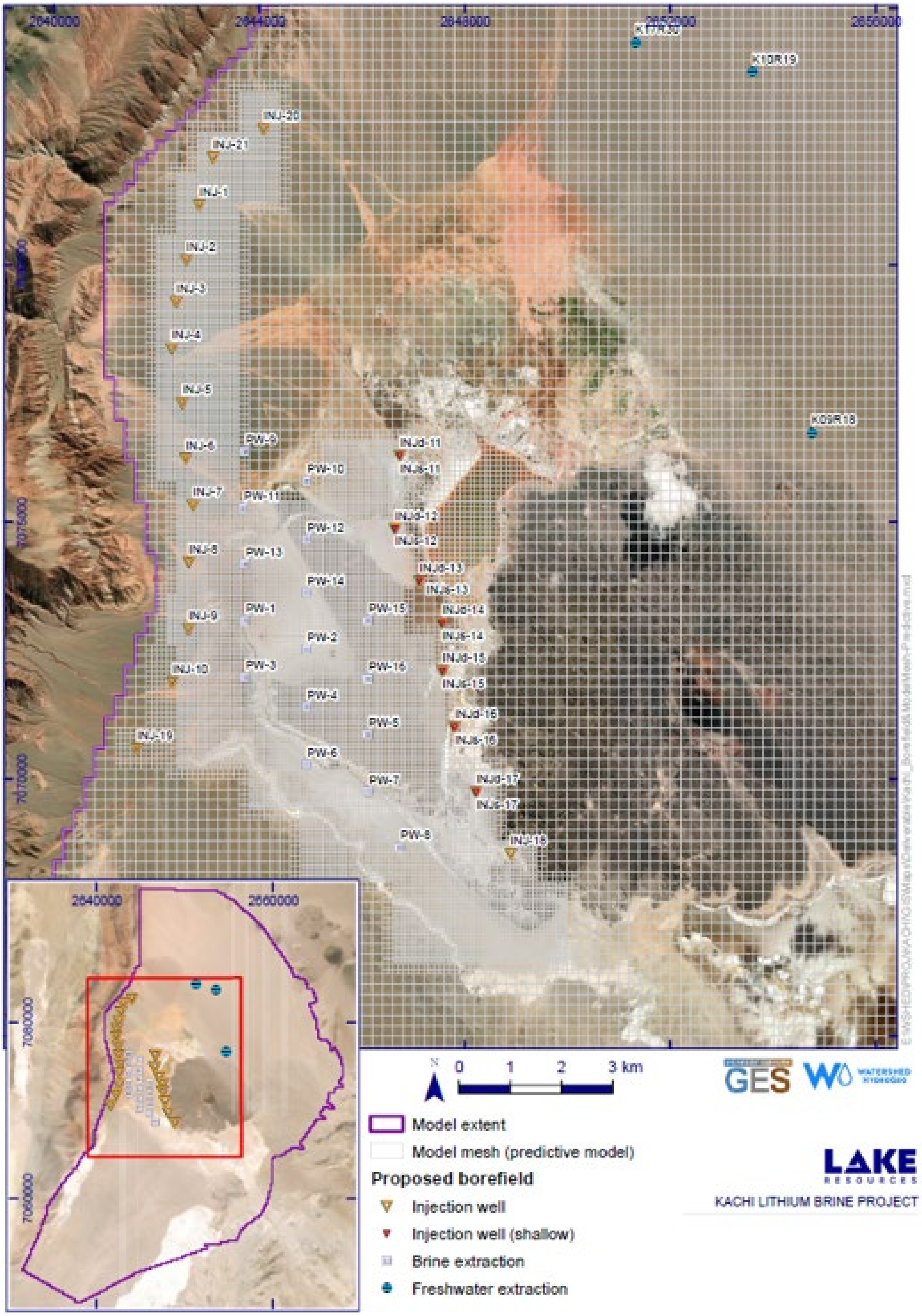
From both a visual match and statistical perspective, including reproducing lithium concentrations to within 2.5%, the calibration models are considered appropriate for use in predictive modelling.

Model Predictions

The predictive model was simulated using the proposed wellfield layout (Figure 4-4) consisting of 16 brine extraction wells located in the core of the salar and screened at approximately 200 to 400 bgs. Injection is split between the permeable West Fan (14 injection wells; screened from 300 to 600 m bgs) and the eastern margin of the salar (7 injection wells; screened 200 to 500 m bgs), close to the environmental receptors. Additionally, three freshwater supply wells are simulated in the alluvial fan deposits north of the salar.

Total pumping from the extraction wellfield is proposed to be 910 L/sec (across 14 production wells) for the first year, increasing to 1040 l/sec for Years 2 to 25. The freshwater supply was 60 lps for Years 1 to 2 and 15 lps for Years 3 to 25, evenly divided between the three freshwater wells.

Figure 4-4: Predictive Model - Simulated Well Field Layout

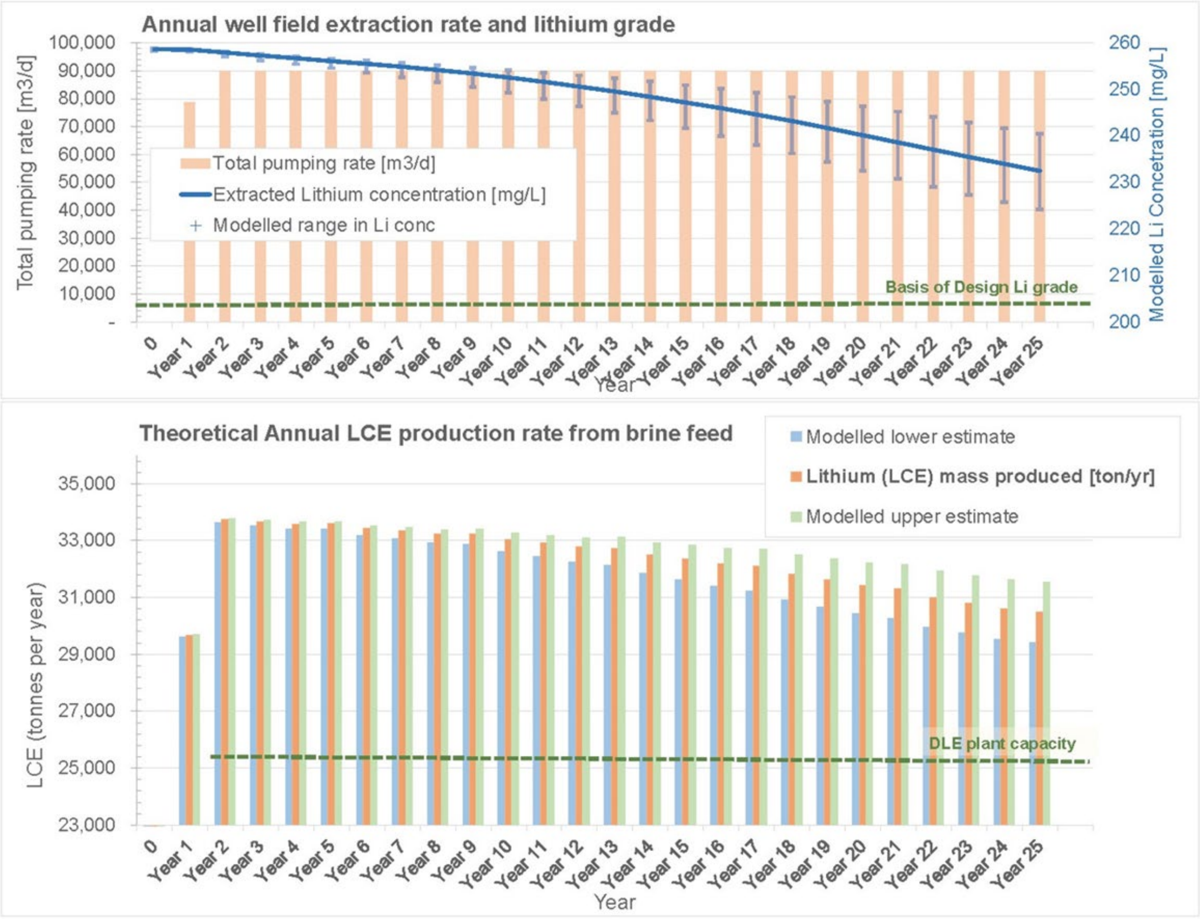


MODELLED LITHIUM EXTRACTED LITHIUM RATES

Based on the simulated flow rates and lithium concentrations, the well field can support feed for an average LCE production of approximately 32,300 tpa for the 25-year life of the project or 806,300 tpa over the 25-year LoM (Figure 4-5). The best estimate for theoretical annual LCE production from the feed brine ranges from 33,800 in Year 2 to 29,400 in Year 25.

Predicted average lithium concentration is 259 mg/L in Year 1, 255 mg/L in Year 7 (a 1.5% decline), and 232 mg/L in Year 25 (10.1% decline).

Figure 4-5: Simulated mine plan in the hydrogeologic model and resulting theoretical LCE production rates$^{\textit{Notes 1,2,3}}$



[Note 1] Pumping schedule is for: 14 production wells in first year; up to 16 production wells for years 2-25,

[Note2] Extracted lithium concentration shown is the average across all 16 proposed brine production wells.

[Note 3] The modelled range in concentration is the range across the well field in all model sensitivity scenarios. Assumes a total processing efficiency of 75% and a lithium to LCE conversion rate of 5.32.

Table 4-4: Modelled Wellfield Extraction and LCE Production without Plant Constraints[Note 1]

Years	Average Lithium Grade	Lithium Extraction (Tonnes)	Model Simulated LCE Production (Tonnes)
1-7	257	43,400	230,700
8-25	245	108,200	575,600
1-25	248	151,600	806,300

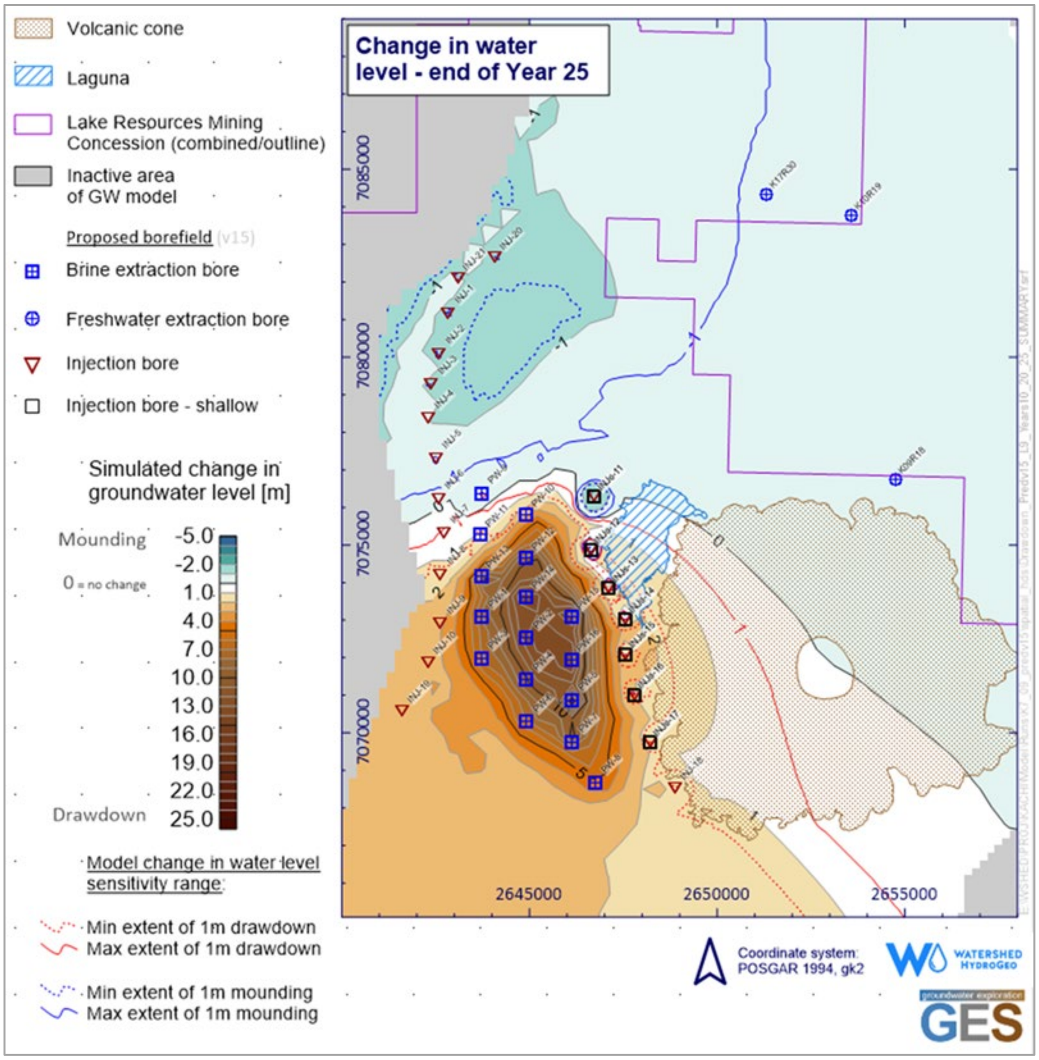
[Note1] Lithium and LCE tonnes reported are based on the mine plan (i.e. pumping rates, well layouts) and consider the key modifying factor of process recovery rate. As such "raw" values from the model have be reduced by 25% to account for the overall 75% lithium recovery rate.

The higher theoretical LCE production rates stem from higher average lithium grades in the brine feed than assumed in the DFS design basis (205 mg/L). These values represent the unconstrained potential from the DFS wellfield design and pumping schedule. As such, the plant processing capacities are the limiting factor for the ore reserve estimate.

This excess in wellfield design yield is aimed at accounting for required redundancy that would include pump or well outages, routine maintenance, or potential lithium grades below model predicted values.

During well field operations, the drawdown in the reservoir is variable but greatest near the centre of the reservoir. In the Unit B production horizon, it averages about 25 m in the centre of the well field (Figure 4-6). However, the changes at the phreatic surface in Unit A (shallow portion of the system), are much less and range from 0 m near the laguna and springs to about 2 m over the central portion of the wellfield (Figure 4-7).

Figure 4-6: Simulated drawdown in the Unit B reservoir (Model Layer 9) after 25-years of operations



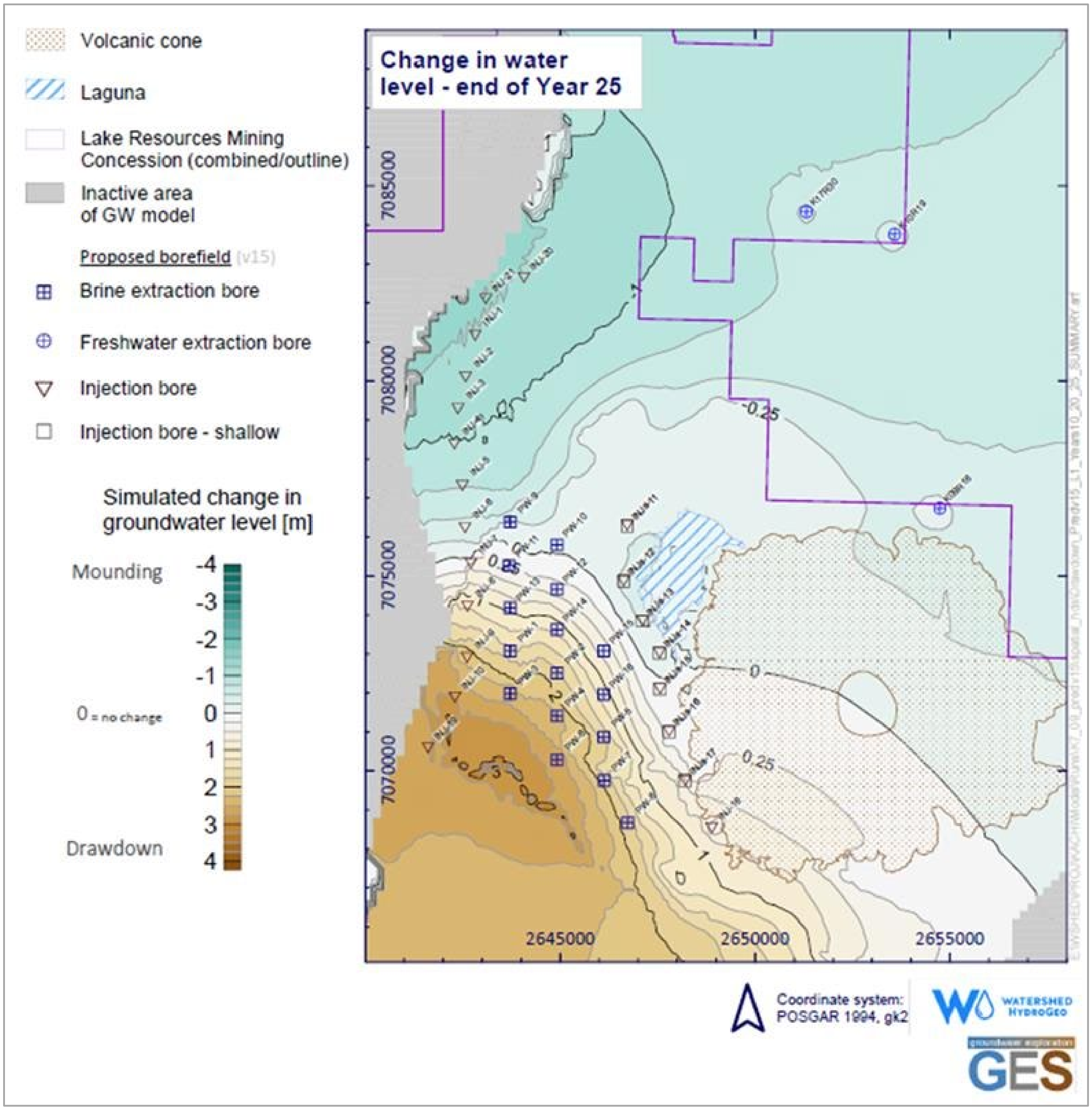
FRESHWATER

Freshwater would be extracted for operational purposes at three wells located 5-8 km north or northeast of the salar with extraction being higher in the first 2 years due to lack of water recovery infrastructure being in place (expected to be commissioned in Q4 of the 2nd year). As a result, peak drawdown is expected to occur after 2 years. The model indicates that peak drawdown would be approximately 1.3 m after 2 years, which does not pose a risk to wells yield nor to the potential for upwelling of brine into the freshwater aquifer or changes in discharge to the vegas.

HYDROGEOLOGIC CHANGES OVER THE LOM

Groundwater depressurization and drawdown: The modelling suggests the injection should be effective at mitigating phreatic surface drawdown, with scope for the injection rates to be managed in response to monitored water levels. The Adaptive Management Plan and Data Management System will provide real-time monitoring at key location and guidelines for adjustments to operations, as necessary to mitigate potential hydrologic impacts (Figure 4-7).

Figure 4-7: Simulated drawdown at the phreatic surface after 25-years of production



Changes in fluxes: The magnitude of these combined changes (+0.04 m) are approximately +15% of the average annual variation (0.27 m from 2007 to 2023) in lake stage, noting that this is simulated in the early part of the Project, and is as a result of the re-injection simulated for the purpose of this DFS. The Company is undertaking more work to understand the nature of these springs, including their flow rates, water quality, and identification of their sources. The advantage of injecting near the receptors is that the pressure is maintained in both the deep and shallow portions of the system and injection rates can be modified to minimize any changes to the natural system.

Modelling updates will be undertaken yearly to re-predict the hydrogeologic system changes and the updated models will be used to refine operational strategies for the following year.

Water quality: The model was used to estimate changes in salinity (as TDS) at springs and the laguna as an indication of potential water quality changes. The model predicted negligible changes (less than 5%) in water quality.

Ore Reserve Estimate

The Ore was classified into Proven and Probable Reserves based on industry standards for brine projects (e.g., Houston et al, 2011; AMEC, 2020)[28], the CP's experience, and the confidence in the quality and quantity of both data and hydrogeologic model performance. A high degree of confidence is afforded given the conservative manner in which parametrisation of the geologic model in terms of hydraulic properties and geochemistry. A majority of the extracted mass is sourced from Measured Resources; nonetheless, Proven Reserves were specified by the CP for the first 7 years, given the level of model calibration and yearly production goals, while Probable Reserves were conservatively assigned for the last 18 years of the LoM, considering that the model will be continually improved and recalibrated in the future including additional extraction and injection testing, initial operations and changes in lithium concentration, among other factors.

Table 4-5 presents the project Ore Reserves defined as Proved and Probable Reserves. Proven Reserves are further delineated in Year 1 where a lower production rate is due to the processing ramp up and production schedule and directly related to and construction and commissioning of the processing facility. Potential LCE production rates from the mine plan, inclusive of processing efficiency losses of 25%, result in a total of 806,300 t LCE. However, these are limited by plant capacity, resulting in the numbers presented in Table 4-5, which total 624,400 t LCE (about 22% lower).

Reserve estimates are based on the anticipated lithium production schedule with an economic cut-off grade of 150 mg/L lithium and a 75% average process plant recovery.

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[28] Association of Mining and Exploration Companies (AMEC). 2020. Guidelines for Resource and Reserve Estimation for Brines.; Houston, J., Butcher, A., Ehren, P., Evans, K., and L. Godfrey. The Evaluation of Brine Prospects and the Requirement for Modifications to Filing Standards. Economic Geology, v. 106, pp. 1225–1239

Table 4-5: Proved and Probable Lithium Reserves

Reserve Category	Years	Lithium (Tonnes)	LCE (Tonnes)	Average Lithium (mg/l)
Proved	0-1	3,600	18,900	259
Proved	2-7	28,500	151,400	257
Probable	8-25	85,400	454,100	245
Total	1-25	117,400	624,400	-

Notes to the Reserve Estimate:

- Lithium is converted to LCE with a conversion factor of 5.32.
- The effective date for the Reserve Estimate is based on the most recent Resource update[29].
- Based on total Lithium Recovery Rate of 75% from the process plant.
- The reserves are estimated based on the output from the processing circuit, as the 75% processing efficiency is accounted for in the Ore Reserve estimates.
- Numbers may not add due to rounding effects.
- Projected processing is based on first year rate of 18,921 tonnes LCE.
- Projected processing for Years 2 - 25 rate of 25,228 tonnes LCE.
- The Competent Person for the Ore Reserve estimate is Andrew Fulton.

Particle Tracking

The Model predicts that approximately 98% of the extracted lithium will originate from within the Measured Resource for the first 5 years and 94% after 7 years. After 25 years, 88% originates from the measured resource with 12% from the indicated resource.

Table 4-6: Lithium source by Resource Zone

Resource Zone		% sourced from zone after 5 years	% sourced from zone after 7 years	% sourced from zone after 25 years
Shallower than 400m	Measured-salar	89%	85 %	73 %
	Measured fan	9%	9 %	15 %
Deeper than 400m	Indicated-salar	1%	3 %	9 %
	Indicated fan	1%	1.5 %	3 %

Potential Resource Dilution

The main process resulting in the reduction in lithium grade through time is the wells capturing more distal, lower grade brine. However, in later years of operations, the effect of dilution from spent brine injection becomes more significant and varies depending on the unit considered (i.e., Unit B versus Unit C) and location considered. The Model indicates that lithium grades

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[29] See LKE ASX Announcment dated 22 November 2023

would decline by approximately 1.5% over the first 7 years, and by 10% over 25 years. In the first 7 years, the effect of injection dilution is only a small contributor to this 1.5% reduction, while over the longer 25-year period, dilution from injection is simulated as being the cause of almost half of the 10% decline in recovered lithium grades.

5 Extraction Methods and Design

The key parameters influencing well design are listed in Table 5-1 below.

Table 5-1: The Kachi Project Key Design Parameters

Design Element	Range/Value
Phase 1 Target Lithium Carbonate Production Rate	25 ktpa of Lithium Carbonate Equivalent
Average lithium concentration in raw brine	205 milligrams lithium per litre of brine
Target Lilac DLE technology recovery rate	80% lithium extraction from the raw brine
Target Extraction Rate	1,040 L/s (65 L/s single well maximum)
Expected Plant uptime	90%

5.1 Extraction Method and Design

Extraction Methods and Design is subdivided into two components, a Well Field Development Plan (“WFDP”) focused on the extraction and injection well designs, and a brine gathering network component that transports the brine and spent brine to the brine pond and injection wells, respectively. The WFDP designs were led by Daniel B. Stephens & Associates, Inc. (DBS&A). The WFDP provides recommendations for the installation and completion of a network of extraction and injection wells associated with the project. Hatch has been the engineering consultant for the brine gathering network and this is presented in Section 6.

The plan includes a mix of extraction (16) and injection wells (21) at a depth ranging from 200 to 600 m bgs.

Production and Injection Well Field Layout

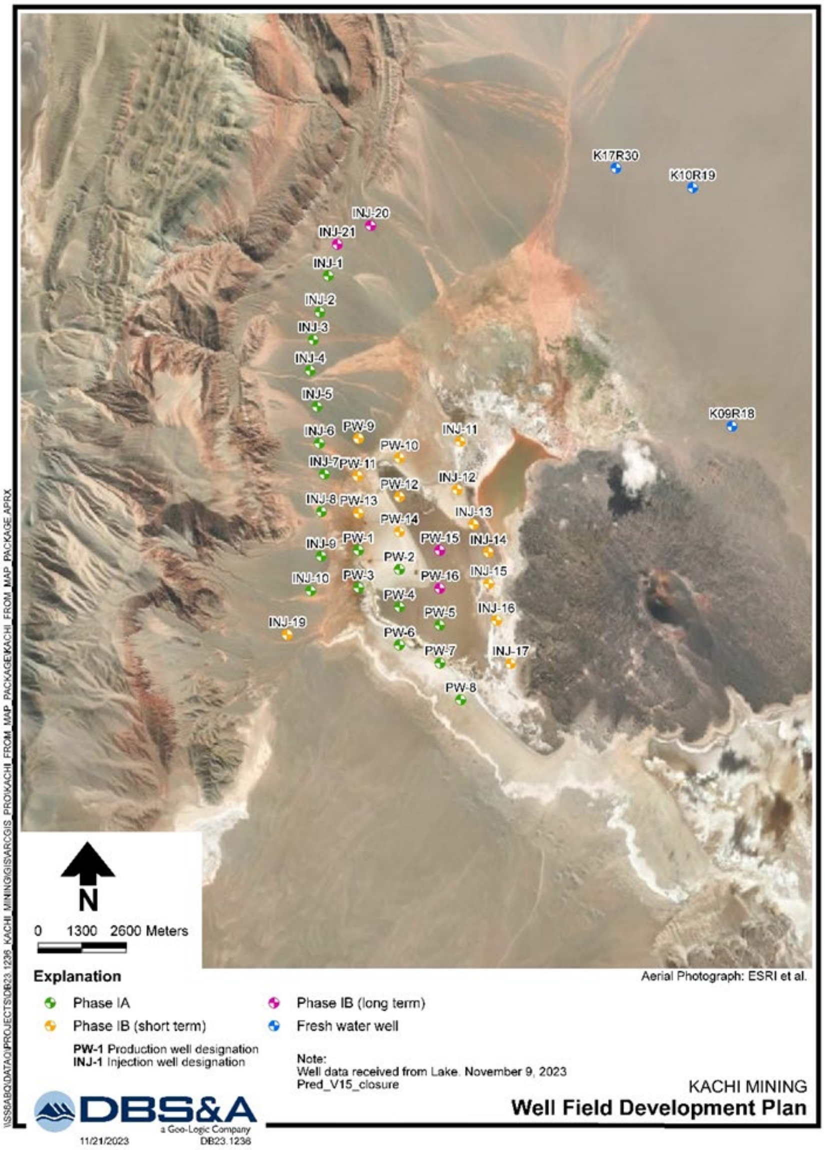
Wellfield layouts were developed using the project’s numerical hydrogeologic model (Figure 5-1). The criteria for the wellfield layout included:

- Maximization of lithium concentrations in the extraction wells
- Maintaining sufficient available drawdown and production rates in the extraction wells (minimizing the potential for negative changes in the hydraulic conductivity or subsidence)
- Minimizing potential impacts to existing hydrologic systems (i.e. the laguna, the vega, and spring and seep discharge rates/chemistry)
- Optimization of cost associated with minimizing the number of extraction and injection wells and above ground improvements (roads, piping)

The wellfield is comprised of three primary sectors:

1) West Injection Wells: Injection wells in the permeable alluvial fans west of, and up-gradient of, the salar. These wells will displace lithium brine in the fans towards the extraction wells and maintain hydraulic heads and pressures in the salar, as much as possible.
2) Central Production Wells: Production wells in the central salar, which has proven high lithium concentrations in permeable material from three long-term pumping tests that all averaged over 260 mg/L.
3) East Injection Wells: Injection on the eastern margin of the salar near the laguna and springs allows for maintenance of the hydrogeologic system to as close to natural conditions as practicable near the important ecological receptors, namely the laguna and springs.

Figure 5-1: Well Field Development Plan



General Well Design

A review of the existing data, including but not limited to geophysical logs, lithologic descriptions, historical well construction and aquifer testing and modelling results informed the well field design assumptions applicable for both extraction and injection wells.

- Target extraction rate of 1,040 lps (with single well target extraction rate of 65 lps) for the 25 ktpa operation assuming a 205 mg/L lithium concentration.
- Injection well to production well ratio is 1.25:1, based on testing and modelling results.
- Target production zone of 200 to 400 m bgs.
- Casing and screen diameters to maximize yield and accommodate downhole equipment.

- Drilling methods that minimize losses and drawdown with in-country availability.
- Material selection to minimize well/equipment degradation based on 25-year mine life.
- Maximization of transmitting capacity of the well screen and well efficiency to promote optimal production rates and minimize clogging potential.
- Standardizing materials and diameters across injection and extraction wells promoting efficiencies in drilling operations and procurement as well as allowing the flexibility to use injection wells for brine extraction.

Drilling Method

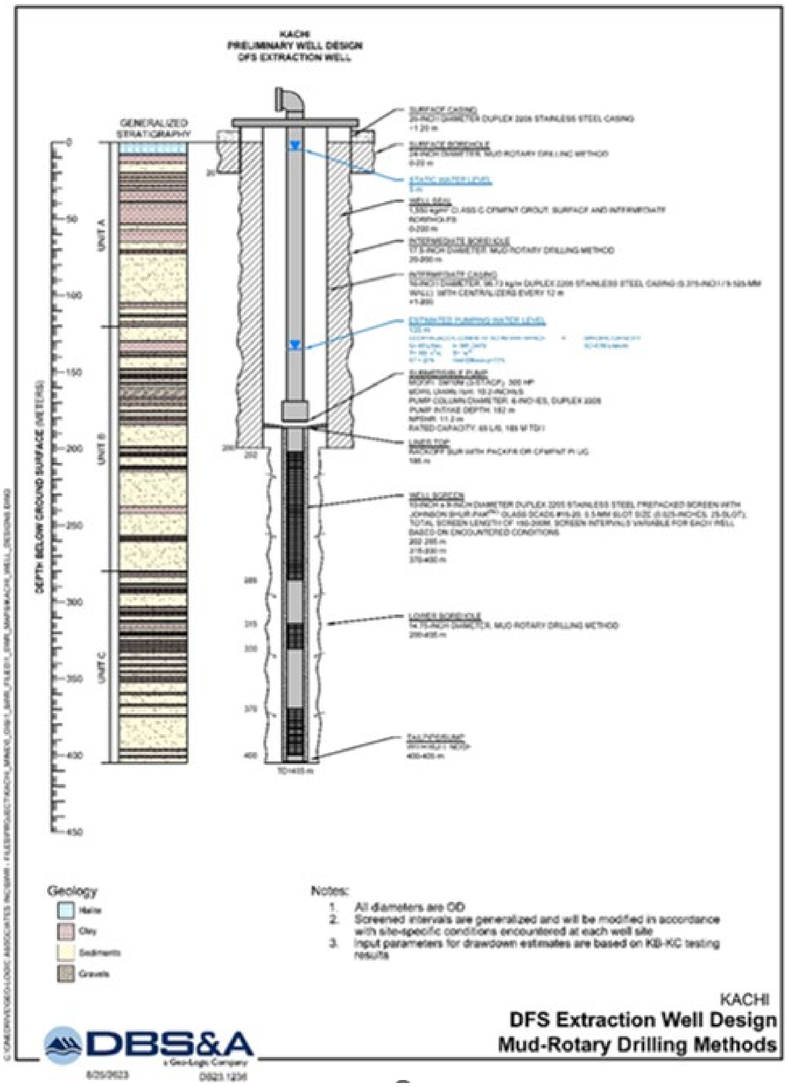
Super Single type drilling rig option using conventional mud rotary drilling is the preference for the Kachi Project as most lithium production wells in the salars of Argentina are drilled using conventional mud-rotary drilling rigs. It is intended that this type of drilling and well design, will be tested during the FEED phase of the project with the installation of production scale extraction and injection wells and follow-up pumping and injection tests. Lessons learned from the FEED testing will be incorporated into final wellfield designs.

Well Designs

Key elements of the DFS well designs are summarized below and presented in Table 5-2 (DFS Well Design Summary Table) and Figures 5-2 (DFS Extraction Well Design) and Figure 5-3 (DFS Injection Well Design).

- Duplex AL2205 was the selected material of construction due to its corrosion resistance, common use in saline/brackish environments, and a life of mine trade-off study showing there would be less replacement wells required to maintain the designed extraction rate.
- Glass beads (Johnson Screens Shur-PackTM) were selected over traditional silica sand filters. Primary reasons for this selection were: (1) poor quality of in-country filter media; (2) well sorted spherical beads minimizes well losses; and (3) the inert properties of the beads being less susceptible to corrosion from Kachi brine.
- A 16” intermediate casing diameter was chosen to accommodate the anticipated downhole equipment while also providing clearance for potential future upgrades such as pump shrouds or pump protection separators (if determined to be necessary).
- Extraction wells are designed with 150 to 200 m of screen with a slot size of 0.6-mm (0.025 inch or 25-slot) and filter pack grain size of #16-20 (1.12 to 0.83 mm) based on using available grain size distributions.
- The proposed extraction pump (Haliburton) is a Summit/Intake Sub-Assy A/R 950-875 1045 CS (HS Shaft) with a Summit/SN35000 XRC (HS Shaft) motor. The pumps include a variety of controls including but not limited to ability for remote access and control, measurement/record of water levels, pump pressures, and flow rates.
- Injection wells are designed with 250 to 300 meters of screen with a slot size of 1-mm (0.040 inch or 40-slot) and filter pack grain size of #12-16 (1.52 to 1.19 mm).

Figure 5-2: DFS Extraction Well Design

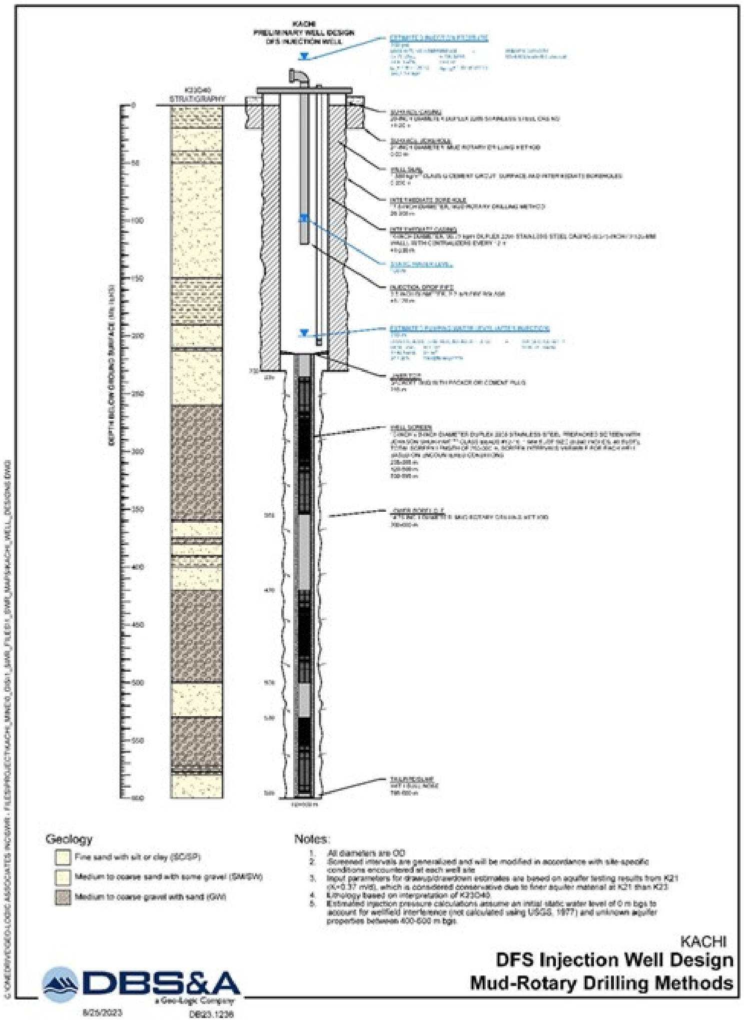


Notes:

1. All diameters are OD
2. Screened intervals are generalized and will be modified in accordance with site-specific conditions encountered at each well site
3. Input parameters for drawdown estimates are based on KB-KC testing results

KACHI
DFS Extraction Well Design
Mud-Rotary Drilling Methods

Figure 5-3: DFS Injection Well Design



Notes:

1. All diameters are OD
2. Screened intervals are generalized and will be modified in accordance with site-specific conditions encountered at each well site
3. Input parameters for drawup/drawdown estimates are based on aquifer testing results from K21 (K=0.37 m/d), which is considered conservative due to finer aquifer material at K21 than K23.
4. Lithology based on interpretation of K23D40.
5. Estimated injection pressure calculations assume an initial static water level of 0 m bgs to account for wellfield interference (not calculated using USGS, 1977) and unknown aquifer properties between 400-600 m bgs.

Table 5-2: DFS Well Design Summary Table

Parameter	Extraction	Injection
Number of Wells	16	21
Materials		
Casing and Screen Material	AL2205	
Well Seal Material	TBD	
Filter Pack Material	Johnson Screens Shur-Pak Glass Beads	
Surface Borehole		
Drilling/Excavation Method	Any	Any
Borehole Depth (meters)	20	20
Borehole Diameter (inches)	24	24
Casing O.D. (inches)	20	20
Intermediate Borehole		
Drilling Method	Any	Any
Borehole Depth (meters)	200	230
Borehole Diameter (inches)	17.5	17.5
Casing O.D. (inches)	16	16
Casing Thickness (inches)	0.375	0.375
Lower (Production) Borehole		
Drilling Method	Mud Rotary	
Borehole Depth (meters)	405	600
Borehole Diameter (inches)	14.75	14.75
Screen O.D (inches)	10	10
Screen Slot Size (mm / inches)	0.6 / 0.025	1.0 / 0.04
Total Screen Length (meters)	150–200	250–300
Filter Pack Size	#16-20	#12-16
Pump		
Target Yield (lps)	65	N/A
Static Water Level (meters bgs)	5	100
Pumping Water Level (meters bgs)	135	N/A
Pump Intake Depth (meters bgs)	182	N/A
O.D. (inches)	10.1	N/A
TDH (meters)	185	N/A
Minimum Submergence	Unknown	N/A
Column Diameter (inches)	6	N/A

Geochemistry

Brine samples were analysed from 10 wells to examine differences and similarities in the geochemical composition in the northern, southern, and western sections of the salar. Samples from shallow and deep units were also tested to see if vertical segregation was evident. These analyses are used to: (1) evaluate potential for precipitates or well clogging during operations; (2) assess potential corrosion rates; (3) assess degree of mixing in the basin; and (4) identify the potential application of halite inhibitors or dilution of spent brine, if needed, through initial flow assurance testing.

The brine geochemistry results analyzed for this study are rather homogeneous across the Kachi basin, indicating the basin is likely hydrodynamically connected and fluids are relatively well mixed over geologic time. All samples are dominated by Na^+ and Cl^- concentrations, with minimal concentrations of carbonate and bicarbonate, classifying the Kachi brines as sodium-chloride (Na-Cl) dominant. Fluids to the north tend to be lower in solutes relative to the central and southern brines, particularly in boron and lithium. This result is in alignment with the current hypothesis that freshwater is flowing into the basin predominantly from the east and north.

In addition to the 10 subsurface brines, 8 associated fluid samples were analysed to assess the geochemical range of potential reinjection fluids and test for mixing compatibility with the subsurface Kachi brines during injection.

The Kachi fluid chemistry results were evaluated with focus placed on the mineral saturation indices (SI) of halite, sulfates, and carbonates to better understand the risk for salt plugging and mineral scaling during brine extraction, lithium production, and depleted brine reinjection processes. Study results indicate that the depleted brine fluids will remain at equilibrium with halite throughout the lithium extraction process and during reinjection mixing with a resultant risk in precipitation of significant volumes of halite at various stages of the lithium production process. However, field observations from the pumping and injection tests, including a 31-day injection test, have not provided an indication of observable halite clogging, based on measured downhole pressures during tests and video inspections of injection test wells.

To mitigate risks of halite clogging in the injection wells periodic jetting with freshwater is the preferred redevelopment method and will be completed regularly in accordance with the O&M Plan.

SUPPLEMENTAL FRESHWATER WELLS

For the short-term (first two years of production), additional water wells will be required. These wells will need to be capable of delivering approximately 40 to 50 lps to meet the 60 lps requirement with the remainder coming from the existing freshwater wells. Current wells are limited by well diameter and therefore two existing locations will be selected for larger diameter supplemental wells near the current locations. The higher 60 lps rate was spread over the 3 wells for the purposes of the hydrogeologic modelling. In practice, the flow rates will be allocated once production rates of the wells are confirmed and adjusted as needed during operations to maintain water quality in the freshwater aquifer. As discussed in Chapter 4, freshwater demand will drop to 15 lps for the duration of the operation in Year 3.

5.2 Operational Monitoring Plans

Groundwater and Surface Water Monitoring

A comprehensive groundwater and surface monitoring plan has been developed for the project and includes include telemetry-based operational monitoring and a data management system ("DMS") to support real-time decision-making, operational efficiency, and environmental compliance. The DMS provides a single point-of-truth for all water related environmental monitoring data as well as data associated with well field operation (e.g., extraction and injection rates) and includes automated post-processing and reporting tools.

The Groundwater and Surface Management Plan ("GWMP") builds on the current hydrologic and hydrogeologic baseline data collection and includes a framework for Trigger Action Response Plans ("TARP") and contingency measures related to both operational triggers (e.g., declining well specific capacity) and environmental triggers (e.g., increase or decrease in spring total dissolved solids beyond baseline ranges).

The Company intends to use the GWMP and TARP as an adaptive management tool that uses new information to improve monitoring and operational practices in a structured, iterative way and that considers changes they may result from natural variability.

Land Subsidence Monitoring

A preliminary land subsidence monitoring and management plan has been developed to assess potential risks related to subsidence and details key elements of a land subsidence monitoring system and management plan for the life operations. However, the risks associated with subsidence are considered significantly lower than for conventional lithium brine operations in Argentina and elsewhere, given the spent brine will be reinjected on the margins of the core resource area, thereby maintaining pressures in the production zone and overlying aquifer. InSAR monitoring has already begun at the site to develop a robust understanding of baseline conditions and reference points within the well field have been surveyed.

Well Field Closure Plan

A closure plan and related cost-estimates have been developed to reflect abandoning all wells from total depth to surface (abandonment) in accordance with provincial Catamarca and Argentinian Federal regulations and best-practices.

6 General Infrastructure

The Kachi Project has been successful at identifying general infrastructure to support the project development. Power, Water, Materials/Equipment, Camps, and Waste Management Facilities are vital to a successful project.

6.1 Power

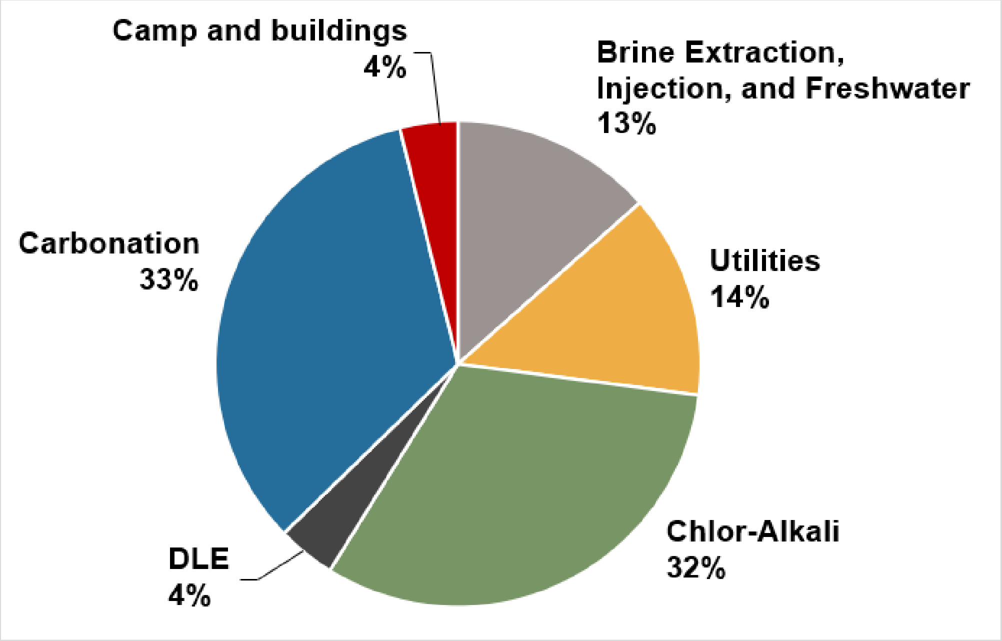
The Kachi Project has worked with various Argentinian power suppliers over the last four years to determine the best way to proceed in a responsible way at the Project site. Outcomes of the studies have determined that for the construction and commissioning phase of the Project, electrical power will be provided by the EPCM contractor primarily relying on diesel power generation.

During the operational period of the Project, there will be three sources of power utilized by the Project. There will be grid power via a dual 220 kV high tension power lines constructed to a designated point outside the plant boundary limits, a solar photovoltaic power plant and a diesel-powered backup power plant capable of providing the minimum power required in the event of complete loss of grid power.

PROJECT POWER NEEDS

The Kachi Project continues to assess power requirement to facilitate the production of 25 ktpa of battery grade lithium carbonate. Early engineering estimates a maximum demand of approximately 69 to 82 MW with areas of demand split as shown in Figure 6-1.

Figure 6-1: Power Demand by Area



Situated 250-300 km away from the nearest power grid connection, the Kachi Project anticipates securing this power through a Power Purchase Agreement ("PPA") and has initiated preliminary discussions with five potential providers. This strategic approach entails passing responsibility for design, permitting, regulatory approvals, construction and operation to an Independent Power Producer ("IPP") who are already active in the Argentinian power section and have experience in entering private market business-to-business PPA's.

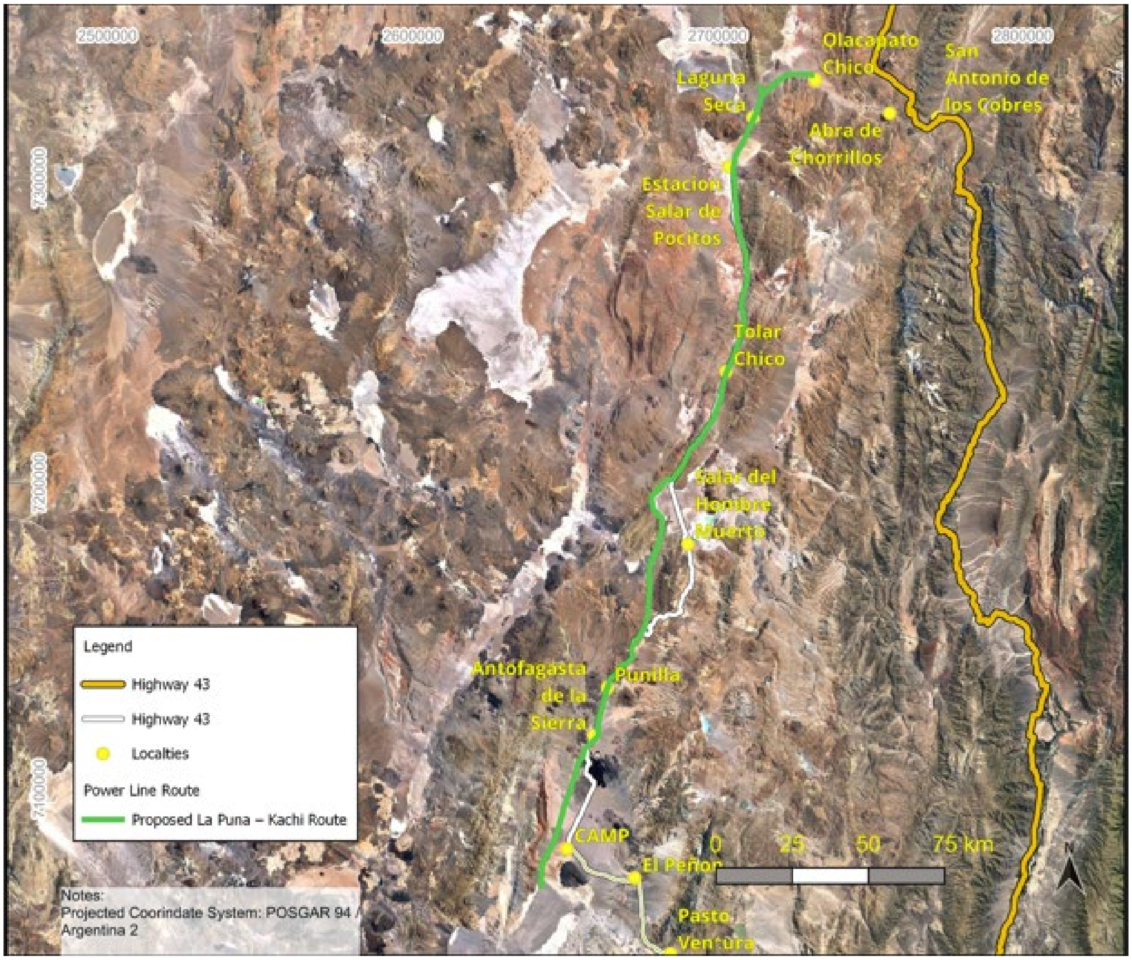
The Kachi Project based the power feasibility study on a 2 X 220 kV line from La Puna to Kachi, after consulting Distrocuyo SA on viable alternatives. This study is expected to streamline the permitting process through only two provinces, Salta, and Catamarca.

GRID CONNECTION STUDY

Distrocuyo SA were commissioned to investigate potential high-tension line routes for the required power and were commissioned to complete the following assessments:

- Pre-feasibility Study
  - Route Study / Assessment
- Feasibility Study - Selected Route Only
  - Includes preliminary engineering deliverables
- Commercial Modelling - Selected Route Only

Figure 6-2: Selected Grid Route



Various routes to Kachi and access points to the national grid were evaluated, with routes from the East and South eliminated due to capacity and stability concerns. The "Northern" route from La Puna to Kachi emerged as the favoured option (Figure 6-2). Distrocuyo SA's on-site assessment of the Northern route revealed its relative feasibility for construction being devoid of significant obstacles and running along existing roads.

The 32-month schedule includes basic engineering (FEED), detailed engineering, procurement, construction, and start-up and commissioning. To mitigate risks, the project plans to conduct a FEED study in advance and may release detailed engineering early. As of the date of this report, a Request for Quotation ("RFQ") has been issued for the FEED study with a response due in Q1 2024.

Through the issue of Resolution No. 562/2023 (Ministry of Energy, July 6, 2023) the Argentinian Federal Government have enabled private ownership and use of power transmission systems for the Mining Industry in unserved areas of the country. In addition, several additional customers for the power between La Puna and Kachi have been identified with long term requirements for up 700 MW of capacity. These market dynamics mean that the transmission system can be contracted with multiple customers to allow sharing of infrastructure cost. Currently, the Kachi Project is modelling to support the pro-rata share of the transmission system costs through a take-or-pay long term operating payment following delivery of power to site.

POWER ISLAND (SOLAR PARK AND DEISEL GENERATION)

In addition to the grid connection, a hybrid "Power Island," combining a 25 MW on-site solar park with 20 MW standby diesel generators is required to support early commissioning before grid connection. The solar park will operate under a second PPA, and initially, diesel generators will be contracted under a lease/purchase agreement. Once on-grid only back-up generators will be retained with the remainder off-hired. These will be maintained as a cold reserve, poised to fulfill the role of emergency power in the event of loss of grid power.

Genneia were contracted for the conceptualization and design of the solar park segment within the Power Island.

In tandem, Aggreko has been commissioned to furnish a preliminary design for the diesel generator element integrated into the Power Island.

POWER ISLAND (SOLAR PARK AND DEISEL GENERATION)

The key findings from studies are detailed in the Table 6-1 (Key Features of the Grid Connection Transmission System) and Table 6-2 (Simulated Sources of Power).

Table 6-1: Key Features of the Grid Connection Transmission System

Item	Description	Comment
Transmission System Construction	High Tension 2x 220 kV - 280 km	Standard industry equipment
Right-of-Way	Runs adjacent to Roads RP27, RP17 and RP43	Should minimize right-of-way (ROW) access risks
Total Capacity of System	220 MW	The Kachi Project requires approx. 35% of available capacity
Total Capex for Transmission	$390 Million	+/- 15%
Off-grid Solar Photovoltaic	25 MW	33% capacity factor
Off-grid Diesel Generation	20 MW during commissioning	Reduce to 10 MW for back-up after grid connection

Table 6-2: Simulated Sources of Power

Item	Consumption MW	Annual Mwhr (w/o cont)	Consumption (365 Day Avg.)
Solar Park	8	65.676	8
Grid Power	68	536,112	61
Add ZLD	6	43,362	5
Phase 1 without ZLD	76	601,785	69
Phase 1 with ZLD	82	645,147	74

6.2 Freshwater

The Kachi Project is committed to achieving low freshwater consumption rates, targeting 15 lps at full production. However. the commissioning and start-up phase of the plant will require higher overall water use, approximately 60 lps, for a period of two years. Table 6-3 outlines the planned usage of freshwater water for Kachi Phase 1 after initial ramp-up and commissioning. As noted in sections 4 and 5 there is adequate freshwater available within the Kachi Project tenement area to support the project needs. Capex and Opex estimates include well construction, HDPE pipelines to connect the freshwater wells to the process plant and sufficient pumping capacity to support fluid transfer.

Table 6-3: Calculated Freshwater Usage

Freshwater Use	Flowrate (lps) In production
Process water	5 lps
Camp use	2 lps
Extraction/Injection System	2 lps
Contingency	6 lps

ACCOMMODATION CAMP

The accommodation camp is positioned approximately 300 m west-northwest of the process plant. This facility is designed with two distinct configurations to meet operational needs:

Construction Camp (Temporary): The construction camp is intended to house the process plant construction workforce for the duration of construction, spanning approximately 30 months. Employing prefabricated modular construction, this camp has capacity for 1000 individuals and covers a 2.4-hectare area.

Operations Camp (Permanent): The operations camp serves as a long-term housing solution for operational staff over the facility's 25-year lifespan. The operations camp will be site erected steel construction and designed for the local environmental conditions. With a capacity for approximately 400 individuals, the operations camp spans a 1.5-hectare area.

The operations camp is organized to facilitate uninterrupted field operations throughout the lifespan. The building encompasses various essential services, including:

- Accommodation Dormitories
- Dining and Kitchen Facilities
- Food Receiving, Storage, and Preparation Areas
- Camp Administrative Building
- Ablutions Blocks (Washrooms and Showers)
- Laundry/Cleaning Facilities
- Recreational Facilities
- Security Facility
- Multi-purpose Training Facility
- Medical Clinic
- Temporary Storage Areas for Waste (Wood, Debris, Oil, Batteries, etc.)

Utilities and services supporting the operation of the building area include:

- Potable Water Treatment System
- Hot/Cold Water Distribution System
- Heating and Ventilation
- Power Supply (Diesel Generators, N+1)
- Power Distribution
- Lighting (Indoor and Outdoor)
- Lightning Protection and Grounding
- Communications (Satellite Receivers and Camp Network)
- Sewage Collection and Treatment System

Capacity requirements for the camp were estimated per the site labour histogram.

6.3 Plant and Well Pad Access Roads

The Project will create access roads to service the well field layout (Figure 5-2) with a network of single-lane access roads. These roads are to be constructed by clearing 4.0-meter-wide pathways along the existing topography and compacting the exposed surfaces. The newly constructed network will be integrated with the existing road network.

In addition, two segments of double-lane access roads will be constructed using the same methodology. One segment serves as a link connecting the new plant road network with the current road system to accommodate both haul trucks and smaller vehicles for on-site logistics. The other double-lane road section is intended as a bypass north of the plant site to reduce disruption to inhabited areas.

The cumulative length of the newly developed single-lane roads is approximately 70 km, and double-lane roads approximately 8 km.

6.4 Surface Infrastructure

Hatch performed engineering to generate a design for the brine gathering network based on a preliminary well field layout. In FEED, an optimized field layout will be produced, and is expected to decrease quantities and power consumption from the current estimate.

For the surface piping network, it is proposed to install the pipelines above ground. During detailed design some portions of the pipelines may be selected for burial if the pipelines are crossed by roads or to manage the risk of thermal expansion, external interference, and interference with any floodwaters/areas of inundation.

BRINE EXTRACTION NETWORK

Production wells will be equipped with Electrical Submersible Pumps that will extract brine directly into individual gathering pipelines and onto a holding pond at the Production Centroid. 16 pipelines will be installed to transport the brine production from each well to the Production Centroid and two pipelines will transport the brine from the production centroid to the process plant.

Preliminary layouts have been based upon Pexgol Class 15 pipe with a working pressure of 1362 kPa(g).

Hydraulic calculations were conducted to determine pipeline sizes. Pipe diameters vary from 225 mm OD (Outside Diameter) for wells closest to the centroid to 250 mm OD for the more distant wells. The pipeline from the Production Centroid to the holding pond at the process plant will have a diameter equal to 630 mm OD.

The risk of solid deposition in the surface production network is acknowledged however no specific design requirements such as scraper traps to allow for pipeline cleaning have been included at this stage. Experience with Pexgol has shown that solid deposition occurs for the most part at the pipe joints and the deposition can be manually dislodged by impacting the joint with a rubber mallet.

BRINE INJECTION NETWORK

The pipe material selected for the Brine Injection Network is a mix of Pexgol Class 15 and Pexgol Class 19 with allowable working pressure for Pexgol 19 increases to 1717 kPa(g).

The Brine Reinjection Network will deliver spent brine to wellhead pumps which will raise the fluid pressure to 1,087 kPa(g) to dispose of the fluid.

ELECTRICAL POWER

Power will be fed from the Main Substation switchgears to the indoor switchgears located in prefabricated electrical buildings in the Production Centroid and the Injection Centroids.

These buildings shall house switchgears, dry type transformers, low voltage (“LV”) motor control centres (“MCC”s), LV variable frequency drives (“VFD”s), uninterruptible power supply (“UPS”), etc. They will include heating, ventilation and air conditioning (“HVAC”) systems (as required to prevent overheating of electrical equipment), and lighting to maintain a suitable environment for equipment and personnel in the space.

The power will be supplied from the Main Substation building to the Centroid E-Houses via underground 33kV cables. Stepdown transformers at each of the centroids will supply 11kV power to the switchgears at the Centroids, these switchgears provide power to equipment at the Centroids, as well as the Extraction (Production) Wells, and Injection Wells.

At each of the well sites, all electrical equipment will be mounted outdoors.

BRINE GATHERING CONTROL SYSTEM

Brine Extraction, Injection, and Fresh Water Wells will have a control system to be integrated into the main DCS System in the Plant Control Room.

The Brine Gathering Control System will allow the plant operators to monitor and control the well (Brine Extraction/Injection and Fresh Water) processes in real-time and adjust well operations based on selected variables and plant process requirements, generate process variable alarms that are out of limits, and historize them in electronic format for later retrieval through operator workstations.

Architecture: Brine Gathering Control System will be a SCADA (Supervisory Control and Data Acquisition) System, which will include the following components:

- Production and Injection Well Controllers, Local Operator workstations, and network hardware cabinets.
- Production Well Remote input/output (IO) Field Cabinets

- Injection Well Remote IO Field Cabinets
- Fresh Water Well Remote IO Field Cabinets
- Fiber Optic Patch Panels

In general, Remote IO Field Cabinets and VFDs located at each field well will be connected through fiber optic cables to the supervisory control and data acquisition ("SCADA") Controllers located in the E-House located in the corresponding centroid and central processing facility.

7 Metallurgy

7.1 Metallurgical Testwork

Metallurgical validation for the DLE technology, and the balance of plant ("BOP") process has included select test programs conducted by Lilac, Hazen Research Inc., and Saltworks Technologies.

Lilac has conducted bench-, mini-pilot, and pilot -scale test work at their development facilities in Oakland, California, to validate the DLE, and select aspects of the BOP's process flowsheet (BOP: eluate concentration, impurity removal, and lithium carbonate production). Additional demonstration-scale field testing of the DLE technology was conducted at the on-site Kachi Demonstration Plant in Argentina in campaigns from October 2022 thru November 2023.

Hazen Research Inc. completed independent bench-scale test work to validate the chemistry of the BOP flowsheet at their Golden, Colorado laboratory facilities[30]. Saltworks Technologies conducted demonstration-scale test work converting lithium chloride eluate from the Kachi Demonstration Plant into battery grade lithium carbonate at their Richmond, British Columbia, Canada facilities. Saltworks produced over 1,300 kg of battery grade lithium carbonate from Kachi brine.

DIRECT LITHIUM EXTRACTION[31]

Lilac has performed bench-scale, mini-pilot, pilot-scale, and demonstration-scale testing to show efficient lithium extraction from the Kachi Project brine. Results from this test work demonstrate economical lithium extraction from Kachi brine.

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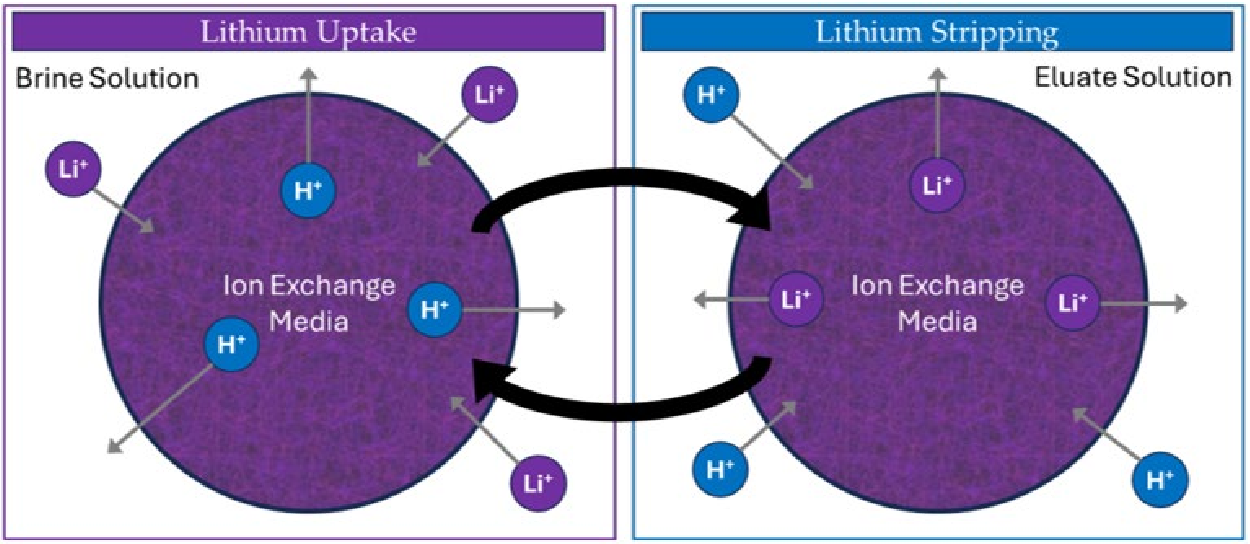
[30] See LKE ASX Announcement dated 20 October 2020

[31] See LKE Announcements dated 26 September 2023 and 28 September 2023

Figure 7-1: Illustration of Lithium uptake and stripping in Lilac DLE

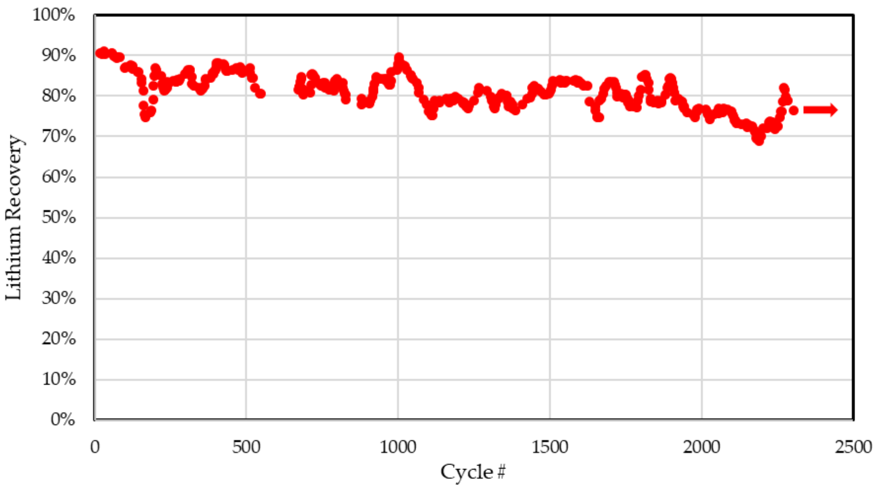


The core of Lilac's technology is its proprietary IX process, which selectively adsorbs lithium over other cations present in brines. For lithium IX, lithium in the brine is exchanged with protons in the IXM during a lithium uptake step as shown in Figure 7-1. The released protons are neutralized with sodium hydroxide (NaOH) to maintain pH neutrality. The same IXM is then washed with water to remove any entrained brine. Finally, in the lithium stripping step, this media is contacted with acid (HCl), thereby adsorbing protons (H+) while releasing lithium (Li+) into solution. The net result is an acidic lithium chloride (LiCl) eluate solution, which is neutralized prior to exiting the Lilac process. The above cycle is continuously repeated with the same IXM, to achieve continuous lithium extraction. Lilac's ion-exchange modules process conditions are optimized to minimize water and reagent consumption, while maximizing the useful lifetime of the IXM.

Lilac's mini-pilot test work was performed in automated ion-exchange processing modules which contact ion-exchange media with brine, wash water, and acidic eluent to produce lithium chloride (LiCl). The results of these tests determine expected lithium recovery, product purity, reagent consumption, ion-exchange media lifetime, and ultimately process economics. Mini-pilot scale test work has been performed using brine samples delivered to Oakland from multiple wells at Kachi project sites. Test work on the Kachi brine has been ongoing since 2018, with over 130,000 hours of automated mini-pilot scale operations, and over 35,000 individual ion-exchange cycles being performed to date. Long-term ion exchange studies using Kachi brine have resulted in continuous lithium production for over 12 months and over 2,000 cycles of ion exchange, without replacement of Lilac's proprietary ion-exchange media. As indicated in Figure 7-2, this ion exchange study is still operating at well past 2,000 cycles as of December 2023, and has not yet reached end of life. This test work has identified the optimal operating conditions for the ion-exchange process, with consideration for lithium recoveries (>80%) and operating costs.

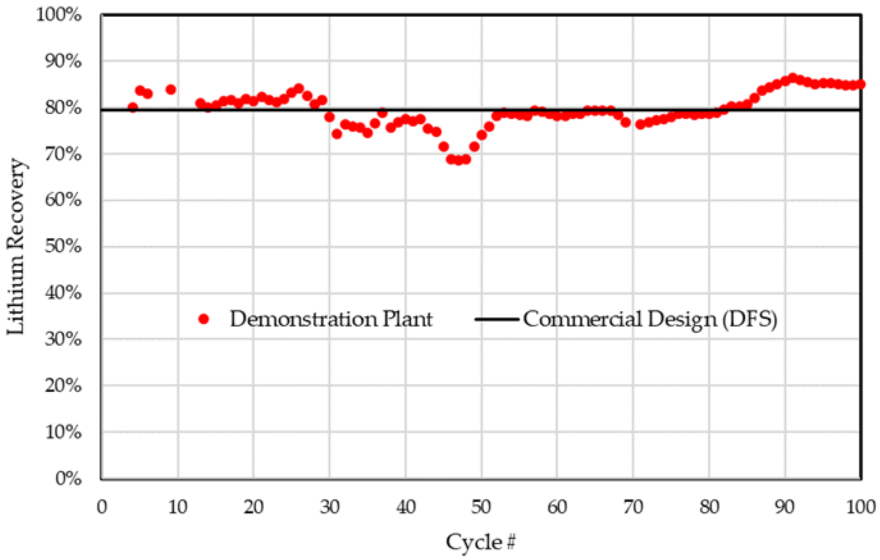
Lilac successfully operated a demonstration plant at the Kachi site in campaigns between October 2022 and November 2023. The plant replicates the operational environment including seasonal conditions, local reagent and consumable supply, variability in feed brine chemistry, and integration with local regulations and communities. During periods of testing the Kachi Demonstration Plant was operated continuously, while achieving 90% uptime, processed over 5.2 million litres of brine, and produced more than 200,000 litres of concentrated lithium chloride. The results from this testing campaign have validated that DLE performance is maintained when scaling-up from mini-pilot scale to the on-site Demonstration Plant, achieving high lithium recoveries (Figure 7-3) consistent with results from Oakland mini-pilot scale and DFS design parameters.

Figure 7-2: Lithium recovery from Kachi brine in a Lilac mini-pilot scale[Note 1]



[Note1] This long-term test was conducted over a period of more than one year, demonstrating the exceptional stability and durability of the Lilac IX media

Figure 7-3: Lithium recovery of Lilac IX at Kachi Demonstration[Note 1]



[Note1] The solid line reflects DFS commercial design basis

The testing campaign also confirmed production of lithium chloride at a purity that supports production of battery grade lithium carbonate and as illustrated in Table 7-1. Table 7-2 shows the impurity rejection for the main brine impurities. These tables validate key performance metrics including lithium recoveries, high impurity rejection rates, and reagent consumption rates consistent with Kachi DFS design basis.

Table 7-1: Comparision of key IX performance parameters

Parameter	The Kachi Project	
	Demonstration Plant	**DFS Commercial Design**
Lithium Recovery	80%	80%
Overall Impurity Rejection (wt%)	99.9%	99.9%
Acid consumption (t 100% HCl / tLCE)	1.5	1.5

Table 7-2: IX recovery and impurity rejection rates at the Kachi Demonstration Plant

Parameter	Element					
	Li	**Na**	**Mg**	**Ca**	**K**	**B**
Brine Conc (mg/L)	269	101,000	1,070	389	5,514	334
Eluate Conc (mg/L)	2,280	526	118	265	89	4
Recovery	80%					
Impurity Rejection		99.9%	99.0%	93.6%	99.8%	99.9%

To support project due diligence activities, independent parties have been involved in performing technical validation of the DLE process parameters and performing witness checks on the performance of the demonstration plant.

BALANCE OF PLANT

The BOP process consists of industry standard unit operations for the concentration, purification, and lithium carbonate production from the concentrated lithium chloride eluate. The demonstration-scale validation of the BOP flowsheet was conducted by Saltworks Technologies. The goals of the demonstration activities were to de-risk the DFS design for the full-sized plant, to validate the system configuration, and to explore potential optimization opportunities for the flowsheet and operating parameters.

The Saltworks demonstration activities used partially concentrated eluate produced by the on-site Kachi Demonstration Plant. This demonstration was conducted in phases: bench-scale (20 l); pilot-scale (1000 l); and demonstration-scale (120,000 l). More than 120,000 litres of eluate were processed, producing over 1,300kg of battery grade (>99.5%) lithium carbonate[32].

Tables 7-3 provide summary results from the Saltworks demonstration test program. Eluate was processed in three batches of approximately 40 m^3 each. Total carbonate production was approximately 1330 kg at battery grade purities of 99.7%, 99.8%, and 99.9% Li_2CO_3. Wash waters and lithium containing blowdown solutions are recycled within the commercial process to maximize lithium and process water recovery.

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[32] See LKE ASX Announcement dated 26 September 2023

Table 7-3: Saltworks Summary Results for Kachi Demonstration Plant

Batch		1	2	3
DLE Eluate Processed	m^3	32.1	46.0	40.2
Average DLE Lithium Concentration (mg/L)	mg/L	3,097	3,468	4,392
Lithium Carbonate Produced	kg	350	411	578
Lithium Purity[Note1]	%	99.7%	99.8%	99.9%
[Note1] Purity as calculated based on sum of measured impurities above detection limit.				

8 Process Plant Design

DESIGN BASIS

The subsections below outline the design basis for Process Plant.

The feed brine composition used in this project design is shown in Table 8-1. The composition of the pH adjusted eluate (pH 8) from the DLE can be seen in Table 8-2.

Table 8-1: Feed Brine Composition

Element	Concentration
Lithium (Li)	205
Sodium (Na)	109,000
Magnesium (Mg)	3,600
Calcium (Ca)	600
Boron (B)	476
Potassium (K)	6,000
Strontium (Sr)	20
Iron (Fe)	12
Manganese (Mn)	10
Barium (Ba)	10
Chlorides	172,000
Sulphates	19,200

Table 8-2: Neutralized Eluate Composition

Element	Concentration
Lithium (Li)	2,272
Sodium (Na)	3252
Magnesium (Mg)	247
Calcium (Ca)	178
Boron (B)	2
Potassium (K)	158
Strontium (Sr)	7
Iron (Fe)	-
Manganese (Mn)	-
Barium (Ba)	-
Chlorides	17,824
Sulphates	129

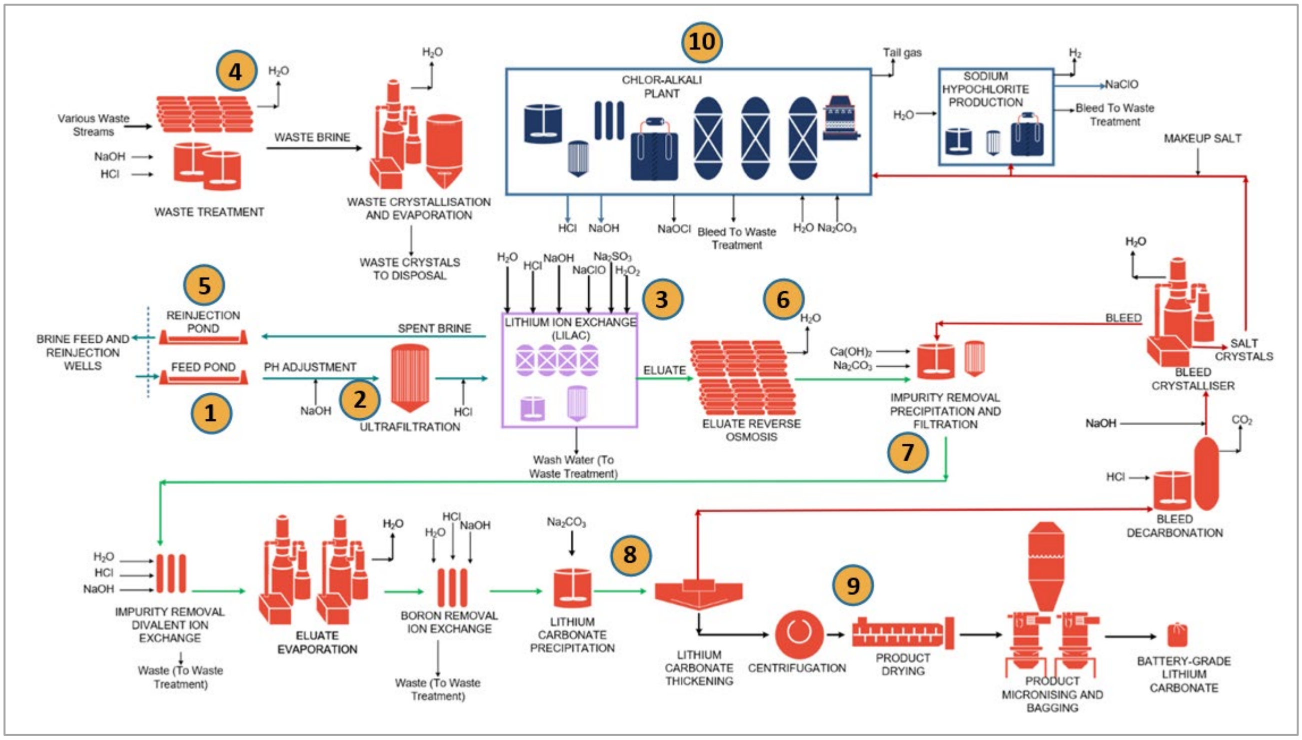
LITHIUM CARBONATE PRODUCTION

The production rate target is 25 ktpa of battery grade lithium carbonate equivalent and assumes a plant availability of 90% (7,884 hrs). Battery grade lithium carbonate has been defined to have a lithium content of greater than 99.5 wt% (trace metals basis). The proposed lithium carbonate product specification is presented in more detail in Appendix D.

DFS FLOWSHEET

The proposed flowsheet is shown in Figure 8-1 illustrating the 10 major process steps.

Figure 8--1: The Kachi Project Commecial Flowsheet



The feed is extracted and pumped from the brine extraction network to the (1) Feed Pond, which provides surge volume between extraction wells and the main processing plant.

The brine is pH-adjusted to precipitate iron and then fed to a (2) filtration system to remove suspended solids.

The filtered brine is then processed in the (3) direct extraction package, which recovers and concentrates lithium to the eluate stream. The DLE step employs a novel ion-exchange media and system developed by Lilac Solutions to extract lithium from the brine and elute the extracted lithium with hydrochloric acid solution.

(4) Effluent and depleted brine from the DLE is sent to reverse osmosis ("RO") treatment and (5) Brine Reinjection Pond respectively. The eluate stream is then concentrated through (6) reverse osmosis and then (7) treated to remove impurities by the staged addition of lime and sodium hydroxide. The solid impurity precipitates are separated by filtration. The purification is followed by evaporation using mechanical vapour recompression ("MVR") technology to increase the lithium concentration for processing into lithium carbonate. Both the reverse osmosis and MVR systems recover water for recycle to minimize process water consumption. Before carbonation,

residual trace impurities are removed by ion exchange to obtain the purity required for further processing to battery grade lithium carbonate.

Lithium carbonate is then (8) precipitated from the purified stream by addition of sodium carbonate, the primary reagent input for the carbonation process.

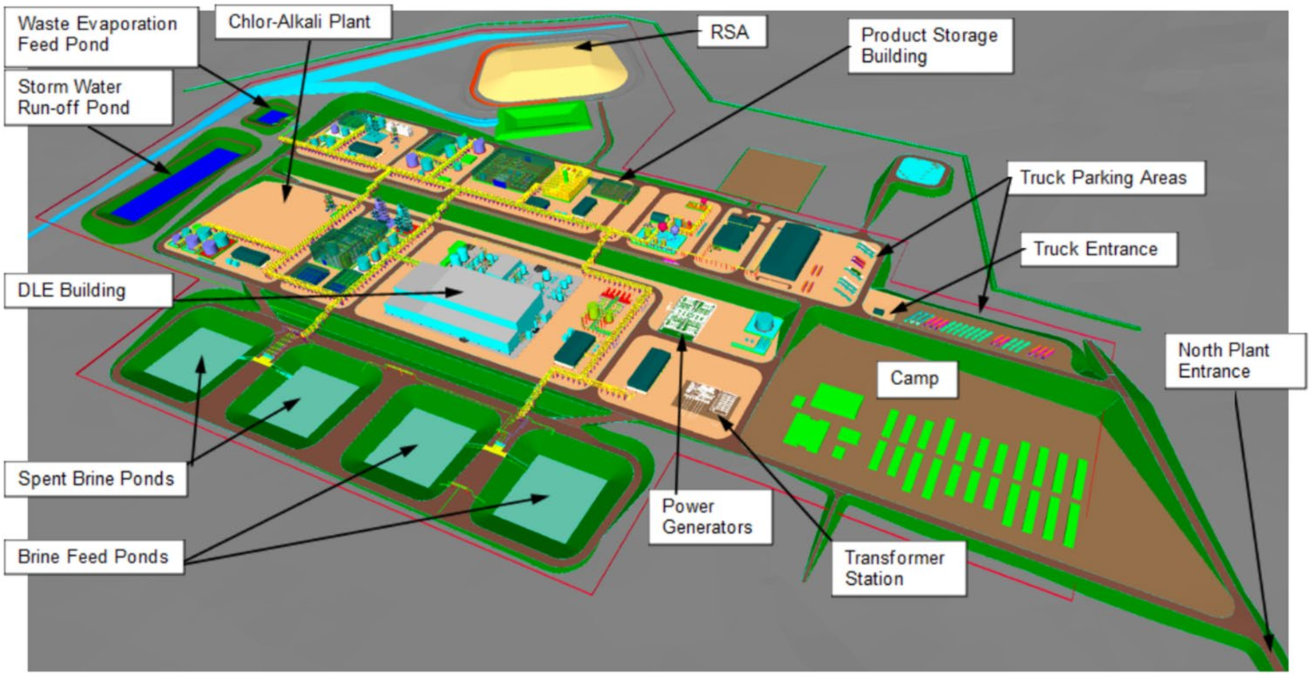
The precipitated lithium carbonate is washed through (9) two stages of centrifuging to achieve the final product purity required. This product is dried and packaged for sale. The mother liquor from lithium carbonate precipitation, which contains a considerable residual amount of soluble lithium chloride, is fed to a crystallization package to recover water and lithium for recycle.

To meet the hydrochloric acid and sodium hydroxide demands of the process, an on-site chlor-alkali plant electrochemically converts sodium chloride from the waste brine into these reagents. An on-site (10) chlor-alkali ("C-A") plant will produce the hydrochloric acid (HCl) and sodium hydroxide (NaOH) reagent needs for the process. The feed to the C-A plant will be sodium chloride ($NaCl_2$) recovered from the process and recycled to the C-A plant.

PROCESS AREAS

A brief description of the various process areas are in the subsections to follow. Brine Feed and Spent Brine ponds are located on the north side of the plant, closest as practicable to the brine extraction and injection wells to minimize the gathering system infrastructure. The lithium carbonate processing facilities are located on the south-east side of the plant. Administrations buildings and the main electrical substation are located at the east end of the property. The process plant will include a C-A plant, effluent treatment, water treatment and other utilities, including a solar power generation facility that is planned to be installed and operated under a PPA.

Figure 8--2: 3D Model - The Kachi Project



FEED BRINE HANDLING AND PRE-TREATMENT

Raw brine from the extraction wellfield will be received at the brine feed storage pond. The storage pond then feeds the brine preparation system. Sodium hydroxide will be added to brine via static mixer as it is transferred from the storage pond to the ultrafiltration feed tanks. The treated brine will then be processed in the filtration system and delivered to the DLE building.

DIRECT LITHIUM EXTRACTION

The Lilac technology is highly modular for ease of fabrication, construction, operations, and expansion.

The fundamental unit of Lilac's technology is the IX vessel, which holds the IXM. This vessel defines the physics, chemistry, and performance of the technology. Multiple vessels are linked in an array using a standard design to form a module. For Kachi brine, each module delivers just over 3 ktpa LCE, and 8 modules combine to form a 25 ktpa LCE plant.

All equipment used to construct the Lilac IX module is used commonly in industrial applications and available globally from a variety of well-established vendors. Lilac procures and installs this equipment into a unique configuration for lithium extraction.

Filtered feed brine will be processed by IX modules. Depleted brine and eluate streams are collected from the IX modules via the main pipe rack. The depleted brine stream reports to the depleted brine pond. Produced eluate is neutralized and filtered before being transferred to the eluate concentrator area.

Fresh IXM is received from Lilac's offsite manufacturing facility and stored within the DLE building. Similarly, exhausted IXM is stored in the DLE building prior to being transported off-site for recycling.

SPENT BRINE HANDLING

Spent brine will be transferred from the DLE system to the spent brine storage pond. The spent brine will be transferred from the storage pond to the reinjection well system.

ELUATE NEUTRALIZATION

DLE produced eluate is dosed with sodium hydroxide to raise pH and filtered before being transferred to eluate concentration. Solids captured from the eluate stream are dewatered and transported off-site for recycling.

ELUATE CONCENTRATION AND PURIFICATION

Eluate produced by the DLE system will be concentrated and purified in preparation for conversion into lithium carbonate. This system consists of RO, chemical precipitation impurity removal, and mechanical evaporation.

RO permeate will be transferred to the RO water plant. The concentrated eluate will be transferred to the impurity removal plant.

IMPURITY REMOVAL

The impurity removal plant is configured as a single train. It consists of precipitation tanks arranged at decreasing height, allowing the tanks to overflow from one to the next in series. Filters separate the precipitated impurities from the purified eluate.

EVAPORATORS

Purified and concentrated eluate will be pumped from the impurity removal process to two evaporators which will operate in parallel. The evaporators are a vertical arrangement of heat exchangers, pumps, fans and vessels. Steam is used to heat the eluate thereby evaporating water and concentrating the brine.

This process will increase the lithium concentration to >24 g/L, sufficient for lithium carbonate production.

POLISHING

The concentrated lithium chloride solution will pass through a final polishing system to remove any residual impurities before the carbonation process. This polishing step provides purified lithium concentrate sufficient to produce battery grade lithium carbonate in a single stage lithium carbonate package.

The polishing system includes a divalent ion exchange package to remove calcium and magnesium, and a boron ion exchange package for boron removal. IXM for these systems are conventional technology and commercially available.

LITHIUM CARBONATE PRECIPITATION AND SEPARATION

The lithium carbonate precipitation and separation system is configured as two parallel precipitation trains. Sodium carbonate is added to the polished lithium chloride converting to a solid lithium carbonate which is separated and prepared for drying.

LITHIUM DRYING, MICRONIZING AND BAGGING

The lithium drying, micronising and bagging system is configured as a single drying and intermediate storage train, followed by twin micronising and bagging lines operating in parallel.

This area includes the following major equipment: One steam heated lithium carbonate paddle dryer system; off-gas scrubber; lithium carbonate product storage silo; Two air classifying microniser mill systems operating in parallel; magnetic filter, baghouse; and lithium carbonate flexible intermediate bulk container (“FIBC”) packaging system.

ZERO LIQUID DISCHARGE (“ZLD”) EVAPORATION AND CRYSTALLISATION

Process solutions will be collected and processed to recover sodium chloride (bleed crystallisation) as feed material for the C-A plant and process water (ZLD) for recycling to the process.

CHLOR-ALKALI PLANT

The C-A plant will receive impure salt from the plant and process it to produce sodium hydroxide and hydrochloric acid (HCl) solution for use in the Process. Chlor-Alkali systems are conventional technology supplied as an integrated vendor package. The main output from the chlor-alkali plant is sodium hydroxide and hydrochloric acid solutions both at 32wt% concentrations which are pumped out to storage tanks for use in the process.

REAGENT STORAGE AND DISTRIBUTION

The reagent storage area consists of the following equipment.

- Sodium Hydroxide Storage
- Hydrochloric Acid Storage
- Sodium Carbonate
- Calcium Hydroxide
- Miscellaneous Reagent Storage - A warehouse is included for storing miscellaneous reagents.

8.1 Non-Process Buildings

The overall facility also contains an administration building, laboratory, control room, warehouse, maintenance shop, medical centre and an emergency response centre.

8.2 Services

The Kachi Project will include a variety of services such as effluent treatment, steam generation and distribution. There are also three distinct water systems.

FRESHWATER SYSTEM

Freshwater will be pumped from wells to the freshwater storage pond and from the pond will be pumped to the RO Plant and to the fire water system. An ultrafiltration system (with feed pumps, backwash pumps, clean-in-place ("CIP") skid, and chemical injection skid) will filter the water being transferred to the RO Plant.

WATER TREATMENT SYSTEM

Filtered freshwater will be supplied to the RO feed system. Three RO water distribution pumps (two operating, one standby) will transfer the RO water from the tanks to the various users around the plant.

POTABLE WATER SYSTEM

Freshwater will be pumped from the freshwater wells directly to the potable water treatment system. A packaged potable water treatment system (including softening, chemical dosing and filtration).

8.3 Lithium Balance

The process design work completed for DFS indicates the lithium recovery of 75.3% based upon the original basis of design (Table 8-3). As noted in the opportunities (Appendix B) the forecast lithium concentrations are likely to exceed the basis of design.

Table 8-3: Summary of Elemental Lithium Balance Across Entire Process[Note 1]

Description	Li (kg/h)
IN	**791.31**
Brine Feed	791.31
OUT	**791.31**
Final Lithium Carbonate Product	595.74
Spent Brine Pond to Reinjection	159.21
Impurity Removal Filter Cake to Disposal	21.27
Diluted Bitterns for Dust Suppression	10.83
Halite to disposal	3.22
Excess Sodium Hydroxide	0.88
Hypochlorite plant feed prep cake to disposal	0.08
Waste Effluent Backwash Liquor	0.07
Chlor-Alkali Filter Cake	0.01
Sodium Carbonate Filter Solids	0.00
BALANCE	**0.00**
OVERALL LITHIUM RECOVERY	**75.3%**

[Note 1] Balance based upon 100% plant availability

9 Logistics

The Kachi Project engaged Transmining SA ("Transmining") to perform a logistics assessment to ascertain optimum route for import and export of materials and personnel. Additionally, Transmining and Lake performed site visits at key installations along the logistics chain to assess availability and suitability. This section briefly summarizes the key findings of the assessment.

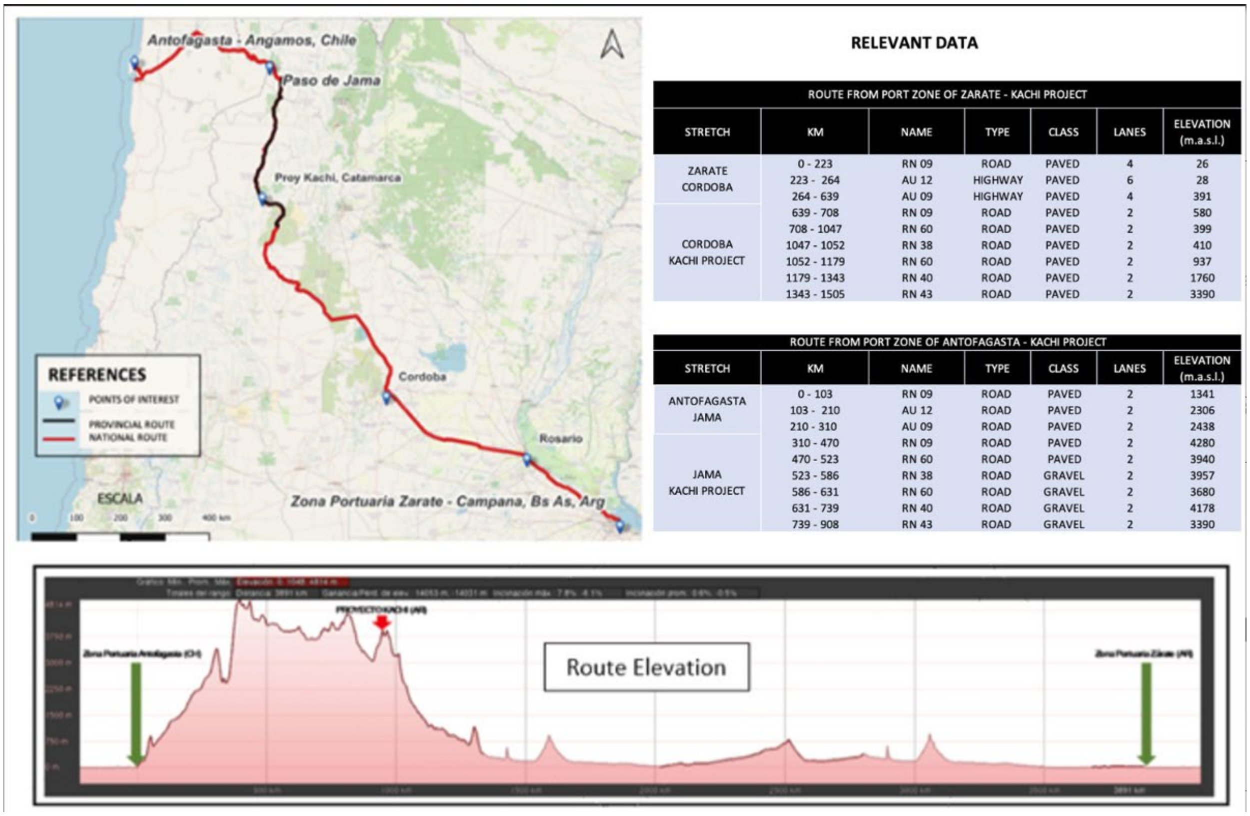
To allow for future flexibility in delivery of material transfers, both incoming and outgoing, the project has assessed logistics transfers via both the Atlantic, via Argentinian ports, and Pacific via Chilean ports. This necessitates the utilization of logistics corridors through Argentina and Chile, possibly concurrently. The main road corridor selected has been assessed for compliance with all applicable laws (across both Argentina and Chile).

The main road corridor runs from (1) Port of Antofagasta, Chile to (2) Port of Campana, Argentina. Paso de Jama is the recommended border crossing to be utilized if transporting through Chile to site. Figure 9-1 shows the main road corridor to Kachi from both Argentinian and Chilean ports. For the 1505 km route from Campana Port to the Kachi Plant 1.3% of the route identified as unpaved. Upgrades are ongoing on these unpaved sections, and it is anticipated to be fully paved prior to project commencement. The road distance from the Kachi Plant to the Antofagasta port in Chile is 908 km, with 42% of the road recognized as unpaved. An agreement between the Catamarca government and two mining companies is in place to allow paving of this road section. Meanwhile, regular maintenance is conducted to ensure the road remains operational.

Rail transportation was assessed for project bulk deliveries, but the condition and unreliability of the current service means it is not deemed optimal for the current execution plan.

As noted, the primary port facilities identified in Argentina and Chile are Campana and Antofagasta respectively. Both ports are well developed with track-record of supporting the mining sector. Sufficient commercial capacity is available at both sites to support the planned movement of materials.

Figure 9-1: The Kachi Project Main Road Corridor



RELEVANT DATA

ROUTE FROM PORT ZONE OF ZARATE - KACHI PROJECT						
STRETCH	KM	NAME	TYPE	CLASS	LANES	ELEVATION (m.a.s.l.)
ZARATE CORDOBA	0 - 223	RN 09	ROAD	PAVED	4	26
	223 - 264	AU 12	HIGHWAY	PAVED	6	28
	264 - 639	AU 09	HIGHWAY	PAVED	4	391
CORDOBA KACHI PROJECT	639 - 708	RN 09	ROAD	PAVED	2	580
	708 - 1047	RN 60	ROAD	PAVED	2	399
	1047 - 1052	RN 38	ROAD	PAVED	2	410
	1052 - 1179	RN 60	ROAD	PAVED	2	937
	1179 - 1343	RN 40	ROAD	PAVED	2	1760
	1343 - 1505	RN 43	ROAD	PAVED	2	3390

ROUTE FROM PORT ZONE OF ANTOFAGASTA - KACHI PROJECT						
STRETCH	KM	NAME	TYPE	CLASS	LANES	ELEVATION (m.a.s.l.)
ANTOFAGASTA JAMA	0 - 103	RN 09	ROAD	PAVED	2	1341
	103 - 210	AU 12	ROAD	PAVED	2	2306
	210 - 310	AU 09	ROAD	PAVED	2	2438
JAMA KACHI PROJECT	310 - 470	RN 09	ROAD	PAVED	2	4280
	470 - 523	RN 60	ROAD	PAVED	2	3940
	523 - 586	RN 38	ROAD	GRAVEL	2	3957
	586 - 631	RN 60	ROAD	GRAVEL	2	3680
	631 - 739	RN 40	ROAD	GRAVEL	2	4178
	739 - 908	RN 43	ROAD	GRAVEL	2	3390

ROAD TRANSPORTATION

Primary transportation of personnel will be through air travel to either Salta or Catamarca and then road travel from these locations to site. The primary transportation of reagents and cargo will be through trucking. Following the construction phase and ramp-up to Phase 1 capacity the monthly anticipated road traffic is as noted in Table 9-1.

Table 9-1: The Kachi Project Monthly Anticipated Road Traffic

Transpot	Monthly Quantity
Trucks Inbound	71
Trucks Outbound	150
Bus Roundtrip	7

AIR TRANSPORTATION

Air transportation has not been selected as the base plan for regular operations; nevertheless, the Coronel Felipe Varela International Airport (CTC) and Martín Miguel de Güemes International Airport (SLA) have been incorporated into the Project's emergency evacuation plan and expedited transfer plan for personnel. Air transport can be completed from an un-serviced airstrip located in Antofagasta de la Sierra to either CTC or SLA and from there access is available to modern hospital facilities or to full evacuation to Buenos Aires. The un-serviced airstrip in Antofagasta has been used regularly during the exploration phase of the Project for expedited transfers and has been shown to be in good condition.

10 Project Execution Plan

Lake's strategy consists of contracting the EPCM services of an experienced and reputable contractor.

The EPCM Contractor will take the engineering developed during the DFS for validation and then move forward to develop the FEED engineering which is expected to last 10 months. The EPCM contractor will generate an in-depth execution plan for their scope of work, which will be integrated into the overall project schedule, allowing capital costs and associated risks to be minimized. This will be achieved by integrating engineering, procurement, construction management and commissioning tasks under the supervision of dedicated Lake representatives. Such a holistic approach allows the flow of project information to be mapped and expedited as required. By identifying critical equipment, associated vendor information can be expedited; this allows contractor documents to be completed early using vendor engineering information, thereby expediting field work and reducing Capex and schedule growth risk.

The following sections outline some of the key features of engineering, planning and project controls, procurement, construction management, commissioning and start-up execution strategy.

ENGINEERING

A detailed engineering plan will be developed during the FEED phase of the Project. The objective of the FEED phase will be to prepare the project to proceed with full execution. Engineering will be executed in a phased approached, to meet construction requirements and to integrate properly with procurement and contracting requirements. Engineering will focus on packaging equipment as far as feasible to minimize onsite erection.

PROJECT PLANNING & COST CONTROL

Project controls are the methods and tools that the project management team will use to effectively integrate and control the engineering, procurement and construction phases of the project by reporting, analysis and forecasting of project costs and schedule. This integration provides a continuous link of accountability between the initial Project baseline data and the measured status through each phase of the Project. The primary objective of the Project controls group is to provide concise, accurate and timely information and analysis to project management to ensure sound decisions are made. The four main functional groups within the Project controls team are:

- Cost Control (including estimating, trending and change management)
- Planning and Scheduling
- EPCM Controls (control of EPCM Services activities such as engineering, and procurement and construction services)
- Project Reporting

PROCUREMENT

The Project will require the formation, award and management of many equipment, material, construction, and service-based contracts. Procurement "packages" are formed to minimize the number of purchase orders/contracts that need to be awarded and managed while seeking to ensure that high quality equipment, materials and services are obtained at relatively low cost. Expediting, supervision, inspection and acceptance plans will be developed for each procurement package.

CONSTRUCTION MANAGEMENT

Construction of the Kachi Project will be performed by contractors under the direction and coordination of the EPCM construction management team. Besides the EPCM's team, there will be a small Lake team supervising construction activities and ensuring that all contractors and personnel are focused on working safely and being environmentally conscious. A Quality Plan will be developed during FEED and implemented and followed by contractors and subcontractors.

COMMISSIONING & STARTUP

Commissioning and startup involve all project disciplines, package vendors, EPCM Commissioning team, subcontractors, Lake's team and the plant's O&M team, so a detailed commissioning plan needs to be developed for the facility incorporating the requirements from the different vendors. Commissioning will be divided into five stages, mechanical completion, pre-operational testing, commissioning, ramp-up and performance testing.

EPCM STATUS

The bid process for selection of the project EPCM contractor is currently ongoing with evaluation, negotiation and award planned for the first half of 2024.

11 Capital Expenditure ("Capex")

The Capex has been developed by a team of independent engineering companies, contracted by Lake and working in collaboration. Lilac, as a partner in the Kachi Project, provided the estimate related to Lithium-Ion Exchange package (formerly known as DLE package). Hatch have integrated the information and estimates into a single, comprehensive, and consistent capital cost estimate.

ACCURACY STATEMENT AND BASE DATE

The Capex has been calculated in accordance with guidelines established by AACE for a Class 3 (Semi-Detailed Unit Costs with Assembly Level Line Items) estimate. The accuracy statement for the present Capex is -15% to +15%. The Capex base date established is October 2023. No escalation was included beyond the base date.

GENERAL ASSUMPTIONS AND QUALIFICIATONS

The capital cost estimate was prepared in US dollars and compiled based on the following parameters:

- Budgetary quotes for mechanical and electrical equipment were obtained from vendors for most of the equipment included in the Project.
- The majority of these prices were obtained in US dollars. In those cases, where the vendor provided the prices in different currency, a currency exchange rate was applied following the guidelines specified in Table 11-1.
- Labor rates were based on local Union information (Unión Obrera de la Construcción de la República Argentina (UOCRA) collective agreements) and usual agreements for the type of project and specific region. Labor includes base workforce costs, burdens, expenses, construction equipment and contractor's indirect costs and distributables.
- Owner's costs were provided by the client.
- All costs were exclusive of escalation beyond the base date.
- Goods & Services Tax (IVA) are excluded.
- The contingency applied to direct and indirect cost is 15%. Hatch conducted an internal quantitative risk analysis to validate the level of confidence of the selected contingency.

Table 11-1: Currency Exchange Rates-

Country	Currency	Code	Inverse	Per USD	Source
USA	Dollar	USD	1	1	-
Argentina	Peso	ARS	0.002778	365.5	Dollar BNA - October 2023
European Union	Euro	EUR	1.0667	0.9376	US Federal Reserve Board – Average October 2023
Canada	Dollar	CAD	0.7353	1.36	Bank of Canada – Average October 2023

ESTIMATE EXCLUSIONS

The following items are excluded from the Capex:

- Sustaining capital costs and closure costs. This Capex is limited to costs to construct the facility up to the point of process plant start-up. Sustaining capital costs, closure costs and operating costs are estimated separately.
- Impacts of foreign currency exchange rate variations.
- Allowances for significant changes in the scope of the project, that results in a variance of plus 5% of the total installed cost.
- Allowances for either:
  - General project risks that could affect any project (such as variations in market conditions, that could affect equipment, commodities and/or labour costs, labour unrest, disputes with residents including local indigenous groups, geotechnical or process related design issues, delays due to the late receipt of equipment or materials, poor performance by contractors, force majeure, etc.).
  - Risks that are specific to this project.
- Allowance for the risks associated with the Argentinian political, legal or regulatory environment, including:
  - The risk of changes to any laws, regulations, rules or policies in Argentina, or the governmental or judicial interpretation thereof.
  - The risk of the Project failing to comply with any such laws, regulations, rules or policies and the costs of any resulting penalties, fines, suits, etc.
  - The risk of the Project not being able to obtain or maintain permits, licenses and other authorizations required for the project.
- Impacts on market due to international conflicts.
- Impacts on market and national regulations due to abnormal situations like pandemics and social and political conflicts.
- Costs associated with lost time due to abnormal weather events.
- Working capital, sustaining capital and or facility closure costs, except those considered in Owner´s costs.
- Operational spare parts (*Capital & Commissioning spares included).
- Information and Communication Technology (ICT) systems including external communication links.
- Business Network and Services.

11.1 Estimate Summary Tables

The Capital Cost of the project arranged by WBS Level 1 is presented in Table 11-2 below:

Table 11-2: Summary of Capex

WBS Level 1	Description	Cost (MUSD)	% of Direct Cost	% of Total Cost
1000	Offsite Facilities/Infrastructure	245.55	28.07%	17.84%
2000	Site Preparations and Infrastructure	194.85	22.28%	14.15%
3000	Process Plant – Stage 1	430.61	49.23%	31.28%
4000	Waste Management Facilities	3.66	0.42%	0.27%
	Direct Costs	874.69		
7000	Indirect Costs	260.87	N/A	18.95%
8000	Contingency	171.10	N/A	12.43%
9000	Owner’s Costs	70.00	N/A	5.08%
Total	Total Installed Cost	1,376.67	100.00%	100.00%

11.2 Direct Costs

Direct costs are the costs of all equipment and bulk materials, together with construction and installation costs for all permanent facilities. Examples of direct costs include, but are not limited to the following:

- Supply, assembly and installation of permanent equipment.
- Supply, fabrication, and installation of bulk materials.
- Supplemental resources for equipment and bulk material installation, such as labour and construction equipment.
- Site preparations (bulk earthworks) and the construction of roads and storm water ditching.
- Supply, fabrication and erection of permanent buildings and associated services including a permanent camp (if applicable).
- Supply, fabrication, erection of utilities and distribution systems.
- Process control systems including software programming and distributed control system and human machine interface (DCS/HMI) configuration costs.
- Contractor’s distributable costs such as mobilization and demobilization, overheads and profit, supervision, general construction equipment including construction cranes, small tools and consumables used in construction, etc.

11.3 Indirect Costs

Indirect costs will include the following:

- Any applicable temporary construction facilities including temporary worker lodgings/services, secure lay-down areas, warehouses, etc.
- Temporary construction services including IT, catering, camp and office cleaning services, worker transportation to the job site, etc.
- Fuel, electrical energy and water required for construction or pre-operational testing.
- Freight and logistics.
- Vendor representatives.
- First fills of materials such as transformer oil, lubricants and other items that are not consumed by the process.
- Start-up/commissioning spares and capital spares.
- Engineering, procurement and construction management services (including travel expenses).
- Third party engineering and other services.
- Pre-operational testing services, including associated materials.

11.4 Contingency

Contingency in the capital cost estimate is an allowance for normal and expected items of work which must be performed within the defined scope of work and project execution plan as covered by the Capex, but which could not be explicitly foreseen or described at the time the estimate was completed. As per AACE guidelines, contingency is calculated at 15% of Direct plus Indirect Costs.

11.5 Owner's Costs

Owner's costs include those tasks that will be managed directly by the Owner and are not included in Direct or Indirect Costs.

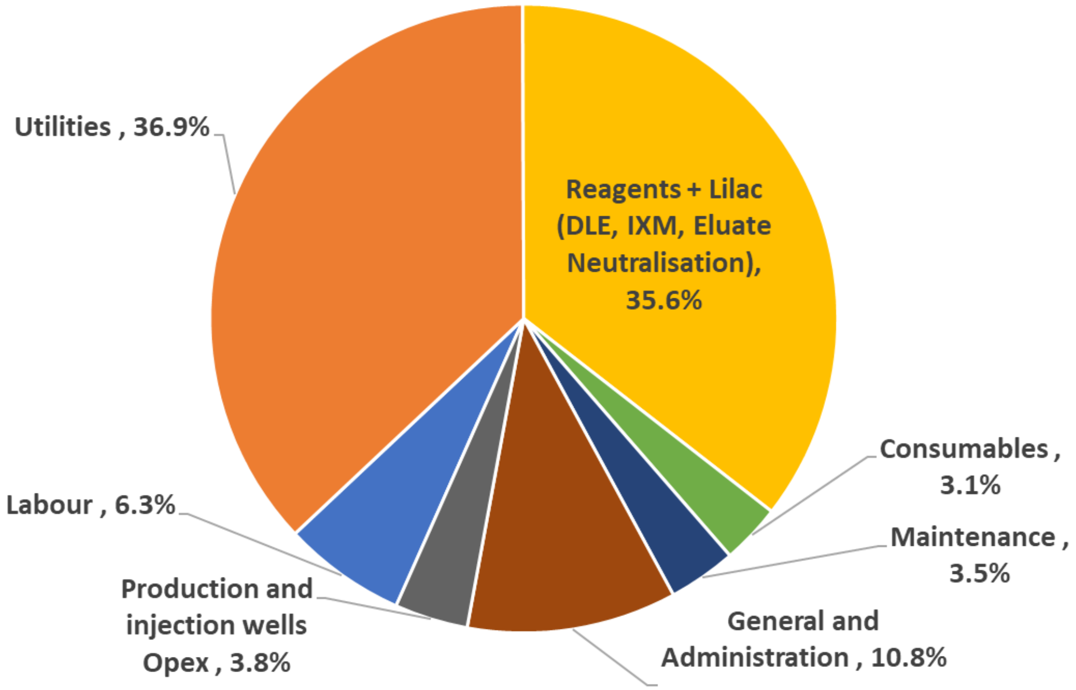
12 Operational Expenditure ("Opex")

A summary of the Opex by categories across all areas can be seen in Table 12-1.

Table 12-1: Summary of Opex

Operating Cost Item	Cost per Annum	Cost per Tonne Li_2CO_3
	(MUSD/y)	(USD/t)
Overall Plant Opex		
Labour	10.01	397
Utilities	58.40	2,315
Utilities - Electricity associated with ZLD	5.96	236
Reagents + Lilac (DLE, IXM, Eluate Neutralisation)	56.22	2228
NaOH by-product credits	-11.46	-454
Consumables	4.87	193
Maintenance	5.52	219
General and Administration	17.07	677
Production and injection wells Opex	5.96	236
Total Operating Cost w/o ZLD (Opex)	**146.60**	**5811**
Total Operating Cost (Opex)	**152.56**	**6047**

Figure 12-1: Summary of Operating Costs



Utility costs are the major Opex cost for the project (Figure 12-1). This is driven by the energy demand from the on-site C-A plant, the electric steam boiler and evaporative load from the full production operations, including the ZLD evaporation package for maximum water recovery. The ZLD system is planned for installation two years after start-up, so the Opex cost reduction is shown in Table 12-1. However, the capital cost for the ZLD system has been included in the project Capex, giving the project flexibility in the execution plan for installation of this process unit. A byproduct credit is assumed for excess sodium hydroxide production from the C-A plant.

12.1 Balance of Plant (BOP)

Labour

Labour costs were calculated based on similar projects in Argentina using a 24-hour per day operation, with 12-hour shifts.

Utilities

The utilities consist of electrical and water costs, which are detailed in the following sections.

ELECTRIC POWER

During start-up and commissioning, electricity is provided by a diesel power plant and a solar park. When full study-state operation is reached and the grid supply complete, the Project power will primarily be from the grid and will continually be supplemented with the onsite solar park. The power supplied from the solar park has a 33% capacity factor applied.

WATER

Total freshwater demand is based on the mass balance with a price of USD 0.03/m^3.

Reagents

Due to the generation of sodium hydroxide and hydrochloric acid within the C-A plant, the unit costs for those two reagents have been set to zero for the entire plant. The C-A plant will produce excess sodium hydroxide that is credited as byproduct credit of USD 400/t. No byproduct credit was assumed for excess sodium chloride or sodium hypochlorite produced.

DLE System Basis

The Lilac DLE system includes equipment and facilities associated with the lithium-ion exchange and eluate neutralization processes. The DLE area is integrated with the overall process facility but is operated by Lilac and includes a dedicated laboratory and control room.

The Lilac Opex includes additional minor reagents, IXM, labour, consumables, maintenance, transport and logistics and general and administration costs.

Consumables

Consumables costs are inclusive of delivery to site.

Maintenance

Maintenance costs for the process plant are based on a fixed percentage of the total mechanical equipment supply cost for each plant area. The percentage varies depending on the complexity of the unit operations and process conditions for each area and have been developed based on experience with similar operations and equipment.

General and Administration

General and administration costs include:

- General corporate services – recruitment, functions, conferences and subscriptions, communications and IT, admin consumables, legal/accounting/audit fees, and insurance.
- Contract services – engineering services, additional consultant services, shutdown manning and environmental services.
- Staff camp, catering, and transport costs – cost of camp services, transport to site.
- Product transportation.
- Others – rates, rent and community relations.

Production & Injection Wells

The operating expenses attributed to workovers and maintenance of the wells is treated separately from plant maintenance. Power costs are included in utilities and replacement components are included in sustaining capex.

13 Market Analysis

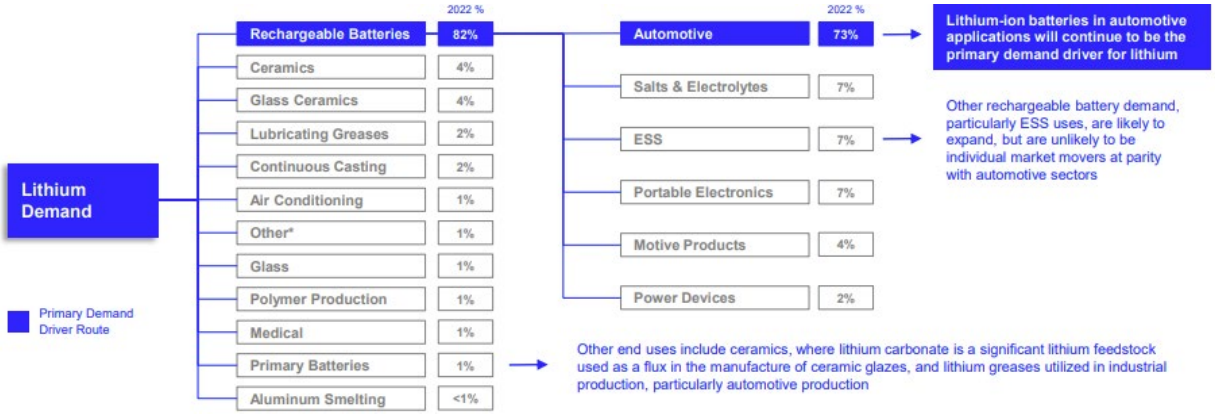
Wood Mackenzie were contracted to prepare a market study to evaluate global lithium markets from 2023 to 2050. The intention of the report was to offer insights into how the lithium market will develop with a focus on the battery grade lithium carbonate market. The analysis is considered on a global basis and in the context of the entire lithium market and supply-chain.

Wood Mackenzie calculated the supply-demand fundamentals of the global lithium market and indicate a supply deficit for the lithium market as a whole after 2031 and 2029 for battery grade products. This supply-demand picture was then used by Wood Mackenzie to produce a forward price curve with lithium prices supported after 2030 at elevated levels.

13.1 Demand Overview

Lithium demand has been increasing rapidly over the last few years driven primarily by growth in demand for rechargeable batteries with more than 80% of demand in 2022 from this sector (Figure 13-1).

Figure 13-1: 2022 Lithium Demand by End Use (Source: Wood Mackenzie)



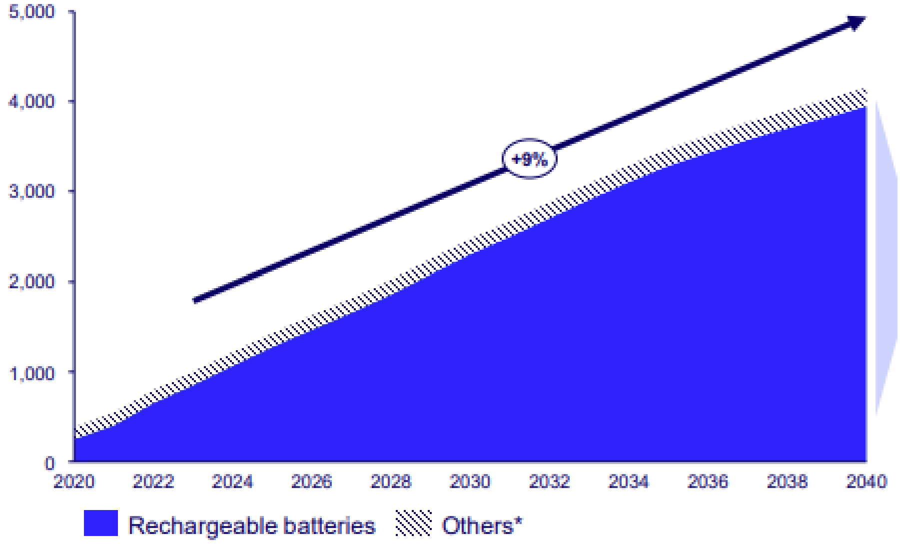
Lithium-ion batteries in automotive applications will continue to be the primary demand driver for lithium

Other rechargeable battery demand, particularly ESS uses, are likely to expand, but are unlikely to be individual market movers at parity with automotive sectors

Other end uses include ceramics, where lithium carbonate is a significant lithium feedstock used as a flux in the manufacture of ceramic glazes, and lithium greases utilized in industrial production, particularly automotive production

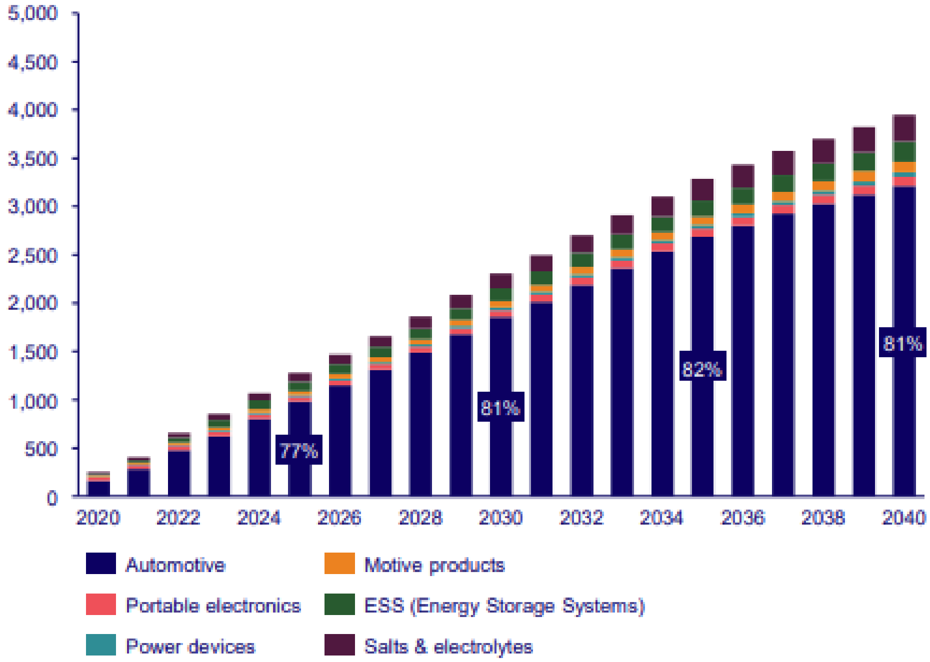
Wood Mackenzie forecast a CAGR of 9% from 2023 driven by continuing growth in demand for rechargeable batteries (Figure 13-2).

Figure 13-2: Lithium Demand by End User (Kt LCE) (Source: Wood Mackenzie)



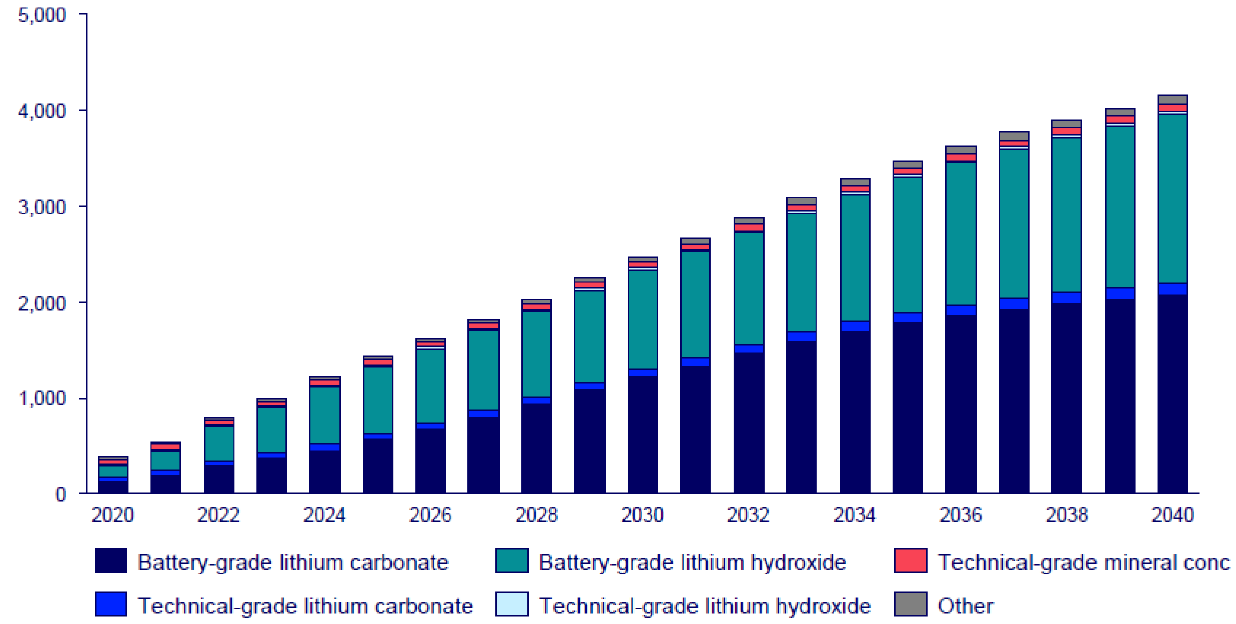
EV automative end use will continue to drive ~80% of rechargeable battery demand, while energy storage systems and salts & electrolytes will also require additional lithium volumes (Figure 13-3).

Figure 13-3: Rechargeable Battery Lithium Demand by Subset (Kt LCE) (Source: Wood Mackenzie)



Due to the lithium / rechargeable battery nexus, battery grade chemical products lithium carbonate and lithium hydroxide are likely to represent >90% of lithium demand by 2027. Carbonate is likely to remain the highest volume market, though hydroxide technical and battery-grade products could exceed 40% of demand by the mid-2030's. The forecast demand by chemical product type is shown in Figure 13-4.

Figure 13-4: Lithium Demand by Product (Kt LCE) (Source: Wood Mackenzie)



Government actors have begun to implement policies and regulations which incentivize and prioritize EV / rechargeable battery and mineral value chains, including lithium. Policies focused on increasing adoption of battery powered vehicles and securing supply of key "critical" minerals – including lithium – support strong long-term demand outlooks. Figure 13-5 presents a non-exhaustive view of the major governmental activities that will potentially impact the dynamics of the lithium market.

Figure 13-5: Select Policies and Incentives which Implicate Lithium Demand/Supply (Non-Exhaustive) (Source: Wood Mackenzie)

China begins *financing large scale infrastructure projects (including mining/lithium assets) abroad*

The US passes the IRA*, which incentivizes renewable energy / battery developments across the value chain*

Major demand centers *begin maneuvering for designating select minerals (including lithium) as "critical")*

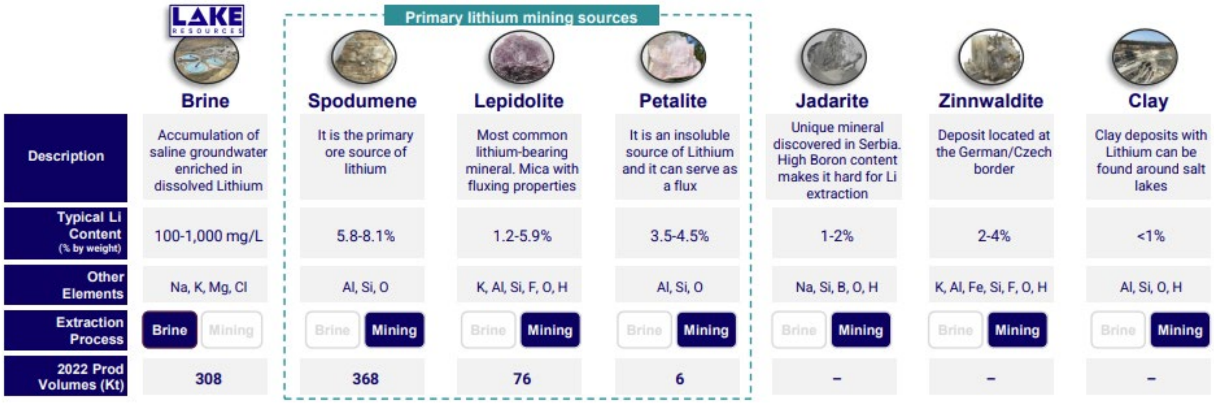
Chile's national strategy *for Li is intended to balance national "take" from extractive projects with structures to incentivize project development*

Substantial national and provincial level policymaking targeted at incentivizing and shoring up industries which implicate lithium

13.2 Supply Overview

Lithium is hosted in a range of geological formations, with brine and spodumene (hard rock mined supply) forming ~90% lithium extraction (Figure 13-6). Extraction of more niche geologies like Jadarite, Zinnwaldite, and Clay, are more geographically targeted or may be less economic than brine/spodumene sources.

Figure 13-6: Primary Lithium Extraction Sources (Source: Wood Mackenzie)



	Brine	Spodumene	Lepidolite	Petalite	Jadarite	Zinnwaldite	Clay
Description	Accumulation of saline groundwater enriched in dissolved Lithium	It is the primary ore source of lithium	Most common lithium-bearing mineral. Mica with fluxing properties	It is an insoluble source of Lithium and it can serve as a flux	Unique mineral discovered in Serbia. High Boron content makes it hard for Li extraction	Deposit located at the German/Czech border	Clay deposits with Lithium can be found around salt lakes
Typical Li Content (% by weight)	100-1,000 mg/L	5.8-8.1%	1.2-5.9%	3.5-4.5%	1-2%	2-4%	<1%
Other Elements	Na, K, Mg, Cl	Al, Si, O	K, Al, Si, F, O, H	Al, Si, O	Na, Si, B, O, H	K, Al, Fe, Si, F, O, H	Al, Si, O, H
Extraction Process	**Brine** Mining	Brine **Mining**	Brine **Mining**	Brine **Mining**	Brine **Mining**	Brine **Mining**	Brine **Mining**
2022 Prod Volumes (Kt)	308	368	76	6	–	–	–

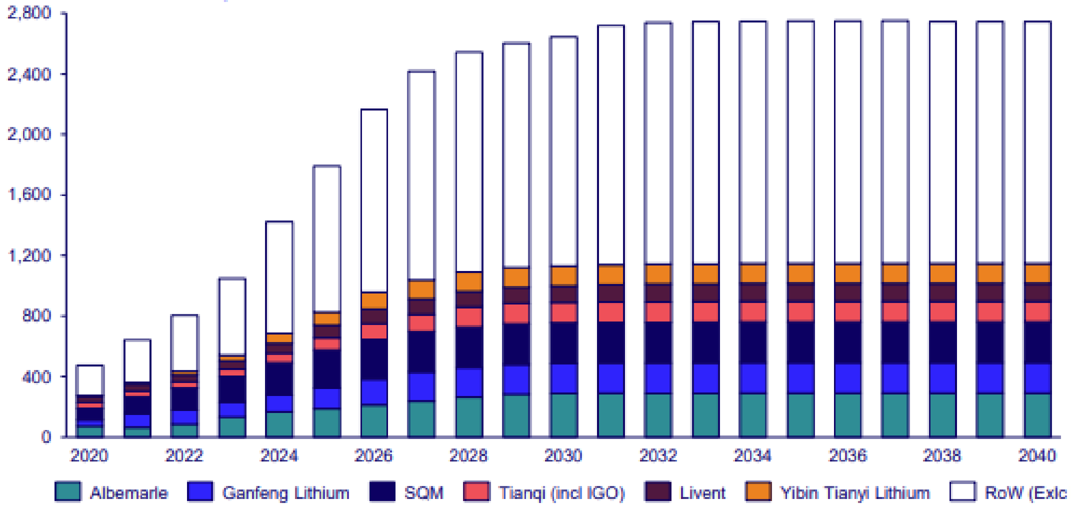
Five companies currently produce around 50% of global lithium hydroxide and carbonate chemical products. SQM (Chile), Ganfeng Lithium (China), and Albemarle (US) account for ~40% of global refined supply of key technical and battery grade chemical products (Figure 13-7).

Figure 13-7: Key Refined Lithium Industry Players (Non-Exhaustive)
(Source: Wood Mackenzie)

	SQM	GanfengLithium	Albemarle	Livent	TIANQI LITHIUM	
HQ Location	🇨🇱 Santiago, Chile	🇨🇳 Jiangxi, China	🇺🇸 North Carolina, US	🇺🇸 Pennsylvania, US	🇨🇳 Sichuan, China	
Description	Formerly a Chilean state-owned entity, SQM now privately extracts, processes, and commercializes lithium products in Chile	Manufacturer of lithium batteries. Its product portfolio includes lithium fluoride, lithium hydroxide, lithium chloride, lithium carbonate and lithium magnesium alloy	Chemical company that develops, manufactures and markets lithium and its derivatives, bromine specialties, and catalysts	Chemical manufacturing company that extracts, processes and produces finished lithium products.	Carries out the development, production and marketing of lithium chemical products.	
Market Share[1]						
Total	18%	11%	11%	5%	5%	51%
Hydroxide	5%	23%	15%	10%	2%	61%
Carbonate	31%	7%	12%	4%	8%	55%
Key Countries for Production	🇨🇱	🇲🇽 🇨🇳 🇦🇷	🇨🇱 🇨🇳 🇺🇸 🇦🇺	🇦🇷 🇨🇳 🇺🇸	🇨🇳 🇦🇺	

While these five key refined suppliers currently retain ~50% market share of virgin volumes, the market will begin to diversify after 2024/2025 (Figure 13-8). Yibin Tianyi Lithium is anticipated to be a growing market presence, while SQM is expected to continue to lead Chile's refining production, it could cede the top spot to Albemarle in the long-term. The overall growth in the market opportunity means that new market entries will be required to support sufficient product development.

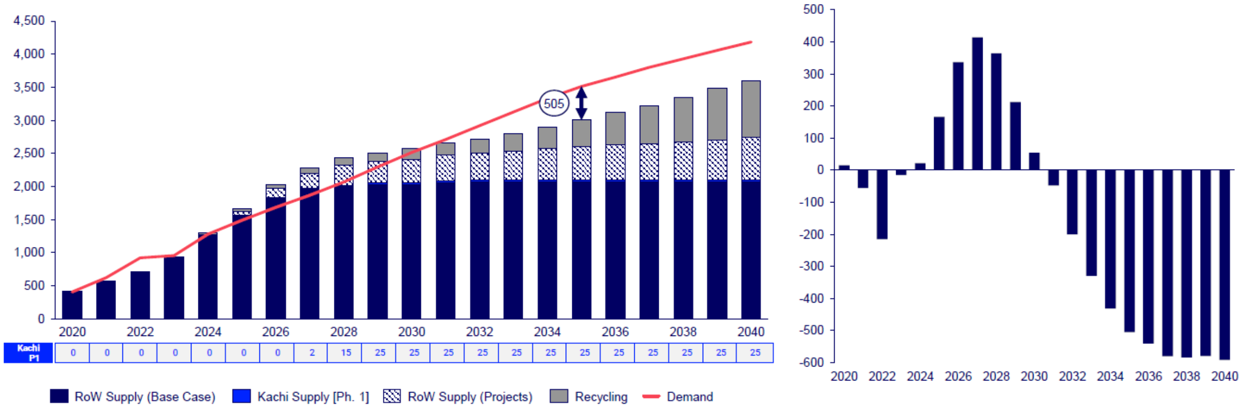
Figure 13-8: Global Refined Production by Top Companies (Ex Recycling/Theoretical Volumes, Kt LCE) (Source: Wood Mackenzie)



13.3 Market Balance and Price Outlook

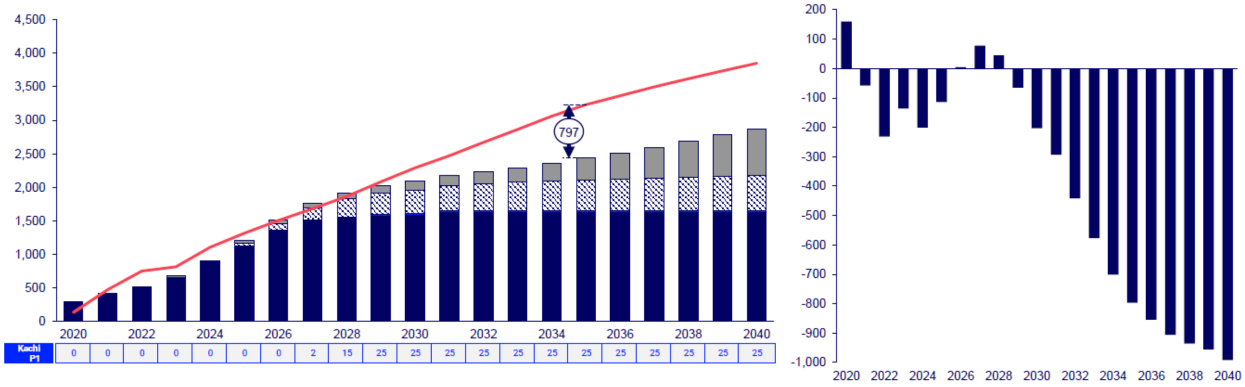
The total lithium market shows potential for near-term oversupply of ~300 ktpa but this then shifts to structural deficit of >500 ktpa by 2030 as EV and rechargeable battery demand surges (Figure 13-9). Deficits could accentuate if pipeline projects do not reach production.

Figure 13-9: Global Lithium Chemical Balance and Net Balance (All projects Kt LCE) (Source: Wood Mackenzie)



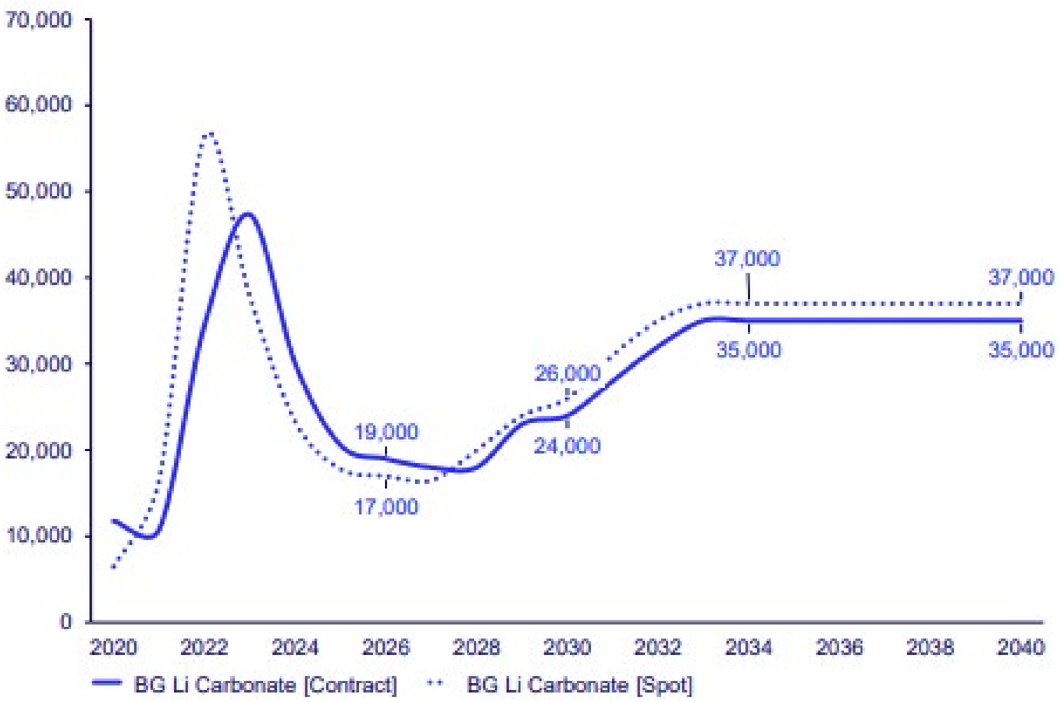
While the lithium market as a whole may not reach sustained deficit until 2031, the battery grade market is anticipated to be significantly tighter (Figure 13-10). Deficits could emerge as soon as 2023, and extend to ~1Mt LCE by 2040, Kachi's anticipated ~25 ktpa of Phase 1 battery grade carbonate production is targeted to reach full capacity in 2028 as the battery grade market is forecast to be in structural deficit and therefore is likely to have sufficient demand headroom in the long-term.

Figure 13-10: Battery Grade Lithium Chemical Balance and Net Balance (All projects, Kt LCE) (Source: Wood Mackenzie)



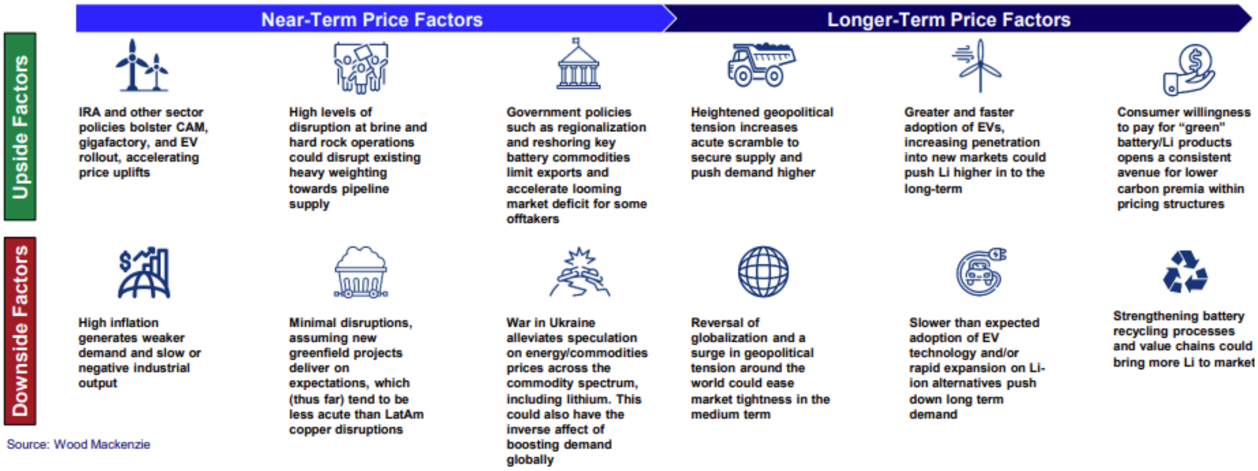
Battery grade lithium chemical prices are anticipated to reduce from ~$60,000/t in 2022 to ~$25,000/t by 2030 as supply surges in the near term with a long-term elevated price outlook beyond 2030 (Figure 13-11). Contracted prices for both products are expected to remain at a $5,000/t - $8,000/t premium through 2026 as offtakers locked in longer-term offtakes during a high price environment in 2021-2023. The strong pricing outlook from 2029 onwards is supported by the forecast deficit as noted in Figure 13-9.

Figure 13-11: Battery Grade Lithium Carbonate Price ($/tonne; Real 2023) (Source: Wood Mackenzie)



Lithium pricing has been highly volatile in recent years and while the supply and demand net balance outlook is favourable there are several factors that can impact pricing in the period (Figure 13-12). Upside factors include increased EV adoption rates and rapid onsets of government subsidy/incentive policies. Downside factors are associated to significant pipeline supply volumes coming online “as planned/on time” and EVs struggling to displace internal combustion engine (“ICE”) vehicles.

Figure 13-12: Lithium Price Risk Factors (Source: Wood Mackenzie)



	Near-Term Price Factors			Longer-Term Price Factors		
Upside Factors	IRA and other sector policies bolster CAM, gigafactory, and EV rollout, accelerating price uplifts	High levels of disruption at brine and hard rock operations could disrupt existing heavy weighting towards pipeline supply	Government policies such as regionalization and reshoring key battery commodities limit exports and accelerate looming market deficit for some offtakers	Heightened geopolitical tension increases acute scramble to secure supply and push demand higher	Greater and faster adoption of EVs, increasing penetration into new markets could push Li higher in to the long-term	Consumer willingness to pay for “green” battery/Li products opens a consistent avenue for lower carbon premia within pricing structures
Downside Factors	High inflation generates weaker demand and slow or negative industrial output	Minimal disruptions, assuming new greenfield projects deliver on expectations, which (thus far) tend to be less acute than LatAm copper disruptions	War in Ukraine alleviates speculation on energy/commodities prices across the commodity spectrum, including lithium. This could also have the inverse affect of boosting demand globally	Reversal of globalization and a surge in geopolitical tension around the world could ease market tightness in the medium term	Slower than expected adoption of EV technology and/or rapid expansion on Li-ion alternatives push down long term demand	Strengthening battery recycling processes and value chains could bring more Li to market

Source: Wood Mackenzie

14 Economic and Financial Analysis

A detailed economic model was prepared with the assistance of KPMG for use by Lake for the Phase 1 DFS. The model collates the study results to estimate and evaluate the Kachi Project cash flows and economic viability.

The inputs to the economic model are extensive. The Kachi brine production forecast is from the Hydrogeologic Model described in Section 4 Mineral Resource and Ore Reserve Estimates of the DFS. The estimated capital and operating costs are derived from a combination of sources and summarized by Hatch in Sections 11 and 12 of the DFS. Hatch led the estimations for the carbonation plant, reagent generation and general infrastructure. Lake provided the well field costs. Lilac provided the costs and process data associated with the IX technology. Argentinian electrical utility consultants estimated the power “unit-rate” ($/MW-hr) including rolling infrastructure additions into a PPA.

The economics of the Kachi Project were evaluated using a real (non-escalated), after-tax discounted cashflow (DCF) model on a 100% project equity basis (unlevered). Included in the financial model are the production costs, revenues, operating costs, capital costs and estimated taxes.

This financial analysis covers the period from the beginning of construction from April 2025 to end of mine life, and all future cashflows are reported in real US dollars with no allowance for inflation-based escalation.

The cash flow analysis was used to estimate the economics of processing Kachi brine to produce in Year 1, 18,921 tonnes and in Years 2 to 25, 25,228 tonnes of battery grade lithium carbonate, for total production volume of approximately 624,400 tonnes over the LoM.

14.1 Key Financial Modelling Assumptions

Key financial modelling assumptions are noted in the tables and figures below.

Lithium carbonate price forecast

Pricing assumptions used in the financial model reflect the Wood Mackenzie price forecast for battery grade lithium carbonate as commissioned for the DFS and presented in Section 13. The price forecast used in Table 14-1 and Figure 14-1 shows the annual forecast prices of battery grade lithium carbonate. These prices do not reflect any assumptions of potential concessions or discounts that Lake may agree in the future with any potential strategic partners, offtake partners, royalty providers, or other type of project partner[33]. The lithium price forecast is used in our financial model to calculate forecast revenues. Lithium prices are subject to unpredictable fluctuations, driven in part by changes in the balance of global supply and demand as well as international economic and geopolitical trends and developments. Any decrease or significant volatility in the price of or demand for lithium could have a detrimental effect on the Kachi Project performance.

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[33] See LKE ASX Announcement dated 29 November 2023

Table 14-1: Lithium Carbonate Price Assumptions (USD/Metric Tonne)[34]

Year	Annual Forecast Price of Battery Grade Lithium Carbonate ($ / Metric Tonne)
2025	$20,564
2026	$19,000
2027	$18,000
2028	$18,000
2029	$23,000
2030	$28,000
2031	$32,000
2032	$35,000
2033	$35,000
2034	$35,000
2035	$35,000
2036	$35,000
2037	$35,000
2038	$35,000
2039	$35,000
2040	$35,000
2041	$35,000
2042	$35,000
2043	$35,000
2044	$35,000
2045	$35,000
Long term price	$35,000

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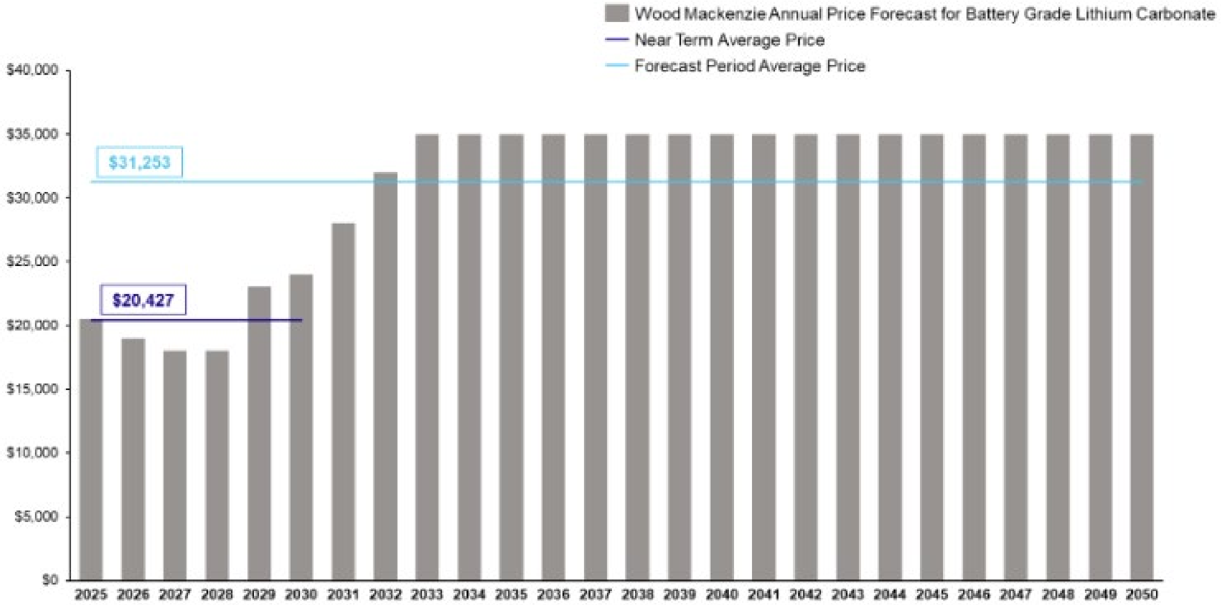
[34] The above prices are for battery grade lithium carbonate and are based on the long market pricing forecast by Wood Mackenzie. The full market assessment completed by Wood Mackenzie is presented in Section 13 of the DFS. The Company does not verify the accuracy of information derived from Wood Mackenzie or from other company presentations or reports

Figure 14-1: DFS Economic Model Battery Grade Lithium Carbonate Price Forecast



OFFTAKE AGREEMENTS

The Kachi Project intends to enter long term binding offtake arrangements to support project financing. As a minimum, we expect these offtake arrangements will cover an average of 60% of production over the tenor of any debt, will track to an internationally recognised price index, be with a counterparty with suitable credit as defined by financiers and contain a floor price. The Kachi Project has retained Goldman Sachs as Financial Adviser in connection with exploring potential strategic partnerships, which may involve offtake arrangements. Goldman Sachs will begin the formal process of identifying a strategic partner in 2024[35].

Detailed financial modelling assumptions

Analysis of the financial model on the main economic assumptions indicates that the Project is robust in terms of all operating costs, and product pricing; it is most sensitive and at greatest risk to changes impacting revenues (either market pricing or production volumes), capital costs and operating costs.

TECHNICAL ASSUMPTIONS

As part of the economic analysis, Lake has applied production rates in line with feedback and test work data received from its technical and operational teams. The inputs to the economic model are extensive. The Kachi brine production forecast is in line with the Hydrogeologic Model described in Section 4 Mineral Resource and Ore Reserve Estimates of the DFS. The

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[35] See LKE ASX Announcement dated 29 November 2023

estimated capital and operating costs are derived from a combination of sources and summarized by Hatch and presented in Sections 11 and 12 of the DFS.

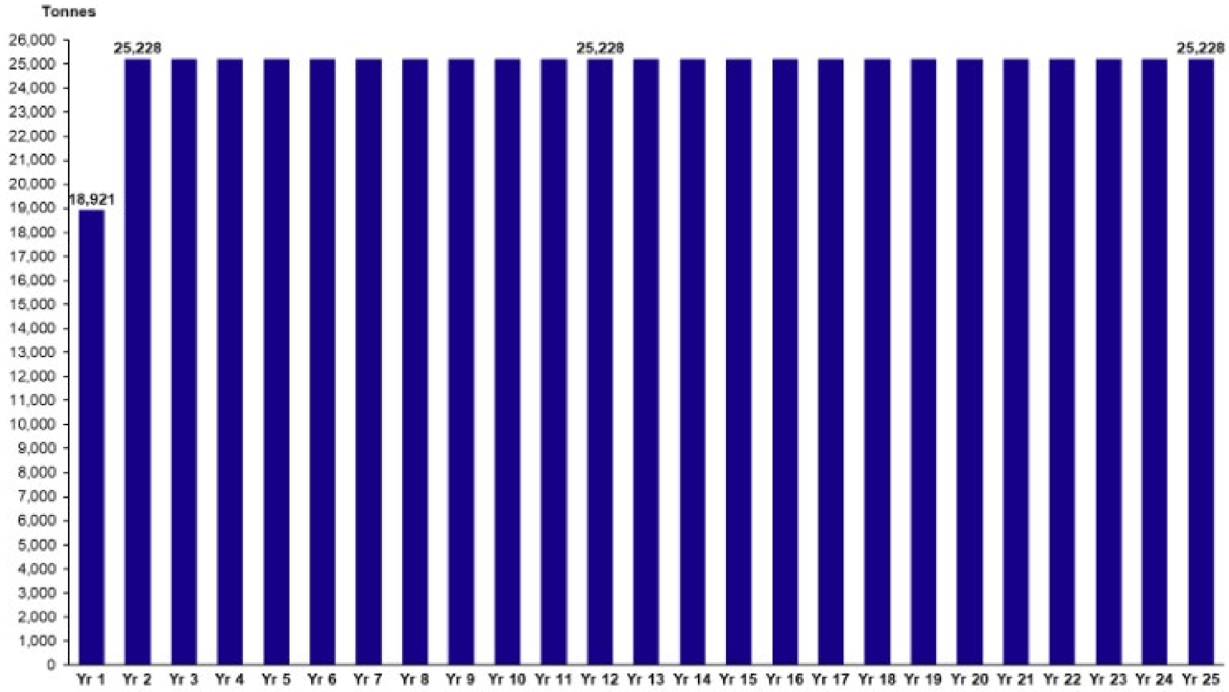
Annual Lithium Carbonate Production[36] Profile – Life of Mine

The Kachi Project is estimated to produce approximately 25 ktpa of battery grade lithium carbonate over the LoM with the annual production estimated as shown in Figure 14-2. Production ramps up within the first year of production as shown in Table 14-2. The financial model ramp-up is purposefully conservative and does not account for any early production or off-spec product generated in commissioning. There are a number of options for reprocessing off-spec product.

Table 14-2: Estimated Production Ramp-up

Year 0 Q4	Year 1 Q1	Year 1 Q2	Year 1 Q3	Year 1 Q4	Year 2 Q1
0.00%	75%	75%	75%	75%	100%

Figure 14-2: Annual Lithium Carbonate Production (in Tonnes) - Life of Mine



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[36] See additional discussion on Kachi Project production in Section 4 Mineral Resource and Ore Reserve Estimates (Sections 4.2.3 and 4.2.4): Predicted lithium (Li) extraction and LCE production.

Table 14-3 provides a summary of the key financial and operational assumptions used to create the financial model for economic assessment of the Kachi Project. Where a key variable is not a single figure directions to the relevant section of the DFS are provided to view the complete spread of the time dependent variables.

Table 14-3: Key Financial Modelling Assumptions

Item	Basis	Value / Input
Weighted Average Cost of Capital (WACC) Discount Rate	%	8.0%[37]
Valuation Date	Date	April 1 2025
Argentine Government Export Duty	%	4.5% of Gross Revenues
Catamarca Province Royalty	%	3.5% of “Boca Mina” Value[38]
Corporate Income Tax	%	35% of Pre-tax Earnings
Life of Mine	Calendar Years	25 yrs (See 14-3 Above for Production profile)[39]
Flow Rate	M^3/hr	Variable See Section 4.2.3
Plant Availability	%	90%
Brine Lithium Concentration	Mg/L	Variable See Section 4.2.3
Carbonate Conversion		5.323
Lithium Recovery Rate	%	75.3%[40]
Lithium Carbonate Production	Tonnes	624,400[41]
Sodium Hydroxide Production	Tonnes	706,693
Run Rate Operating Expenditure (Opex)	$/t	6,047
Initial Capital Expenditure (Capex)	$M	1,376
Average Sustaining Capex	$’000 / annum	6,057
Depreciation Method		Straight Line[42]

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[37] WACC rate of 8% is based on peer industry average (See Appendix A for peer data).

[38] Lithium chloride revenues to represent “boca mina” value (e.g., mine head value) of extracted mineral for Catamarca province under the Mining Investment Law. As final royalty rates for the project are yet to be agreed with the Government of Catamarca, the mine head value has been provisionally set to represent lithium chloride revenues at a provisional price of $5,000/tonne.

[39] The Hydrogeologic Model described in Section 4 Mineral Resource and Ore Reserve Estimates of the DFS report and Financial Model are matched to produce the same quantity of lithium over the lifetime of the project.

[40] See Table 8-3

[41] As shown in Section 4 Mineral Resource and Ore Reserve Estimates, Section 4.2.4 provides Ore Reserve summary and annualized plant capacity limited production. Shown graphically in Figure 14-2.

[42] Accelerated depreciation adopted for tax purposes based on provisions of the Argentinian Mining Investment Law.

Item	Basis	Value / Input
Debtor Days	Days	30
Creditor Days	Days	30

14.2 Key Financial Model Outputs

The Kachi Project demonstrates exceptional project economics: Post-tax Net Present Value (NPV_8) of $2.3 billion with free cashflows of $9.3 billion from LoM revenues of $20.7 billion, LoM Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) of $15.9 billion, Post-tax Internal Rate of Return (IRR) of 20.91% and short payback period of 4.25 years.

Target Project Financial Results

Key Project results from the DFS are listed in Table 14-4, demonstrating robust Project financial outcomes and metrics.

Table 14-4: Key Financial Results

Item	Units	Period	DFS Result
Lithium Carbonate Revenue	$M	Life of Mine	**20,700**
Lithium Carbonate Revenue	$M	Annual Average	**827**
EBITDA	$M	Life of Mine	**15,870**
EBITDA	$M	Annual Average	**635**
Operating Margins	%	Run Rate	**76%**
Net Profit After Tax	$M	Life of Mine	**8,959**
Average Opex[43]	$/t	Run Rate	**6,047**
Total Capex	$M		**1,376**
NPV_8 Post-Tax	$M		**2,333**
NPV_8 Pre-Tax	$M		**3,854**
IRR Post-Tax	%		**20.91**
IRR Pre-Tax	%		**25.35**
Total Free Cashflows	$M	Life of Mine	**9,310**
Payback Period	Years		**4.25**

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[43] Operating Expenditures includes facility wide costs, direct extraction package, reagents, lithium chemical plant, general and administrative expenses, transportation, and power.

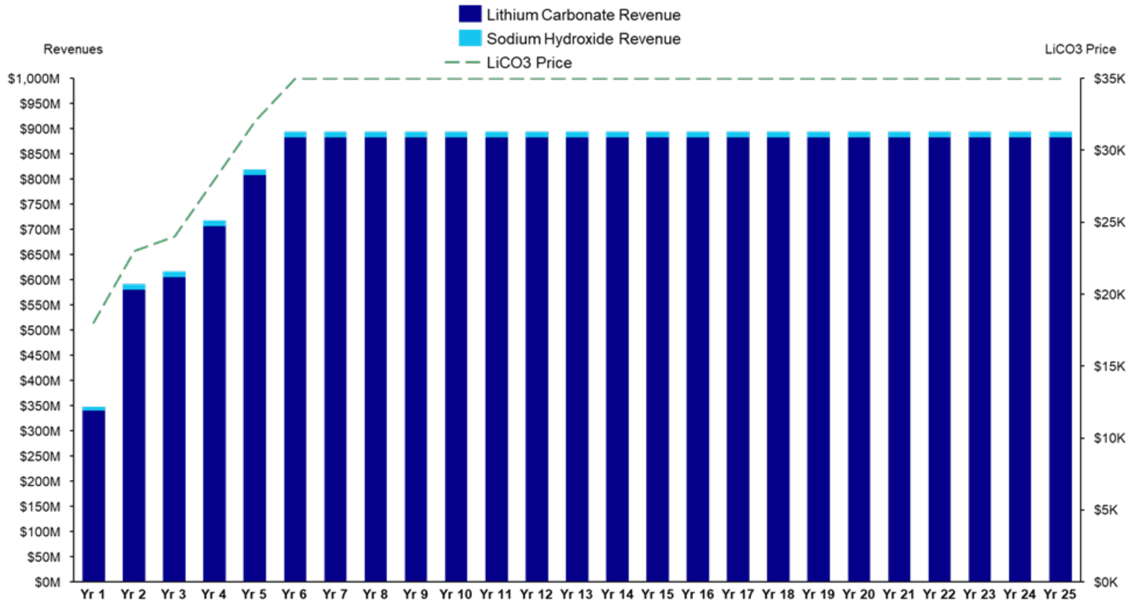
Target Annual Revenues – Life of Mine

Based on the price assumptions in the economic model described above, estimated annual revenues from the sale of battery-grade lithium carbonate are displayed below for the Kachi Project.

BY-PRODUCT CHEMICALS

Lake expects to produce one by-product at its Kachi plant – Sodium Hydroxide (NaOH). This is a basic chemical with a potentially large customer base locally in the province amongst the brine producers. This by-product is non-core to Lake's business model and potential revenues have been applied as a by-product credit in Opex. NaOH has very volatile prices and are difficult to forecast.

Figure 14-3: Target Annual Revenues for Kachi Project

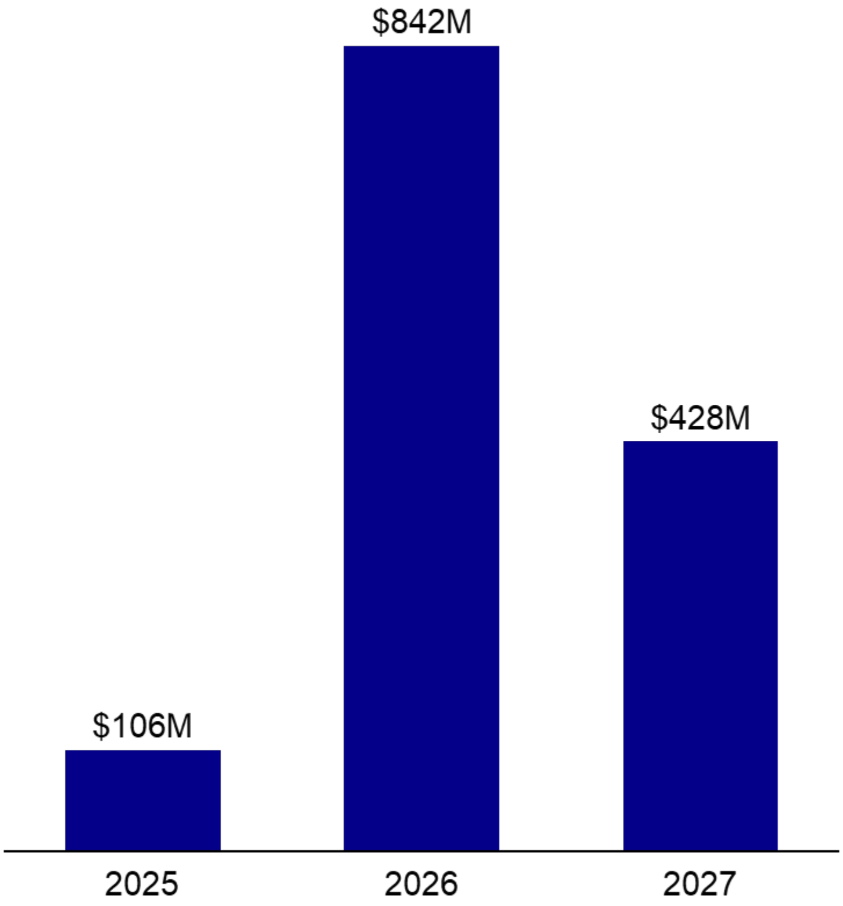


Capital Expenditure Overview

Capex covers the period from FID to commissioning and is reported in real U.S. dollars, with no allowance for escalation or currency fluctuation. Below is the spending schedule for initial Capex.

Additional information on Capex including deferred and sustaining Capex are found in Section 11 of the DFS.

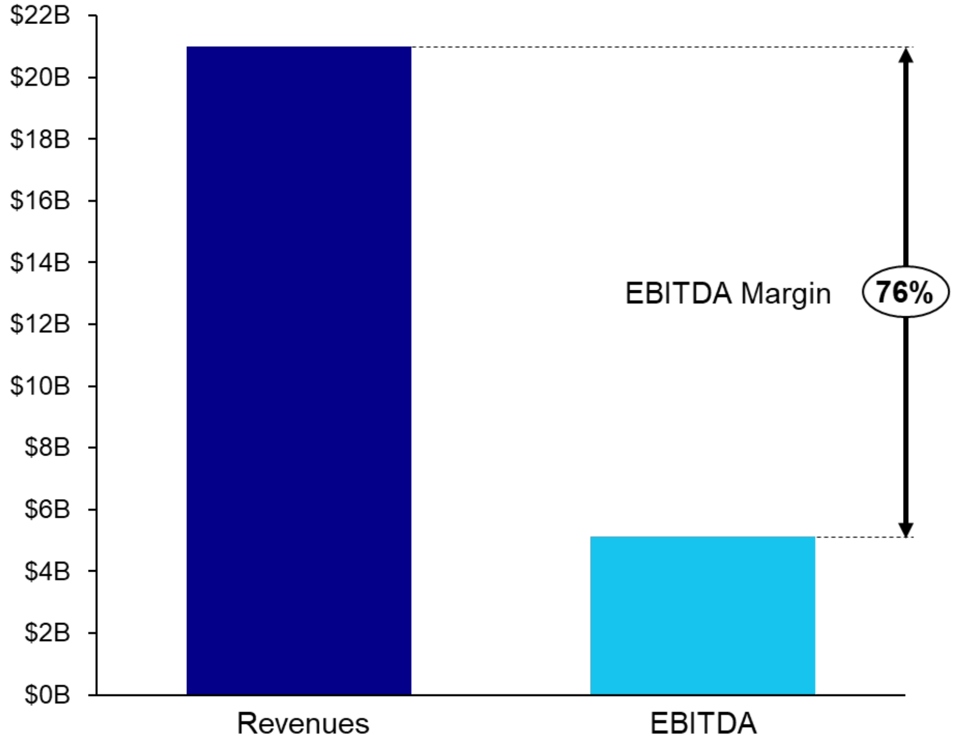
Figure 14-4-: Capital Expenditure Spend Schedule



Target EBITDA Margins – Life of Mine Average

Estimated EBITDA margins are summarised below, showing an average of approximately 76% over the LoM.

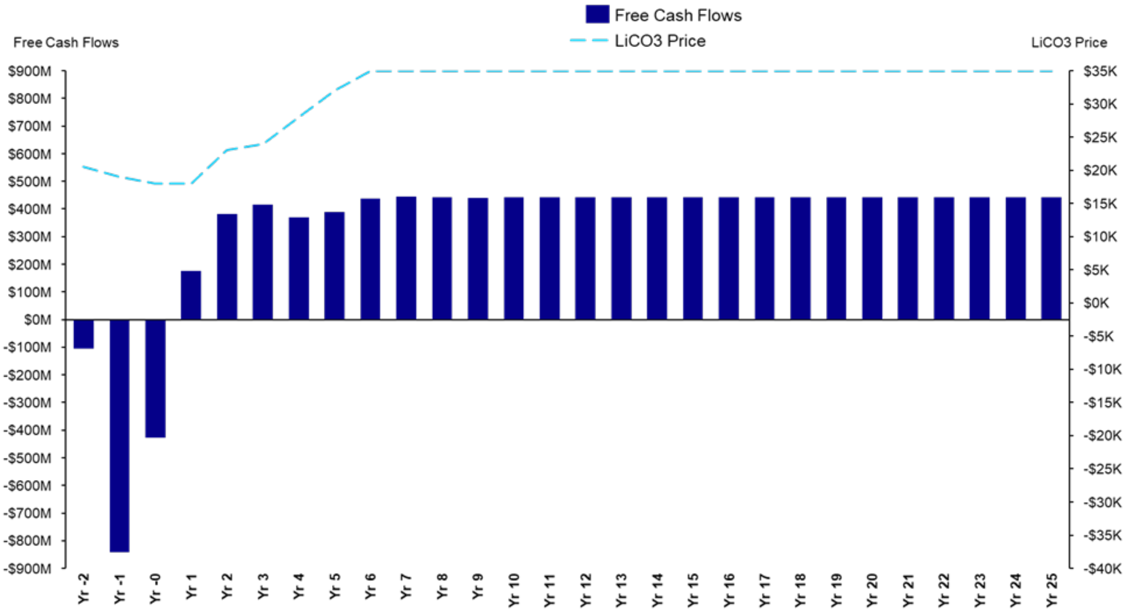
Figure 14-5-: Target Operating Margins, Average Run Rate



Target Free Cash Flow (Post-Tax)

Estimated post-tax, Free Cash Flows (FCF) are summarised below, showing an average of approximately $372M per annum.

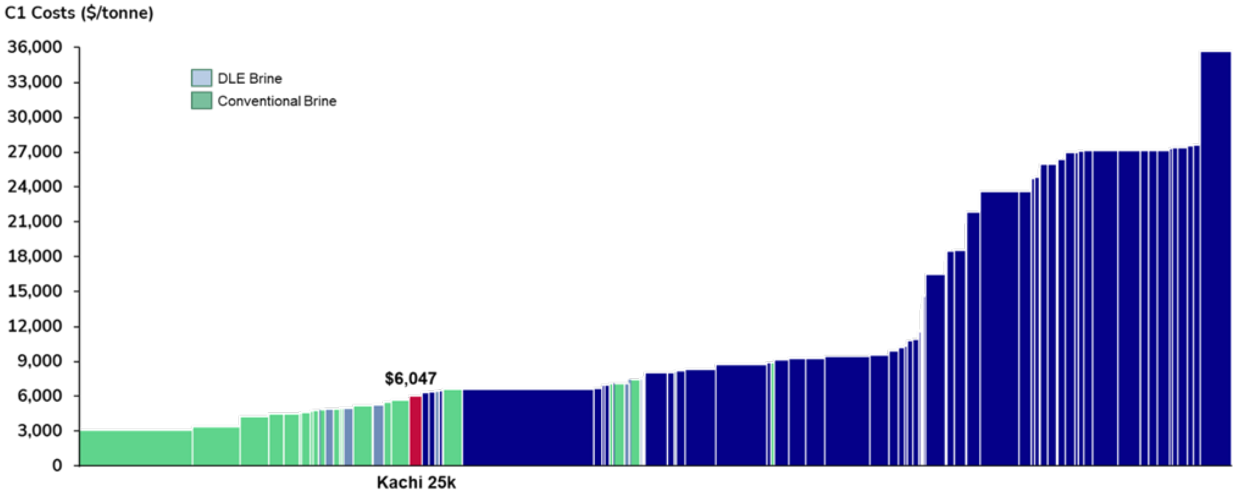
Figure 14-6-: Target Annual Free Cash Flow (Post-Tax) - Life of Mine



14.3 Forecast Estimated Global Cost Curve Position

Run rate Opex is forecast at approximately $6,047/tonne, which currently places the Project in the lower end of the global cost curve for lithium developers, using the forecast data from Benchmark Minerals[44]. It is also worth noting that the Kachi Project targets being an integrated brine to battery grade chemical producer and is therefore well positioned to avoid risks associated with upstream or downstream cost escalation.

Figure 14-7-: The Kachi Project Operating Costs on the Global Cost Curve, 2030



14.4 NPV Sensitivity

Sensitivities are applied to key project estimates and assumptions. Favourable and unfavourable movements relative to Post-Tax NPV_8 are illustrated in the Table 14-5 and Figure 14-9. Post-Tax NPV_8 values were most sensitive to the items directly impacting revenue i.e., lithium price and production volumes. Opex and Capex had similar degrees of impact on NPV_8 sensitivity.

Table 14--5: Post Tax NPV_8 Sensitivity Table, Millions USD

Discount Rate	8.0%	9.0%	10.0%	11.0%	12.0%
NPV ($M)	2,332	1,964	1,648	1,376	1,142

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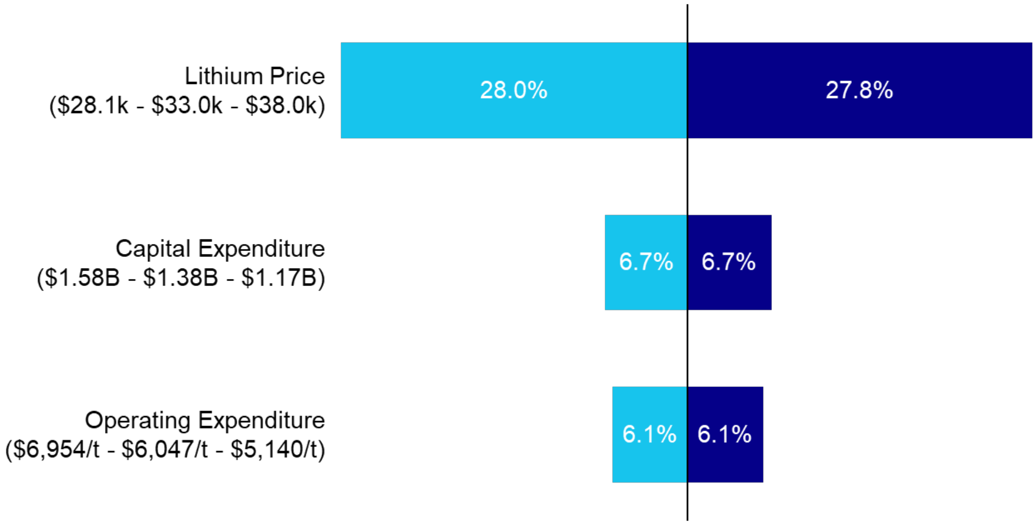
[44] Source: Benchmark Minerals Intelligence – Lithium Total Cost Model Q3, 2023 via Lake Resources Corporate Subscription. Kachi run-rate OpEx inserted in Benchmark Minerals cost curve by Lake.

Figure 14-8-: Post-Tax NPV_8 Sensitivities Chart (-15% / +15%; Base $2,333M)



Lithium Price

Project cash flows are most sensitive to changes in lithium carbonate selling price, where a 15% change in price resulted in a 28% change to the Post-Tax NPV_8. Lithium price impact can be limited/mitigated by the pricing mechanisms to be put in place with potential offtakers. Production volume fluctuations are expected to have similar effect as price fluctuations on NPV_8.

Initial Capital Expenditure

Due to the function and nature of discounted revenue streams, NPV_8 is also quite sensitive to Capex (although to a lesser degree than lithium price) because these expenditures occur earlier in the Project.

Operating Expenditure

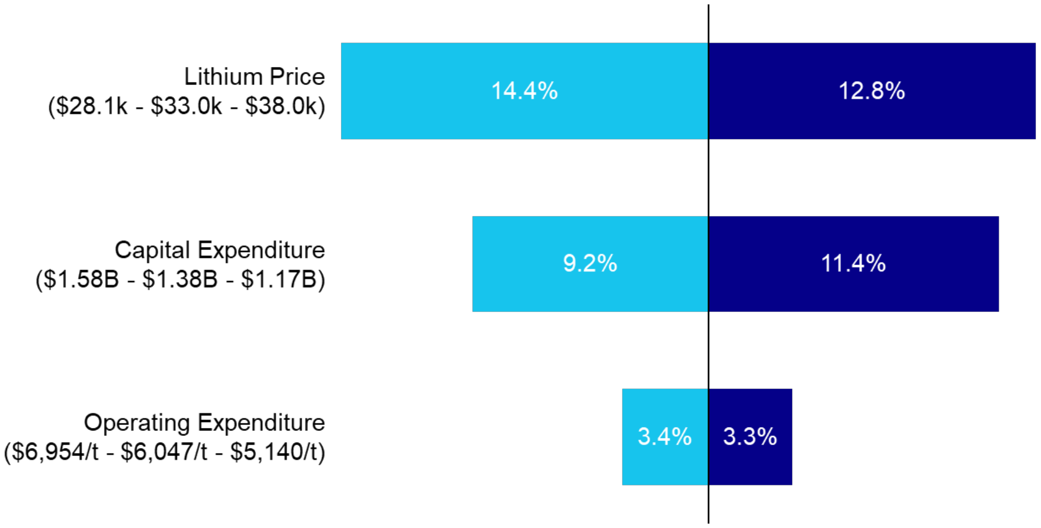
Opex through the entire Project lifetime is more discounted in later years. As a generally low-cost operation, Opex has a limited impact on financials, and this accounts for the lower sensitivity.

14.5 IRR Sensitivity

The results of the sensitivity analysis for Post-Tax IRR to Capex, Opex and lithium pricing are presented below in Figure 14-10.

The IRR is equally highly sensitive to the lithium price due to future cashflows being directly impacted by the linear relationship between lithium volumes and lithium sales price. Other factors considered were capital expenditures and operating expenditures, with Post-Tax IRR being more sensitive to Capex than Opex.

Figure 14-9-: Post-Tax IRR Sensitivities Chart (-15% / +15%; Base 20.91%)



Lithium Price

Project cash flows are most sensitive to changes in lithium carbonate selling price, where a 15% change in price resulted in a similar change to the Post-Tax IRR. Lithium price impact can be limited/mitigated by the pricing mechanisms to be put in place with potential offtakers. Production volume fluctuations are expected to have similar effect as price fluctuations on NPV_8.

Initial Capital Expenditure

IRR is more sensitive to initial Capex due to those expenditures occurring naturally in the first 3 years of the project. A 15% increase in capex reduces IRR by 9.2% and a 15% reduction in Capex increases IRR by 11.39%. The asymmetrical impact of Capex sensitivity on IRR is due to non-linear cashflows in the earlier years.

Operating Expenditure

Opex through the project lifetime is more discounted in the later years. This accounts for the lower IRR sensitivity compared to lithium price, lithium recovery and Capex.

14.6 Project Financing[45]

Following completion of the DFS, the Company intends to proceed with activities associated with securing project financing for Kachi Phase 1. The plan for project financing involves a mix of equity and debt which will be sourced from various entities as outlined below.

Figure 14-10-: The Kachi Project Financing Objectives and Options

Funding Targeted from a Mix of Equity and Debt	Multiple Target Options for Kachi Phase 1 Financing
Equity	Equity at Project Level
	Equity at Parent Level
Debt • Export Credit Agencies • Commercial Banks • Royalties	Debt Funding Development Banks
	Debt funding Commercial Banks
	Royalty Providers
	ECA Guarantees and Direct Lending
	Prepayments

The Kachi Project has engaged Goldman Sachs[46] to act as advisers and support the equity component of the project financing activity. The process will focus primarily on identification of a Strategic Partner to take an interest in the Kachi Project at the asset level and may also include offtake rights for the contemplated product. This process typically takes 6-9 months from completion of the DFS but actual timelines may vary.

Table 14--6: Contemplated Process for Equity Funding

Tasks	Estimated Timing
Preparation and Pre-marketing	Ongoing
Process Launch	Q1 2024
Phase 1 – Introduction and Expressions of Interest	Q2 2024
Phase 2 – Detailed offers and confirmatory due diligence	Site visits, VDR access, Kachi Team Engagement
Targeting Signing	Q4 2024

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[45] DISCLAIMER there are no guarantees that Lake will be able to raise the significant funding required for the further development of the Kachi Project. For further information please see the risk factors in Section 16 of the DFS.

[46] See LKE ASX Announcement dated 29 November 2023.

To support the debt-raise activities the Kachi Project has engaged SD Capital Advisory Ltd[47] to act as Lead Advisor. The debt component is anticipated to involve Export Credit Agency (ECA) backed debt. This process has commenced and is expected to run until FID.

Table 14--7: Contemplated Process for Debt Funding

Contemplated Debt Funding Process	
Status as of DFS completion	Expressions of Interest received from two ECAs: • United Kingdon Export Finance (UKEF) • Export Development Canada (EDC) Mandated Lead Arrangers (MLA) appointed: • JP Morgan / Citibank
Credit Facility Expansion	Assess addition of ECAs Q1 2024
Due Diligence (DD) *Expected to commence in Q2 2024*	EIA submission to Catamarca government Lender Technical, Environmental and Social DD Lender Marketing DD Lender Risk, Insurance and Legal DD
Negotiation and Signing	2024
Funding and Drawdown	Post FID and Receipt of EIA approval

15 Environmental and Social Impact Assessment (EIA)

Knight Piesold were contracted to generate an environmental and social impact assessment. This material is a key deliverable for the Project and supports application for production / exploitation permitting to the Catamarca authorities.

15.1 Environmental

The Kachi Project is located on the periphery of a habitat whose characteristics are of high sensitivity. The Project is located in the zone of influence of three natural areas, the natural protected area Piedra Pómez, the biosphere reserve-provincial reserve of Laguna Blanca, and the Ramsar Convention Site Lagunas Altoandinas and Puneñas of Catamarca shown in Figure 15-1. These areas support the conservation of flamingos and vicuñas as well as vestiges of pre-Columbian settlements and various associated lagoon systems.

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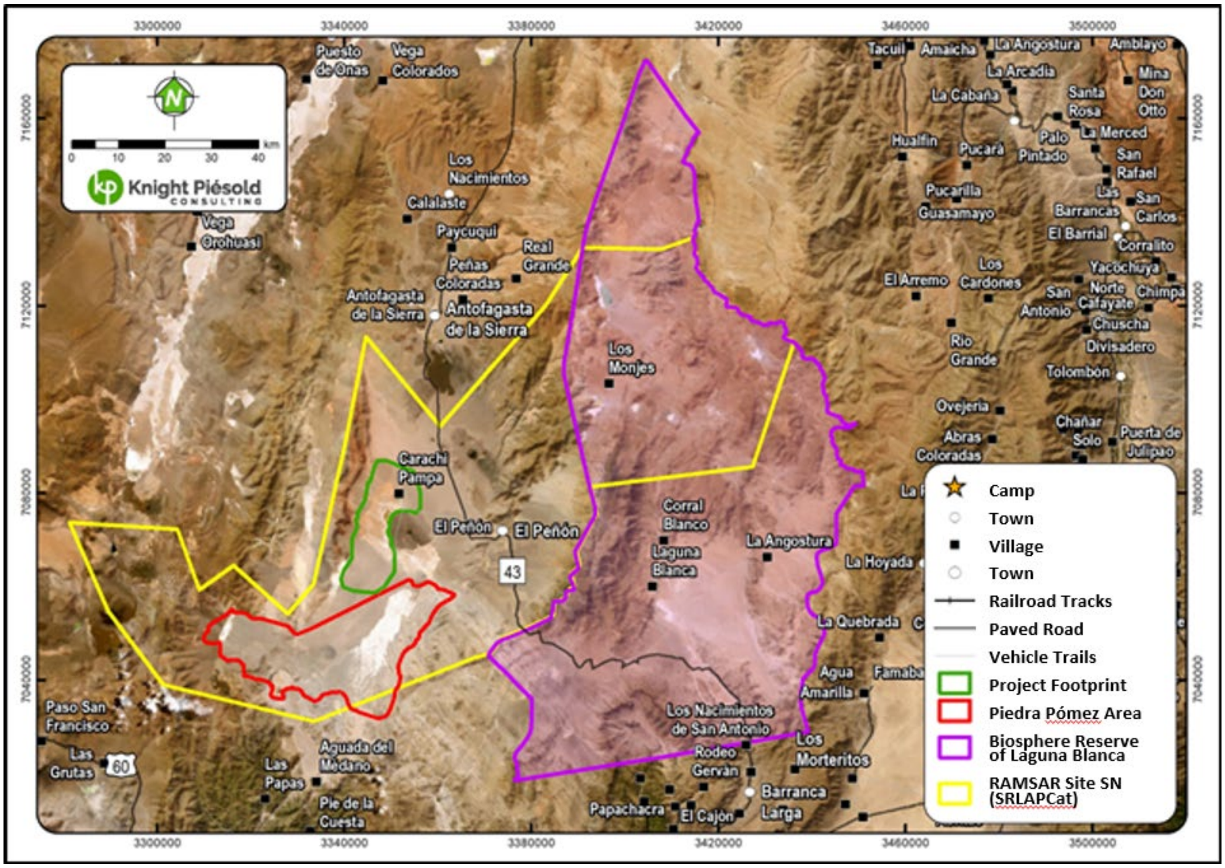
[47] See LKE ASX Announcement dated 9 October 2019.

Figure 15-1: Natural Areas within The Kachi Project Zone of Influence



The Kachi Project Environmental Management System (EMS) is committed to implementing an environmental management system aimed at protection, mitigation, and control/compensation of the projects impacts on the environment. The EMS focuses on environmental care, protecting the Vegas, the lagoon, and aquifers, as well as waste management, minimizing environmental liabilities, and planning the necessary monitoring to verify the effectiveness of the plan.

The process involves treatment and injection of the brine, returning the majority of the extracted brine to its source without altering its chemical characteristics (apart from the extraction of lithium). This significantly reduces the surface footprint compared to traditional lithium production through brine evaporation ponds.

THE LAGOON

The Carachi Pampa lagoon, like many high Andean lagoons, stems from its geographical features, diverse range of extreme environments, and rich biodiversity. These environments resemble the most archaic conditions known on Earth, fostering the development of living Microbial Ecosystems Associated with Minerals. Flora, Fauna, and Aquatic Life.

There is little or no vegetation in the Project area, which is mostly found in the floodplain of the Carachi Pampa lagoon and adjacent areas. Near the Project area the endemic species Nitrophila australis var. australis (salt grass) is present and classified as Category 5 according to the red list of Endemic Plants of Argentina.

The inventory of terrestrial vertebrate species observed in the Kachi Project study area includes 73 species (79% of them being birds) with seven of those bird species were recorded that are in threatened categories at national level.

A collaboration agreement is being developed between the Provincial Directorate of Protected Areas and the Kachi Project to support monitoring initiatives, conservation of sensitive areas, promotion of tourism, and environmental supervision of protected areas.

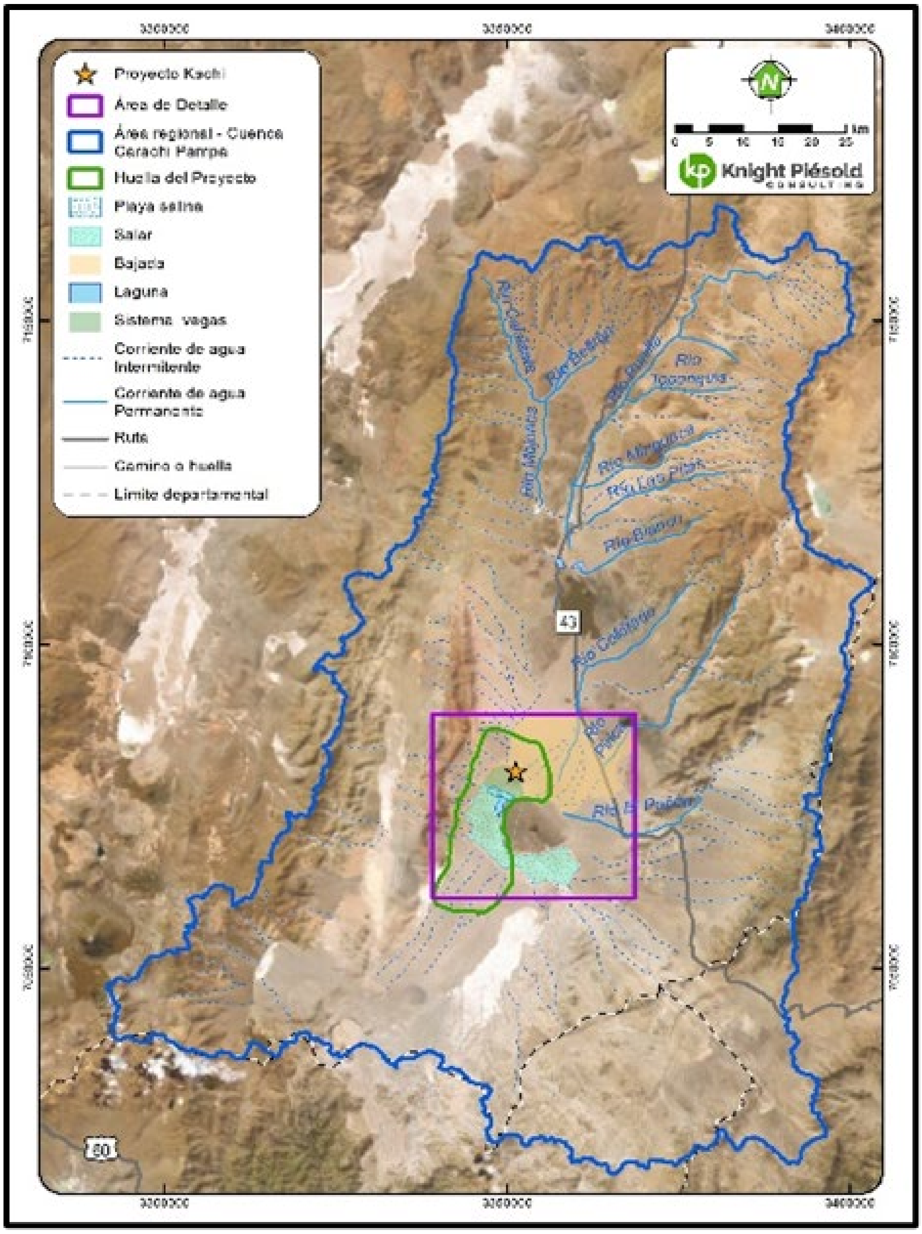
SURFACE AND GROUNDWATER

The Kachi Project is located in the Carachi Pampa - Incahuasi hydrographic closed basin (9,494 km^2). The Vega system and the Carachi Pampa lagoon form a topographically depressed area where groundwater and subsurface water flows converge (Figure 15-2). There are three main riverbeds in the area, and one truncated by the volcano (El Peñón, Pirica, Colorado and the old bed of the Punilla River). Finally, numerous rivers descend from the western mountainous sector, generating the alluvial fans of the western foothills, and conduct their flows in the summer season towards the Carachi Pampa saline beach.

In the Kachi Project's area of direct influence, there are freshwater aquifers (Bajada and Wetland areas) a few metres deep and of variable thickness; brackish aquifers and brine aquifers. In addition to these aquifers, the aquifers developed in the alluvial fans and piedmont areas are of hydrogeological importance for the project since they contain important reserves of freshwater.

The injection of the spent brine also aims to minimize subsidence and limit the effect of extraction on the fresh and brackish reservoirs perched above the Brine.

Figure 15-2: Boundary of Carachi Pampa Incahuasi Basin



ARCHEOLOGICALLY SENSITIVE SITES

Several archaeological sites were found during baseline study activities. These have been identified on maps and will be preserved throughout the Project.

A monitoring plan is in place for the highly sensitive archaeological sites found in the Project's area of influence. Training and implementation of a "Procedural Guide to be followed in the detection of archaeological finds" will be followed if an unmarked archaeological site is encountered at any point during the project.

15.2 Social and Community

In the communities belonging to the Paraje Carachi Pampa, agglomerates of El Peñón and the capital of Antofagasta de la Sierra, there were no indigenous communities with legal status in the study area, and none of those consulted recognized themselves as such. In the Project area, there were no lands belonging to or claimed by indigenous peoples. However, in December 2022, at a meeting between residents of the Carachi Pampa area, accompanied by a national deputy, a few community members proclaimed themselves the "Diaguita Indigenous Community of Carachi Pampa" and claimed to be the ancestral owners of the place where their ancestors settled. On that occasion, the cacique and vice-cacique of the community, composed of seven cattle ranchers, was appointed. At the same time, it is highlighted that, previously, MVM developed a community map, delimiting the lands of surface owners and the livestock use of the territory by social stakeholders.

COMMUNITY LAND USE

In the area there are subsistence activities, such as extensive cattle raising and small-scale salt extraction, tourism activities and off-road circuits. In relation to the current use of the land, sheep and llama farming is registered as the most relevant activity. In addition, salt extraction is carried out on the eastern margin of the Carachi Pampa lagoon for local consumption (artisanal mining). Near the Project's access road, there is extraction and commercialization of diatomaceous earth. Currently, the plains of Carachi Pampa are experiencing a level of overgrazing. In summary, soils show recent development and exhibit high vulnerability, which makes them highly susceptible to degradation caused by erosive agents in the environment.

COMMUNITY WATER USE

In the Carachi Pampa area, freshwater is primarily used for domestic consumption and the provision of water for livestock. Livestock water supply is obtained from shallow excavated and lined pits known as “water holes”. These pits are deepened or de-sanded by local residents to ensure an adequate water source for the animals.

TOURISM

In the area of influence, there is circulation by tour operators and enthusiasts of off-road activities (motocross, quads, others), outside the demarcated trails. Such activities may lead to damage to archaeological sites.

COMMUNITY AND SOCIAL MANAGEMENT

The Kachi Project strives to establish strong and sustainable relationships with communities and stakeholders in the project's area of influence, recognizing that the long-term success of the project is linked to improving the overall well-being of the communities and the region. The Kachi Project is implementing a Community Relations Plan ("CRP") which aims to strengthen relations between the community, the company, and the state, and constitutes the foundation of a sociocultural contact agenda for proactive relations at all stages of the Project.

The Project has carried out a variety of actions ranging from capacity building and training programs to community information meetings and working groups. These initiatives reflect its commitment to sustainable development, open dialogue, and constructive collaboration with local communities.

The Kachi Project seeks to foster a transparent and timely dialogue with stakeholders, especially in relation to local communities and authorities. Currently, participatory environmental monitoring is carried out that allows the community to collaborate in taking water and air samples together with specialists. In addition, regular briefings are held to share the status of the project and address questions or concerns.

The Kachi Project's policies have a strong emphasis on encouraging citizen participation through an open-door policy for consultation and information, and also provides an anonymous platform for providing feedback.

Training actions aimed at employability and economic autonomy are planned; as well as the contribution to innovation and local infrastructure, waste management and sanitation. Within this framework, one of the lines of work initiated is to improve the irrigation water management system in the town of El Peñón.

16 Risks (Threats and Opportunities)

A project Risk Register has been created and multi-discipline risk workshop was performed to assess the impact of potential uncertainties to the deliver the Kachi Project Phase 1 within an estimated budget and forecasted schedule.

The primary outcomes of the workshop were to update the project Risk Register and Risk Profile by validating previously identified risks, update mitigations and adding new risks were deemed necessary. No risks were ranked and identified as extreme during the workshop.

Figure 16-1 and Figure 16-2 provide a summary of the project risk profile at the end of the workshop.

Figure 16-1: Kachi DFS Project Risk Profile (Threats)

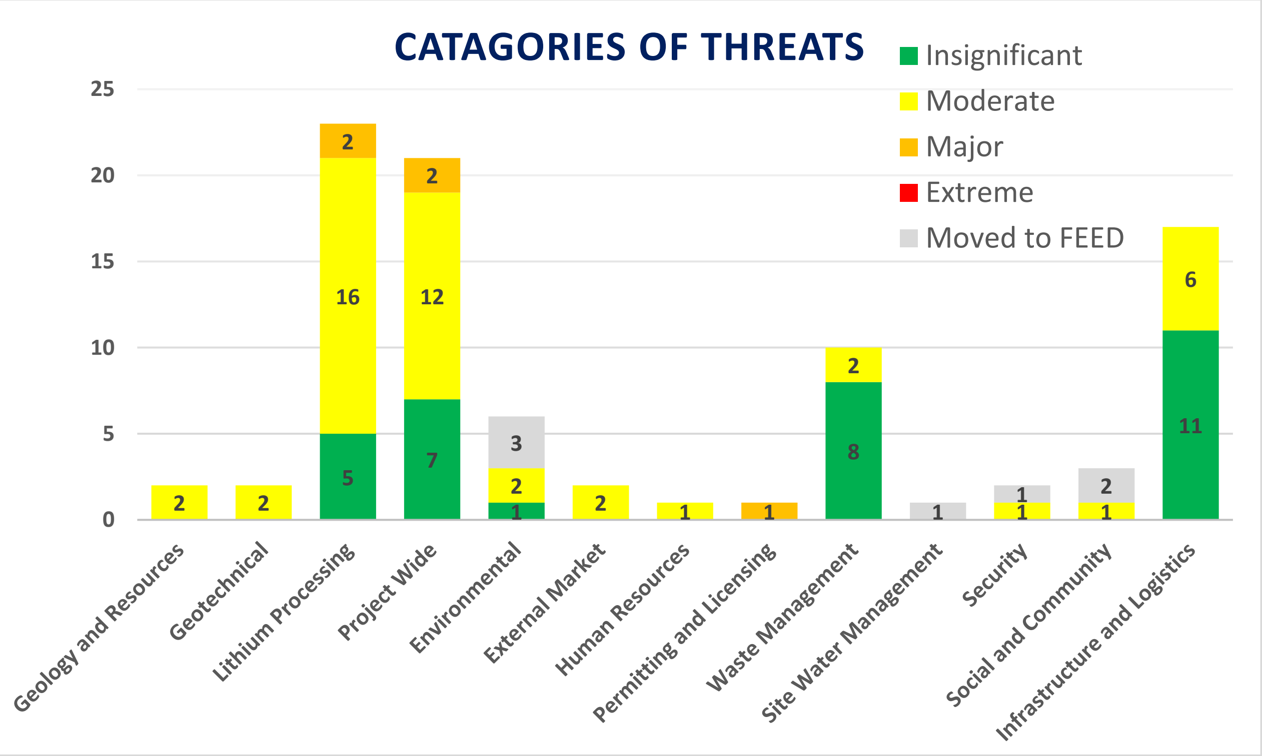
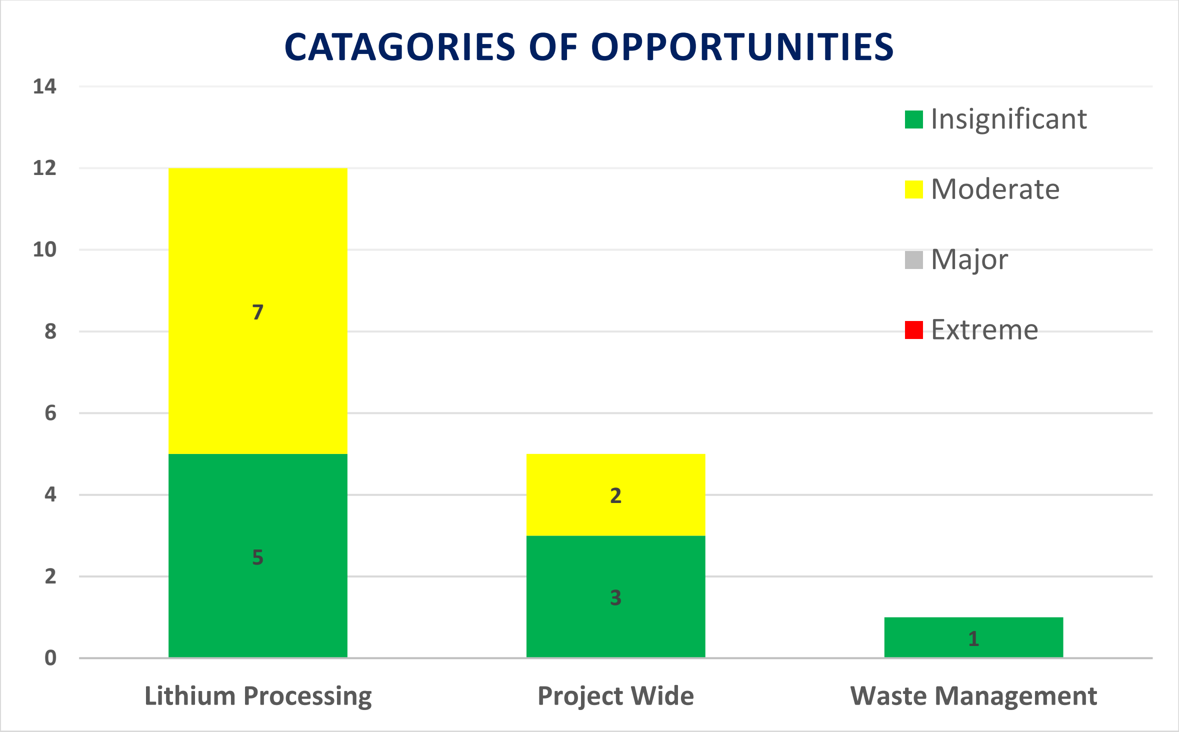


Figure 16-2: Kachi DFS Project Risk Profile (Opportunities)



Priorities for risk treatments were established as shown in Figure 16 3.

Figure 16-3: Risk Treatment Guidelines

Risk Level	Risk Level Definition
Extreme	Risk renders the project, as it is currently characterised, unlikely to succeed. A full strategic revision of the project plan is recommended.
Major	Risk represents a material threat to the project. It is recommended that the project not proceed until additional mitigation has been assured.
Moderate	Risk represents a threat to the project. Effective additional mitigation measures are recommended.
Insignificant	Risk is considered well-managed. Monitoring of the assumptions is recommended.

The top 10 Threats and Opportunities are presented in Appendix B with the full Risk Register residing within Section 16 of the DFS. Active mitigation and re-evaluation is ongoing to ensure that all risks are addressed and managed appropriately.

16.1 Current Opportunities

Several optimisation opportunities were incorporated into the project execution plan, Capex, and Opex calculations. Two of the most significant opportunities identified and implemented into the DFS are listed below.

FEED BRINE CONCENTRATION

The Project material balance and respective Capex and Opex cost calculations set a brine feed lithium concentration of 205 mg/L. Subsequent drilling and hydrogeology modelling shows that the Kachi Project feed brine lithium concentration initially >250 mg/L and >230 mg/L for the LoM as discussed in Section 4 of this report.

The Opex calculations take partial credit of the higher lithium grade concentration and the resulting spare wells required for the plant. Two of the extraction wells and two of the injection wells are not required and can be delayed or removed. The power consumption of the two backup extraction wells is removed.

PROCES WATER EVAPORATION

The Kachi Project is designed for minimal freshwater consumption. The Project includes a ZLD evaporation system that supports low project water consumption.

The start-up and commissioning phase of the Project will be intermittent as the process comes on-line and commercial production rates are attained. The mine plan calls for the ZLD evaporator installation to take place after the commercial production level is reached, approximately two years after initial start-up.

The operating costs for the ZLD have been calculated into the project Opex accordingly. The Water Model generated for the project has been completed showing no impact considering the short-term water demands until the ZLD system is on-line and operational. The ZLD system may be delayed beyond the two years pending the outcome of additional water model results, deferring upfront Capex.

16.2 Future Opportunities

Potential opportunities to further optimize the Kachi Project were identified but were not mature enough to incorporate into the DFS. Areas of potential additional optimizations to explore during the FEED and detailed engineering design phases are discussed below.

WELLFIELD OPTIMIZATION

Significant opportunities also exist to further optimize the wellfield layouts for both the extraction and injection. The 25K FEED Hydrogeology Study includes production scale extraction and injection well testing, large scale pumping and injection tests, and tracer tests. Additional data has been collected since the since the finalization of DFS model. The model would be updated with the new data and additional calibration performed. Advanced modelling methods can be used to develop a more comprehensive understanding of how the heterogeneity within the various hydrostratigraphic units (e.g., Unit A, B, C, fans) may impact lithium recovery rates, dilution and injection rates. The optimization would consider elements such as:

- Maximizing lithium mass through time;
- Further minimizing any potential impacts to ecological receptors such as the laguna, springs or vegas;
- Minimization of resource dilution from injection or otherwise; and,
- Minimization of Capex costs.

Such analyses would be used to inform the decision-making process regarding whether adjustments to the wellfield layouts or operational strategies are required.

MATERIALS – BRINE GATHERING NETWORK

The gathering network material optimization is currently being pursued but was not mature enough to incorporate into the DFS at the time of publication. This is expected to be optimized to maximize performance and life of the piping materials as well as minimize the Capex and Opex impacts to the Project.

POWER OPPORTUNITIES

The Kachi Project explored a stand-alone solar plus Battery Energy Storage System (BESS). Technical feedback is this system is not mature enough for deployment at this time. This is an area of rapid technology maturation and will be monitored to assess options that may benefit the execution plan. The evaluation of Thermal Energy Storage (TES) for load balancing with the grid, particularly for the significant power usage in steam generation (~8MW), is under consideration, though currently not pursued due to predicted low margins between on-site generation costs and commercially available options.

17 Permitting Plan

The Kachi Project is up to date with its permits for the exploration phase. A socio-environmental management plan and compliance with permits have been established for the project's development. It includes a list of requirements set by the Mining-Environmental-Hydrological and Heritage Authority (primary) and their prerequisites. Work has commenced on drafting the EIA for the production / exploitation stage (construction, operation, and closure of a lithium mine), with most of the baseline studies, project definition, identification, quantification, and management plan completed from July 2022 to December 2023. It is expected the EIA will be submitted to the Authority by the end of Q1 2024. This process has adhered to Equator Principles, International Finance Corporation (IFC), and Community Participation processes by maintaining open dialogue and engaging in early and frequent consultation.

MVM has submitted files and obtained permits from the enforcement authorities to carry out different surveying, construction, drilling and operation activities related to the exploration stage. The Kachi Project currently has a valid exploration environmental impact assessment approved in 2017, and updated in accordance with the established legislation, with the latest renewal in November 2022 and valid until November 2024. Additionally, the Project holds other sectoral permits including for chemical precursors, fuel tanks, freshwater use, hazardous waste, black water permit and local industrial permit.

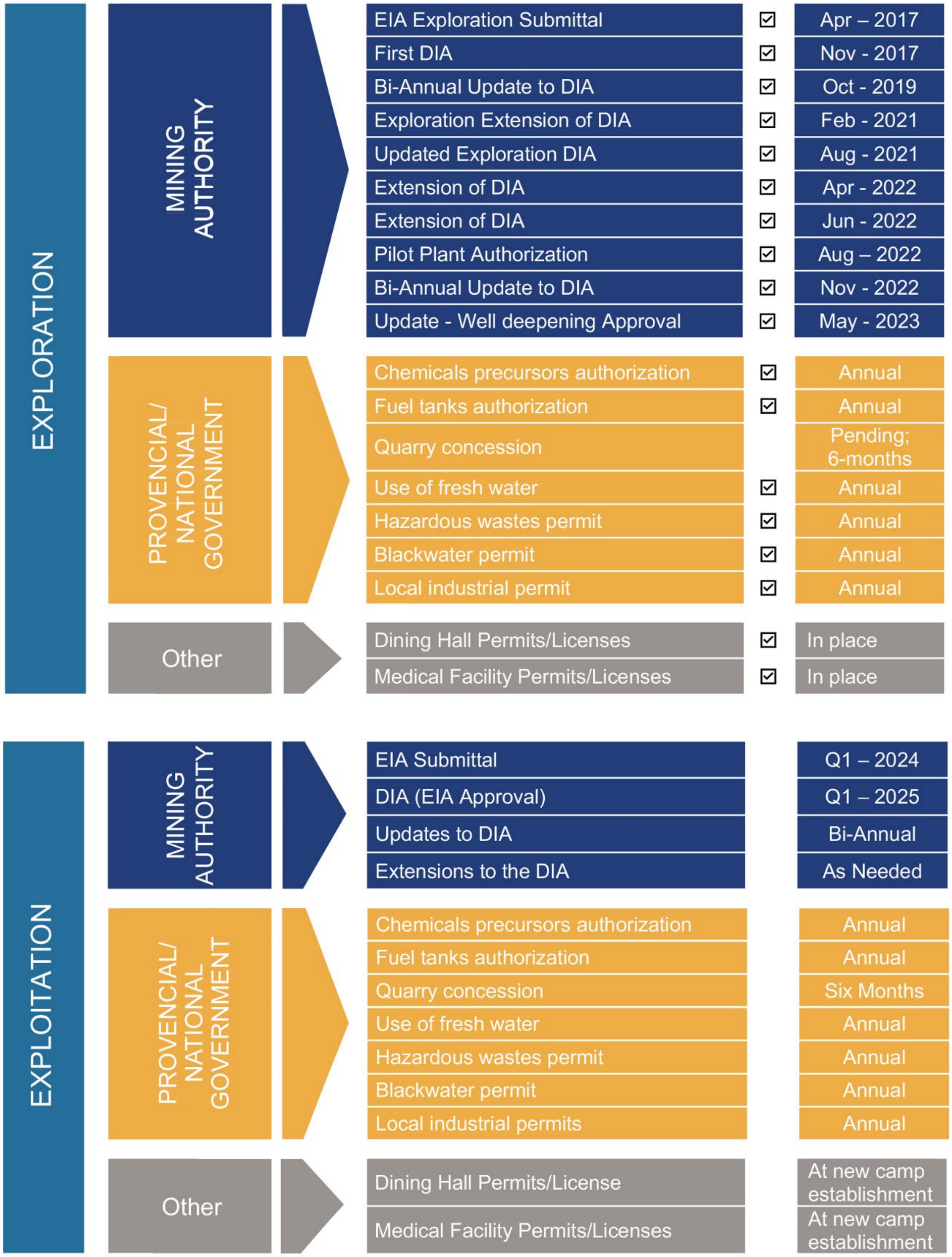
A permitting plan has been developed for the production / exploitation stage of the Project, with emphasis initially on the EIA which must be subject to public comment and evaluated by the provincial mining authority leading to an Environmental Impact Declaration (EID) resolution. Approval of this permit will enable the evaluation of the sectoral permits required for the construction and operation of the enterprise.

The ongoing governance of the Kachi Project will address government relations, community relations and internal controls for compliance with obligations and commitments in the social, environmental and assessment. It will also address community sustainability initiatives to promote long-term benefits of the Kachi Project.

In addition to is the requirements established in the Mining Code, there are other national and provincial laws or regulations that apply. These laws specify the types of permits required in addition to the EIA.

Figure 17-1 lists the primary permits that must in hand and their renewal frequency in the exploration and exploitation phases but is not an exhaustive list of permitting requirements. In addition to these primary permits, we also need to have other licenses in place, such as the dining hall, the medical facilities, and the camp, these will be tracked, monitored, and administered as outlined in the permitting plan.

Figure 17-1: The Kachi Project Permitting Plan



EXPLORATION	MINING AUTHORITY	EIA Exploration Submittal	☑	Apr – 2017
		First DIA	☑	Nov - 2017
		Bi-Annual Update to DIA	☑	Oct - 2019
		Exploration Extension of DIA	☑	Feb - 2021
		Updated Exploration DIA	☑	Aug - 2021
		Extension of DIA	☑	Apr - 2022
		Extension of DIA	☑	Jun - 2022
		Pilot Plant Authorization	☑	Aug – 2022
		Bi-Annual Update to DIA	☑	Nov - 2022
		Update - Well deepening Approval	☑	May - 2023
	PROVENCIAL/ NATIONAL GOVERNMENT	Chemicals precursors authorization	☑	Annual
		Fuel tanks authorization	☑	Annual
		Quarry concession		Pending; 6-months
		Use of fresh water	☑	Annual
		Hazardous wastes permit	☑	Annual
		Blackwater permit	☑	Annual
		Local industrial permit	☑	Annual
	Other	Dining Hall Permits/Licenses	☑	In place
		Medical Facility Permits/Licenses	☑	In place
EXPLOITATION	MINING AUTHORITY	EIA Submittal		Q1 – 2024
		DIA (EIA Approval)		Q1 – 2025
		Updates to DIA		Bi-Annual
		Extensions to the DIA		As Needed
	PROVENCIAL/ NATIONAL GOVERNMENT	Chemicals precursors authorization		Annual
		Fuel tanks authorization		Annual
		Quarry concession		Six Months
		Use of fresh water		Annual
		Hazardous wastes permit		Annual
		Blackwater permit		Annual
		Local industrial permits		Annual
	Other	Dining Hall Permits/License		At new camp establishment
		Medical Facility Permits/Licenses		At new camp establishment

Appendix A: WACC Rate – Peer Comparison

Table A - 1: WACC Rate - Peer Comparison

Project	Date	Discount Rate	Deposit Type	Country	Source
Cypress	2020	8%	Clay	USA	https://cypressdevelopmentcorp.com/projecs/nevada/claayton-valley-lithium-project-nevada/
Rock Tech	2022	8%	Conversion	Germany	https://www.prnewswire.com.news-releases/rock-tech-lithium-completes-bankable-project-study-for-itsguben-converter-30166825.html
Savannah	2019	8%	Open Pit	Portugal	https://www.savannahresources.com/project/barroso-lithium-project-portugal/
Standard Lithium	2023	8%	DLE	USA	Standard Lithium Reports 2023 Full Year and Fourth Quarter Results :: Standard Lithium Ltd. (SLI)
Lithium South	2019	8%	Brine Evaporation	Argentina	Positive Results from HMN Lithium Project PEA | Lithium South (TSX-V: LIS | OTCQB: LISMF)
Keliber	2022	8%	Open Pit	Finland	https://www.sibanyesttillwater.com/business/europe/keliber-lithium-project/
Bearing Lithium	2020	8%	Brine Evaporation	Chile	https://www.bearinglithium.com/maricugnga-lithium/
Neo Lithium	2021	8%	Brine Evaporation	Argentina	https://www.neolithium.ca/project.php
Lithium Americas	2018	8%	Clay	USA	https://www.lithiumamericas.com/usa/thacker-pass/
Alkem	2022	10%	Brine Evaporation	Argentina	https://www.kitco.com/news/2022-10-07/Lithium-producer-alkem-IFC-agree-on-200M-project-financing-for-Sal-de-Vida.html
Alkem	2021	8%	Open Pit	Canada	James Bay | Allkem
Atlantic Lithium	2022	8%	Open Pit	Ghana	Atlantic Lithium completes PFS on Ewoyaa lithium project in Ghana (nsenergybusiness.com)
E3 Lithium	2021	8%	DLE	Canada	https://www.e3lithium.ca/_resources/presenttions/corporate-presentation.pdf?v+0.567
Piedmont	2021	8%	Open Pit	USA	https://www.piedmontlithium.com//piedmont-completes-bankable-feasibility-study-of-the-carolina-lithium-project-wigh-positive-results/
Lithium Power	2022	10%	Brine Evaporation	Chile	Lithium Power International — Riding the lithium wave - Edison Group
Millennial	2019	8%	Brine Evaporation	Argentina	https://www.millenniallithium.com/projects/pastos-grandes-project/
Vulcan	2023	8%	Brine (DLS)	Europe	Vulcan Zero Carbon Lithium™ Project Phase One DFS results and Resources-Reserves update – VULCAN ENERGY RESOURCES (v-er.eu)

Appendix B: Key Threats and Opportunities

Table B - 1: Top 10 Threats to The Kachi Project

Top 10	Risk Category	Risk ID	Risk Ranking	Risk Name	Risk Mitigation
1	Project Wide	**PWD19-D**	18	Project Financing	Initiate early interactions with financial and investor communities, advocate for DLE (Direct Lithium Extraction) technology, and highlight the advantages of the Kachi Project in comparison to alternative technologies.
2	Project Wide	**PWD13-D**	18	Inadequate Emergency Service	Periodic review of Emergency Response, external audits, training and induction for newcomers. Evacuation procedures in place, ambulance readiness with back up when out of commission. Secure collaboration with neighbouring sites to access planes and airstrips. Implemented a daily monitoring system for operators with high-risk medical conditions, with provisions for possible evacuations in case of emergencies. Conduct a thorough investigation into the adoption of gas detection to bolster safety measures, implementation of more conservative personal protective equipment (PPE).
3	Permitting & Licensing	**PLC01-D**	15	Permitting Failure impacting the Bank Loan	Secure the expertise of an experienced Project Director, coupled with the selection of a reputable consultancy to oversee the Environmental Impact Report (EIR) and permitting processes, ensuring alignment with Equator Principle standards. Fostering continuous and open communication with the community and relevant authorities, engaging regulators as needed.
4	Lithium Processing	**PRO07-D**	15	Chlor-Alkali chlorine release	Chlorine gas storage is absent from the facility as well as hydrogen, and strategic measures have been taken to enhance safety. The Chlor-Alkali plant's location is optimized to ensure that it occurs downwind of all other process operations. Additionally, the Chlor-Alkali process, is being designed by contractors with a substantial history in the technology. Mitigating these risks also involves proactive maintenance, regular inspections, and adherence to stringent safety protocols.
5	External Market	**EXM02-D**	4	Drop in lithium demand prices	Include a price floor in off-take contracts and explore insurance options to mitigate financial risks from market fluctuations to help establishing a safeguard and to enhance the risk management.
6	Project Wide	**PWD07-D**	13	Capital costs exceed planned	To mitigate risks, adopt a proactive approach with an experienced Project Director, establish a comprehensive implementation process, and upgrade the procurement team. Include life-of-mine planning and a robust Management of Change process. Carefully evaluate criteria for selecting Engineering, Procurement, and Construction Management services, considering lump sum Engineering, Procurement for the Chlor-Alkali plant. Exploring the option of situating the Chlor-Alkali plant nearby provides an alternative strategy for project resilience.

Top 10	Risk Category	Risk ID		Risk Ranking	Risk Name	Risk Mitigation
7	Project Wide	**PWD08-D**	🟨	13	Raw material & contractor costs (Opex) escalate beyond current estimates.	Mitigate challenges by adding an experienced Project Director, including contingency based on corporate guidance, conducting risk analysis, monitoring costs through internal reviews, have open communication with contractors and implement quality control measures. Additionally explore to situate the Chlor-Alkali plant across the fence.
8	Lithium Processing	**PRO14-D**	🟨	13	Cooling tower (dry cooling tower/closed loop) performance issues	As a mitigation strategy during the FEED and Detailed Design phases, incorporating multiple cooling water branches into the network is recommended. This proactive measure helps enhance system resilience, particularly when dealing with raffinate or depleted brine, offering an effective mitigation approach to optimize overall efficiency and functionality in the design.
9	Human Resources	**HRE01-D**	🟨	12	Inadequate Workforce	Cultivate a supportive company culture through strategic initiatives, regular reviews of remuneration and benefits, and a focus on job security. Prioritize training programs for all levels, including mentoring for junior staff and career track support for senior personnel. Mitigate silos among senior managers through transparent communication and interdisciplinary meetings. Implement a robust human resources (HR) plan during project implementation, with quarterly performance reviews and Corporate Social Responsibility engagements. Allocate funds for recruitment, training, and development, including labour market assessments in the Front-End Engineering Design phase. Understand union dynamics for positive labour relations and a harmonious work environment.
10	Lithium Processing	**PRO10-D**	🟨	12	Changing brine chemistry	Feed brine quality is very conservative at 200 mg/L. Scheduled periodic chemistry testing is conducted to anticipate equipment performance and predict the impact on the system. Further optimization is achieved by blending the brine to ensure consistent and stable operational conditions.

Table B - 2: Top 10 Opportunities for The Kachi Project

TOP 10	Risk Category	Risk ID	Risk Ranking	Risk Name	Opportunities Enhancement
1	Lithium Processing	**PRO04-D**	11	Removal of waste evaporation feed pond	The waste evaporation feed pond serves as a basic holding basin, and there is potential for its replacement with a more cost-effective tank. This consideration arises from a strategic evaluation of the pond's function and the possibility of achieving comparable operational efficiency with a lower-cost alternative. Such a transition could present an opportunity for cost savings without compromising the essential role of the facility in waste management.
2	Lithium Processing	**PRO06-D**	11	Combination of waste water with depleted brine	The chemical composition of the wastewater feeding the waste evaporator is quite similar to that of the depleted brine. If permitted by environmental regulations, there is a possibility to divert the waste, thereby decreasing the demand on the waste evaporator. This practical consideration stems from the observed similarity in the chemical makeup of the two substances and aligns with environmental compliance requirements. The decision to divert waste will be evaluated in accordance with applicable permits to ensure proper waste management practices and adherence to regulatory standards.
3	Lithium Processing	**PRO10-D**	11	General reduction of pond sizing	A smaller lithium pond could result in significant cost savings, both in construction and maintenance, contributing to overall project efficiency. Additionally, a reduced pond size aligns with sustainability goals by minimizing environmental impact. However, assessment is required to ensure that the modified pond size meets operational requirements and complies with regulatory standards.
4	Lithium Processing	**PRO12-D**	11	Savings related to revised well field layout	The updated design places extraction wells in the northern fields and most brine injection wells in the southern fields, minimizing impacts on the nearby lagoon and reducing subsidence in the production area. No southern injection is needed in the production plan, with wells closer together in the northern fields. The new Brine Gathering Network design follows the same criteria, positioning wells closer to the processing facility for improved piping efficiencies. This results in reduced pipeline length, smaller diameters, and lower material and installation costs.

TOP 10	Risk Category	Risk ID		Risk Ranking	Risk Name	Opportunities Enhancement
5	Project Wide	**PWD05-D**	🟨	11	Gland water consumption	Mechanical seals offer practical advantages in industrial applications by preventing fluid leaks in rotating equipment, improving efficiency, and extending equipment lifespan. Their versatility allows use in diverse conditions, including corrosive environments. By minimizing friction and preventing leaks, mechanical seals contribute to reduced maintenance and downtime, resulting in cost savings. Additionally, their use aligns with environmental regulations, enhancing safety by minimizing the risk of hazardous material leaks and supporting compliance with standards.
6	Lithium Processing	**PRO03-D**	🟨	8	Conversion to LHM (Lithium Hydroxide Monohydrate)	Some battery manufacturers opt for LHM over Li2CO3. The plant has the potential for expansion to incorporate LHM production capabilities
7	Lithium Processing	**PRO01-D**	🟨	7	Replacing Brine UF	Lilac direct lithium extraction has specified upstream ultrafiltration to remove the suspended solids concentration in the brine. However, due to recent advancements in Lilac's ion exchange configuration, the tolerance for suspended solids (TSS) has been increased. Lilac has completed testing and verified that the UF system can be replaced by a precoat filter press system to obtain the acceptable TSS level. As part of cost reduction initiative, the removal of brine pre-treatment UF has been selected and a high-level cost analysis completed. Based on the results of this cost study, pre-coat filter press system will have a lower total capex as compared to UF system.
8	Project Wide	**PWD02-D**	🟨	7	Electrical onsite mobile equipment - Equipment selection	Transitioning all on-site mobile equipment, including forklifts and vehicles, to electric power offers the dual benefit of reducing the demand for diesel or LPG, resulting in potential cost savings. This shift aligns with sustainable practices, contributing to a more environmentally friendly operation. Beyond the economic advantages, adopting electric-powered equipment enhances the project's social perception, showcasing a commitment to cleaner energy solutions and reduced emissions. This initiative not only supports a greener and more responsible image but also aligns with broader societal expectations for businesses to minimize their environmental

TOP 10	Risk Category	Risk ID	Risk Ranking	Risk Name	Opportunities Enhancement
			🟨		impact. The combination of cost savings and positive public perception makes the adoption of electric-powered mobile equipment a strategic and environmentally conscious choice for the project.
9	Geology & Resources	**NEW-1**	▨	Extraction Well Depths	The revised resource estimate now incorporates the volume of sediments between 400 m and 600 m beneath the Measured Resource, upgrading it to an Indicated Resource. Since the resource assessment was finalized after devising the wellfield development plan, there is a notable opportunity to reduce the number of wells and associated infrastructure needed to achieve the 25,000 tpa production target. The prospect of deeper wells opens the possibility of higher flow rates and potential access to elevated lithium concentrations. As part of the FEED 25 ktpa Hydrogeology Study, a pilot production well drilling, completion, and testing are planned at a depth of 600 m.
10	Geology & Resources	**NEW-2**	▨	Rapid Infiltration Basis (RIBs)	Pros of utilizing Rapid Infiltration Basins (RIBs) include lower costs compared to injection wells and easier operation and maintenance. However, potential drawbacks involve limited RIB locations due to the risk of impacting shallow aquifers and nearby freshwater sources, a delayed recharge time for deeper aquifers, increased subsidence risks, and challenges related to wildlife impact if RIBs are not adequately secured or covered. Additionally, uncertainties arise regarding maintenance and clogging, given the surface placement of RIBs and the possibility of halite precipitation in the vadose zone.

Appendix C: Tenements

Table C - 1: Tenement Status

No	Tenement Name	Number – GDE	Area – Ha	Status	Interest
1	MARIA I	EX - 2021 - 00362285	1260	Granted	100%
2	MARIA II	EX - 2021 - 00373528	547	Granted	100%
3	MARIA III	EX - 2021 - 00293511	835	Granted	100%
4	KACHI INCA	EX - 2021 - 00361579	858	Granted	100%
5	KACHI INCA I	EX - 2021 - 00432837	2880	Granted	100%
6	KACHI INCA II	EX - 2021 - 00221521	2823	Granted	100%
7	KACHI INCA III	EX - 2021 - 00321200	3355	Granted	100%
8	KACHI INCA V	EX - 2021 - 00208240	305	Granted	100%
9	KACHI INCA VI	EX - 2021 - 00294250	110	Granted	100%
10	DANIEL ARMANDO	EX - 2021 - 00208733	3122	Granted	100%
11	DANIEL ARMANDO II	EX - 2021 - 00331263	1590	Granted	100%
12	MORENA 1	EX - 2021 - 00328638	3024	Granted	100%
13	MORENA 2	EX - 2021 - 00390312	2989	Granted	100%
14	MORENA 3	EX - 2021 - 00361695	3007	Granted	100%
15	MORENA 4	EX - 2021 - 00293790	2968	Granted	100%
16	MORENA 5	EX - 2021 - 00221381	1416	Granted	100%
17	MORENA 6	EX - 2021 - 00208283	1606	Granted	100%
18	MORENA 7	EX - 2021 - 00259078	2805	Granted	100%
19	MORENA 8	EX - 2021 - 00294310	2961	Granted	100%
20	MORENA 9	EX - 2021 - 00368898	2822	Granted	100%
21	MORENA 12	EX - 2021 - 00259022	2704	Granted	100%
22	MORENA 13	EX - 2021 - 00258895	3024	Granted	100%
23	MORENA 15	EX - 2021 - 00360876	2559	Granted	100%
24	PAMPA I	EX - 2021 - 00233741	690	Granted	100%
25	PAMPA II	EX - 2021 - 00430058	1053	Granted	100%
26	PAMPA III	EX - 2021 - 00429001	477	Granted	100%
27	PAMPA 11	EX - 2021 - 00372498	815	Granted	100%

No	Tenement Name	Number – GDE	Area – Ha	Status	Interest
28	PAMPA IV	EX - 2021 - 00322433	2569	Granted	100%
29	IRENE	EX - 2021 - 00212993	2052	Granted	100%
30	PARAPETO 1	EX - 2021 - 011648141	2281	Granted	100%
31	PARAPETO 2	EX - 2021 - 00235750	1730	Granted	100%
32	PARAPETO 3	EX - 2021 - 00261195	1892	Granted	100%
33	GOLD SAND I	EX - 2021 - 00376209	854	Granted	100%
34	TORNADO VII	EX - 2021 - 00208328	6629	Granted	100%
35	DEBBIE I	EX - 2021 - 00196977	1743	Granted	100%
36	DOÑA CARMEN	EX - 2021 - 00321876	873	Granted	100%
37	DIVINA VICTORIA I	EX - 2021 - 00368383	2420	Granted	100%
38	DOÑA AMPARO I	EX - 2021 - 00294138	2695	Granted	100%
39	ESCONDIDITA	EX - 2021 - 00143141	373	Granted	100%
40	GALAN OESTE	EX - 2021 - 00153718	3167	Granted	100%
41	MARIA LUZ	EX - 2021 - 00153678	2425	Granted	100%
42	NINA	EX - 2021 - 00360751	3125	Granted	100%
43	PADRE JOSE MARIA I	EX - 2021 - 00432843	650	Granted	100%
44	PADRE JOSE MARIA II	EX - 2021 - 00432950	1523	Granted	100%
45	PADRE JOSE MARIA III	EX - 2021 - 00433095	1523	Granted	100%
46	PADRE JOSE MARIA IV	EX - 2021 - 00433149	1529	Granted	100%
47	PADRE JOSE MARIA V	EX - 2021 - 00647090	1584	Granted	100%
48	PADRE JOSE MARIA VI	EX - 2021 - 00647273	1507	Granted	100%
49	PADRE JOSE MARIA VII	EX - 2021 - 00647377	1500	Granted	100%
50	PADRE JOSE MARIA VIII	EX - 2021 - 00647631	515	Granted	100%
51	PARAPETO III	EX - 2022 - 00854749	1949	Granted	100%
52	PARAPETO 4	EX - 2021 - 01651926	1949	Granted	100%
53	MORENA 10	EX - 2022 - 00508476	2713	Application	100%

Appendix D: The Kachi Project’s DFS Battery Grade Specification

Table D - 1: The Kachi Project's DFS Phase Battery Grade Lithium Carbonate Specification

Lithium Carbonate	Li2CO3	% min	99.5
Moisture	H20	% max	0.25
Sodium	Na	% max	0.035
Potassium	K	% max	0.025
Chlorine	Cl	% max	0.01
Sulfate	SO4	% max	0.08
Iron	Fe	% max	0.0010
Calcium	Ca	% max	0.01
Copper	Cu	% max	0.0005
Zinc	Zn	% max	0.0005
Chromium	Cr	% max	0.01
Magnesium	Mg	% max	0.008
Manganese	Mn	% max	0.0003
Lead	Pb	% max	0.001
Sillicon	Si	% max	0.003
Aluminum	Al	% max	0.0010
Nickel	Ni	% max	0.0010
Barium	Ba	% max	0.0075
Boron	B	% max	0.02
Magnetic Impurities	-	ppb	300

Appendix E: JORC Table 1 (Sections 1-4)

NOTE: All references to Figures and Tables in this JORC Table 1 (Sections 1-4) are references to the Figures and Tables in the ASX Announcement dated 19 December 2023 relating to the Maiden Ore Reserve at the Kachi Project and all material assumptions contained in that announcement continue to apply and have not materially changed.

Section 1

Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria		Section 1 – Sampling Techniques and Data
Sampling techniques	▪ Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. ▪ Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. ▪ Aspects of the determination of mineralisation that are Material to the Public Report. ▪ In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	▪ Brine samples were taken from multiple sampling methods from diamond core and rotary drilling methods including: ○ Bottom of hole spear point during HQ diamond core drilling advance ○ Straddle and single packer device to obtain representative samples of the formation fluid by purging a volume of fluid from the isolated interval, to minimize the possibility of contamination by drilling fluid then taking the sample. Low pressure airlift tests are used as well. The fluid used for drilling is brine sourced from the drill hole and the return from drillhole passes back into the excavator dug pit, which is lined with black plastic to avoid leakage. Single packer sampling is the current standard form of sampling. ○ Installed standpipes with discrete screening intervals. ○ Bailer sampling during advance, removing significant brine volumes to draw formation fluids into the base of the drill stem. ▪ Development of test wells and during pumping test of varying durations. ▪ The brine sample was collected in clean plastic bottles (1 litre) and filled to the top to minimize air space within the bottle. Duplicate samples were submitted at a high frequency, to allow statistical evaluation of laboratory results. These were collected at the same time as the primary samples for storage and submission of duplicates to the laboratory. Each bottle was taped and marked with the sample number. ▪ Drill core in the hole was recovered in 1.5 m length core runs in core lexan tubes to minimize sample disturbance. ▪ Drill core was undertaken to obtain representative samples of the sediments that host brine, being collected and stored in Lexan Tubes, in order to collect samples that are as little disturbed as possible.
Drilling techniques	▪ Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is	▪ Diamond drilling with an internal (triple) tube was used for drilling. The drilling produced cores with variable core recovery, associated with unconsolidated material, in particularly sandy intervals. Recovery of these more friable sediments is more difficult with diamond drilling, as this material can be washed from the core barrel during drilling. ▪ Rotary drilling has used 8.5" or 10" tricone bits and has

	oriented and if so, by what method, etc).	produced drill chips, which have been logged and holes geophysically logged. ▪ Brine has been used as drilling fluid for lubrication during drilling, for mixing of additives and muds.
Drill sample recovery	▪ Method of recording and assessing core and chip sample recoveries and results assessed. ▪ Measures taken to maximise sample recovery and ensure representative nature of the samples. ▪ Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	▪ Diamond drill core was recovered in 1.5 – 3m length intervals in the drilling triple (split) tubes. Appropriate additives were used for hole stability to maximize core recovery. The core recovered from each run was measured and compared to the length of each run to calculate the recovery. Chip samples are collected for each metre drilled and stored in segmented plastic boxes for rotary drill holes. ▪ Brine samples were collected at discrete depths during the drilling using a double packer over variable intervals dependent on calliper logs at interval between 1 - 6 m intervals (to isolate intervals of the sediments and obtain samples from airlifting brine from the sediment interval isolated between the packers) and single packer configurations typically with 10 m intervals open at the base of the hole. This equipment is from Geopro, a reputable international supplier. ▪ Additives and muds are used to maintain hole stability and minimize sample washing away from the triple tube. ▪ As the brine (mineralisation) samples are taken from inflows of the brine into the hole (and not from the drill core – which has variable recovery) they are largely independent of the quality (recovery) of the core samples. However, the permeability of the lithologies where samples are taken is related to the rate and potentially lithium grade of brine inflows.
Logging	▪ Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. ▪ Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. ▪ The total length and percentage of the relevant intersections logged.	▪ Sand, clay, silt, and minor occurrences of ignimbrite were recovered in a triple tube diamond core drill tube, or as chip samples from rotary drill holes, and examined for geologic logging by a geologist and a photo taken for reference. ▪ Diamond holes are logged by a geologist who also supervised taking of samples for laboratory porosity analysis (with samples drilled and collected in lexan polycarbonate tubes) as well as additional physical property testing. ▪ Logging is both qualitative and quantitative in nature. The relative proportions of different lithologies which have a direct bearing on the overall porosity, contained and potentially extractable brine are noted, as are more qualitative characteristics such as the sedimentary facies and their relationships. Cores are photographed for reference, prior to storage.
Sub-sampling techniques and sample preparation	▪ If core, whether cut or sawn and whether quarter, half or all core taken. ▪ If non-core, whether riffled, tube sampled, rotary split,	▪ Brine samples were collected by inflatable packer, bailer and spear sampling methods, over a variable interval. Low pressure airlift tests are used as well to purge test interval and gauge potential yields (brine flows). Samples have also been collected during development of piezometers

	etc and whether sampled wet or dry. - For all sample types, the nature, quality and appropriateness of the sample preparation technique. - Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. - Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. - Whether sample sizes are appropriate to the grain size of the material being sampled.	and test wells and during pumping tests of variable durations. - The brine sample was collected in one-litre sample bottles, rinsed and filled with brine. Each bottle was taped and marked with the sample number. Duplicates were taken and submitted with standards as part of the QA/QC protocols.
Quality of assay data and laboratory tests	- The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. - For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. - Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	- Analytical laboratory services are currently split between Alex Stewart International Argentina Jujuy, Argentina, and SGS laboratory in Buenos Aires has also been used for both primary and check samples. They also analysed blind control samples and duplicates in the analysis chain. The Alex Stewart laboratory and the SGS laboratory are ISO 9001 and ISO 14001 certified and are specialized in the chemical analysis of brines and inorganic salts, with experience in this field. This includes the oversight of the experienced Alex Stewart Argentina S.A. laboratory in Mendoza, Argentina, which has been operating for a considerable period. - The quality control and analytical procedures used at the Alex Stewart laboratory or SGS laboratory are considered to be of high quality and comparable to those employed by ISO certified laboratories specializing in analysis of brines and inorganic salts. - QA/QC samples include field duplicates, standards and blank samples.
Verification of sampling and assaying	- The verification of significant intersections by either independent or alternative company personnel. - The use of twinned holes. - Documentation of primary	- Field duplicates, standards and blanks will be used to monitor potential contamination of samples and the repeatability of analyses. Accuracy, the closeness of measurements to the “true” or accepted value, has been monitored by the insertion of standards, or reference samples, and by check analysis at an independent (or

	data, data entry procedures, data verification, data storage (physical and electronic) protocols. ▪ Discuss any adjustment to assay data.	umpire) laboratory. ▪ Duplicate samples in the analysis chain were submitted to Alex Stewart or SGS laboratories as unique samples (blind duplicates) during the process. ▪ Stable blank samples (distilled water) were used to evaluate potential sample contamination and will be inserted in future to measure any potential cross contamination. ▪ Samples were analysed for conductivity using a hand-held Hanna pH/EC multiprobe on site, to collect field parameters. ▪ Regular calibration of the field equipment using standards and buffers is being undertaken.
Location of data points	▪ Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. ▪ Specification of the grid system used. ▪ Quality and adequacy of topographic control.	▪ The diamond drill hole sample sites and rotary drill hole sites were located with a hand-held GPS and later located by a surveyor, with the majority of hole collars defined by the surveyor. ▪ The properties are located at the junction of the Argentine POSGAR grid system Zone 2 and Zone 3 (within UTM 19) and in WGS84 Zone 19 south. The Project is using Zone 2 as the reference zone, as the critical infrastructure is located on the edge of Zone 2.
Data spacing and distribution	▪ Data spacing for reporting of Exploration Results. ▪ Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. ▪ Whether sample compositing has been applied.	▪ Drill holes in the central area where Measured resources have been defined have a spacing of approximately 1.5 km between drill holes, with a greater spacing in the area where Inferred resources have been defined. ▪ Brine samples were generally collected over various intervals using straddle packers, single packers, spear points, and discrete screen intervals from installed piezometers with samples collected at variable intervals vertically, due to varying hole conditions and over the life of the Project different sampling techniques. The average distance between samples varies statistically based on duplicity. Where discrete intervals are considered with duplicate samples averaged, the sample separation is 36m. Where all sample are averaged over drill meters, sample separation is 19m. ▪ Compositing has been applied to porosity data obtained from the BMR geophysical tool, as data is collected at closer than 10 cm intervals, providing extensive data, particularly compared to the available assay data.
Orientation of data in relation to geological structure	▪ Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. ▪ If the relationship between the drilling orientation and	▪ The salt lake (salar) deposits that contain lithium-bearing brines generally have horizontal to sub-horizontal beds and lenses that contain sand, gravel, salt, silt and clay. The vertical diamond drill and rotary holes provide the best understanding of the stratigraphy and the nature of the sub-surface brine bearing aquifers. ▪ Geological structures are important for the formation of

	the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	salar basins, but not as a host to brine mineralization.
Sample security	▪ The measures taken to ensure sample security.	▪ Samples were transported to the Alex Stewart/Norlab SA or SGS laboratories for chemical analysis in sealed 1-litre rigid plastic bottles with sample numbers clearly identified. Samples were transported by a trusted member of the team to the office in Catamarca and then sent by DHL couriers to the laboratories. ▪ The samples were moved from the drillhole sample site to secure storage at the camp on a daily basis. All brine sample bottles sent to the laboratory are marked with a unique label.
Review (and Audit)	▪ The results of any audits or reviews of sampling techniques and data.	▪ An audit of the database has been conducted by the CP and another Senior Consultant at different times during the Project and prior to finalization of the samples to be used in the resource estimate. The CP has been onsite periodically during the sampling program. The review included drilling practice, geological logging, sampling methodologies for brine quality analysis and, physical property testing from drill core, QA/QC control measures and data management. The practices being undertaken were ascertained to be appropriate, with constant review of the database by independent personnel recommended. Additionally, an external review of field sampling procedures and data collection was undertaken by Geoff Baldwin in April 2023. An external peer review of the November 2023 resource update was performed by John Houston.

Section 2

Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria		Section 2 – Reporting of Exploration Results
Mineral tenement and land tenure status	▪ Type, reference name / number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. ▪ The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	▪ The Kachi Lithium Brine Project is located approximately 100km south-southwest of Livent's Hombre Muerto lithium operation and 45km south of Antofagasta de la Sierra in Catamarca province of north-western Argentina, at an elevation of approximately 3,000m asl. ▪ The Project comprises approximately 104375.6 Ha in fifty-three (53) mineral leases (minas), including one lease (Morena 10 – 2712.9 Ha) with a pending application. Details of the properties are provided in the June 15th ASX announcement. ▪ The tenements are believed to be in good standing, with statutory payments completed to relevant government departments.
Exploration by other parties	▪ Acknowledgment and appraisal of exploration by other Parties.	▪ Marifil Mines Ltd conducted sparse surface pit sampling of groundwater at depths less than 1m in 2009. ▪ Samples were taken from each hole and analysed at Alex Stewart laboratories in Mendoza Argentina. ▪ Results were reported in an NI 43-101 report by J. Ebisch in December 2009 for Marifil Mines Ltd. ▪ NRG Metals Inc commenced exploration in adjacent leases under option. Two diamond drill holes intersected lithium- bearing brines. The initial drillhole intersected brines from 172-198m and below with best results to date of 15m at 229 mg/L Lithium, reported in December 2017. The second hole, drilled to 400 metres in mid-2018, became blocked at 100 metres and could not be sampled. A VES ground geophysical survey was completed prior to drilling. A NI 43-101 report was released in February 2017. ▪ A 375 m deep borehole on the Luz María tenement drilled by the former owner NRG Metals, which published the lithium concentration data, as between 141 and 144 mg/L lithium. The sample from 50 bgs is noted as being extracted from the well during pumping, although the exact period of pumping and well completion interval are unknown and the results cannot be independently verified. The Xantippe data provide further evidence for the interpreted large-scale spatial extent of the lithium brine resource beyond the drillholes to the north and east and beneath the volcano. ▪ No other exploration results were able to be located.
Geology	▪ Deposit type, geological setting and style of mineralisation.	▪ The known sediments within the salar consist of a thin (several metre thick) salt/halite surficial layer, with interbedded clay, sand and silt horizons, accumulated in the salar from terrestrial sedimentation and evaporation of brines.

		▪ Brines within the Salt Lake are formed by evapoconcentration, interpreted to be combined with warm geothermal fluids, with brines hosted within sedimentary units. ▪ Geology was recorded during the diamond drilling and from chip samples in rotary drill holes.
Drill hole Information	▪ A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: ▪ easting and northing of the drill hole collar ▪ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar ▪ dip and azimuth of the hole ▪ down hole width and depth (length and interception depth) ▪ end of hole (hole length). ▪ If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	▪ Refer to Table 6 above. ▪ Lithological data was collected from the holes as they were drilled and drill cores or chip samples were retrieved. Detailed geological logging of cores is ongoing. ▪ All drill holes are vertical, (dip -90, azimuth 0 degrees). ▪ Coordinates and depths of holes are provided above in the report in the Gauss Kruger Zone 2. Elevations are measured by a surveyor, except for the most recently completed holes. ▪ Assay results are provided in a table above in the report. ▪ Drill hole information is shown in plans included. ▪ Refer to Figure 5 of this announcement, and previous ASX announcements for detailed lithological descriptions (e.g., October 4, 2023; August 22, 2023; November 22, 2023.)
Data aggregation methods	▪ In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. ▪ Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be	▪ Assay averages have been provided where multiple sampling occurs in the same sampling interval. A considerable number of samples were sent to the two laboratories, and averages of these results were used for the resource estimation. ▪ No cutting of lithium concentrations was justified nor undertaken. ▪ Lithium samples are by nature composites of brine over intervals of metres, due to the fluid nature of brine.

	shown in detail. - The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between mineralisation widths and intercept lengths	- These relationships are particularly important in the reporting of Exploration Results. - If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. - If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	- Mineralisation is interpreted to be horizontally lying and drilling perpendicular to this, so intersections are considered true thicknesses Brine is likely to extend to the base of the Carachi Pamap basin, although this has yet to be confirmed by drilling. - Mineralisation is continuous and sampling, despite intersecting intervals of lower grade in places within the resource has not identified volumes of brine with what are likely to be sub-economic concentrations within the resource. However, the reader is advised that a reserve has yet to be defined for the Project.
Diagrams	- Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	- A drill hole location plan is provided showing the locations of the drill platforms (Figure 6 and Figure 7) - Drill hole information is showing in plans included. - Refer to October 4, 2023, August 22, 2023 and June 15, 2023 ASX announcement for recent detailed lithological descriptions.
Balanced reporting	- Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	- Brine assay results are available from 38 resource drill holes from the drilling to date, reported here as shown in Table 6. Additional information will be provided as it becomes available.
Other substantive exploration data	- Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics;	- There is no other substantive exploration data available regarding the Project. Additional surface geophysics is planned for the Project. A pilot plant is currently operating at the Project to assess extraction of lithium. - Positive extraction and injection test results were reported in the August 16, 2023 ASX announcement.

	potential deleterious or contaminating substances.	
Further work	▪ The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). ▪ Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	▪ The Company has drilled approximately 12,600 m of diamond and rotary drilling to date. Currently drilling is underway to continue resource classification upgrade and expansion.

SECTION 3

Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria		Section 3 – Estimation and Reporting of Mineral Resources
Database integrity	▪ Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. ▪ Data validation procedures used.	▪ Data was transferred directly from laboratory spreadsheets to the database. ▪ Data was checked for transcription errors when in the database, to ensure coordinates, assay values and lithological codes were correct. ▪ Data was plotted to check the spatial location and relationship to adjoining sample points. ▪ Duplicates and Standards have been used in the assay process. ▪ Brine assays and porosity test work have been analysed and compared with other publicly available information for reasonableness. ▪ BMR geophysical log data has been compared with laboratory porosity values and provides a more continuous but more conservative estimate of drainable porosity (Sy). ▪ Comparisons of original and current datasets were made to ensure no lack of integrity. ▪ A detailed statistical analysis of the resource data set was completed and presented in the Appendix of the November 22, 2023 ASX announcement.
Site visits	▪ Comment on any site visits undertaken by the Competent Person and the outcome of those visits. ▪ If no site visits have been undertaken indicate why this is the case.	▪ The Competent Person visited the site multiple times during the drilling and sampling program. ▪ Procedures have been modified throughout the project to date aimed at improving data and sample recovery, working closely with the drilling superintendent to achieve this.
Geological interpretation	▪ Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. ▪ Nature of the data used and of any assumptions made. ▪ The effect, if any, of alternative interpretations on Mineral Resource estimation. ▪ The use of geology in guiding and controlling Mineral resource	▪ There is a high level of confidence in the geological interpretation of for the Project, with the three units identified in logging and down hole geophysics. There are relatively consistent sub horizontal geological units with intercalated clastic sediments consisting of sands, sits clays and minor gravel. ▪ Any alternative interpretations are restricted to smaller scale variations in sedimentology, related to changes in grain size and fine material in units, or a larger scale grouping of sediments, as changes between units are relatively minor. Such changes would not have a significant impact of the resource estimate. ▪ Data used in the interpretation includes rotary and diamond drilling methods. ▪ Drilling depths and geology encountered has been used

	estimation. ▪ The factors affecting continuity both of grade and geology	to conceptualize hydrostratigraphy and build the geologic model units. ▪ Sedimentary processes affect the continuity of geology with extensive lateral continuity in the salar area, and the presence of additional overlying gravels further from the salar, whereas the concentration of lithium and other elements in the brine is related to water inflows, evaporation and brine evolution.
Dimensions	▪ The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	▪ The lateral extent of the resource has been defined by the boundary of the Company's properties, the outline of the Kachi volcano and the range of mountains to the west. The brine mineralisation covers approximately 274.8 km2 to date. ▪ The top of the model coincides with the topography obtained from the Shuttle Radar Topography Mission (SRTM). The original elevations were locally adjusted for each borehole collar with the most accurate coordinates available. The base of the resource is limited to a 600 m depth. The basement rocks underlying the salt lake sediments have been intersected in drilling from the SE of the salar. ▪ The resource is defined to a depth of 600 m below surface, with the exploration target extending beyond the areal extend of the resource, under the volcano and also between the base of the resource and the interpreted depth of the basement.
Estimation and modelling techniques	▪ The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. ▪ The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. ▪ The assumptions made regarding recovery of by-	▪ Ordinary Kriging was applied to the composited BMR porosity date, to reduce the 200,000 individual measurements to a smaller number. The Inverse Distance Squared method was used to estimate the distribution of lithium through the resource, given the much smaller number of assays available. ▪ The resource with a 2.5 km radius was estimated in two passes with a search ellipse of 1500 and 4000 m respectively. ▪ The resource between 2.5 and 5 km of drill holes was estimated using three expanding search ellipses of 1500, 4000 and 7000 m, to encompass all of the data. ▪ Three essentially horizontal hydrostratigraphic units were defined in the salar area, based on geological logging and downhole geophysics. These have different amounts of sand, silt and clay content, with lithium concentration varying slightly between units. ▪ The resource was estimated with soft boundaries and a horizontal search ellipse, to reflect the horizontal continuity of geological units. Lithium concentration appears independent of the geological units, and differences in porosity between units are relatively slight. ▪ No grade cutting or capping was applied to the model. ▪ Check estimates were conducted using different estimators, with a version of the model estimated entirely

	products. ▪ Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation). ▪ In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. ▪ Any assumptions behind modelling of selective mining units. ▪ Any assumptions about correlation between variables. ▪ Description of how the geological interpretation was used to control the resource estimates. ▪ Discussion of basis for using or not using grade cutting or capping. ▪ The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	with Inverse Distance Squared methodology and another with ordinary kriging and one using the Leapfrog Radial Basis Function. ▪ No assumptions were made about correlation between variables or recovery of by-products. Lithium is the value proposition of the project. ▪ The brine contains other elements in addition to lithium, such as magnesium and sodium, which can be considered deleterious elements. The project plan considers extraction of lithium via a DLE (Direct Lithium Extraction) process, where extraction of lithium is independent of other elements, which remain in the brine. ▪ Model blocks are defined as 400 by 400 m blocks in an east and north direction and 10 m in the vertical direction. ▪ Extraction of brine permits limited control of selective mining and selective mining units are not considered, as the resource is relatively homogeneous. ▪ The development of the inner three-layer model and outer homogeneous layer in the alluvial gravels/fans, with essentially horizonal layers, was used to define the search ellipses to control the resource estimation. ▪ Visual comparison has been conducted of drill hole results and the block model, together with a comparison of sample statistics and the block model statistics. The result is considered to be acceptable.
Moisture	▪ Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	▪ Moisture content of the cores was not Measured with regards to consideration of density and moisture content. In brine projects the contained content of brine fluid is an integral part of the project and porosity, drainable porosity (Sy) and sediment density measurements were made. As brine will be extracted by pumping not mining moisture content (in regard to density) is not relevant for the brine resource estimation. ▪ Tonnages are estimated as metallic lithium dissolved in brine. ▪ Tonnages are then converted to a Lithium Carbonate Equivalent tonnage by multiplying by the factor of 5.32, which takes account of the presence of carbon and oxygen in Li2CO3, compared to metallic lithium.
Cut-off parameters	▪ The basis of the adopted cut-off grade(s) or quality parameters applied.	▪ Grade-tonnage curves for the Project (see November 22, 2023 ASX Announcement) indicate that a cut-off grade of 150 mg/L would result in less than a 0.1% reduction in total lithium resource. As a result, Mineral Resources are estimated utilizing a conservative cut-off grade of 150 mg/L lithium.

		▪ The proposed DLE technology has been demonstrated to operate cost-effectively at much lower lithium concentrations (e.g., less than 75 mg/L). Effectively no Mineral Resources have been quantified below 150 mg/L, however, the opportunity exists for incorporation of lower grade resources should they be discovered or otherwise evolve at the planned extraction wells. In this instance, the cut-off grade could be revised lower based on operating costs for the lithium grade considered
Mining factors or assumptions	▪ Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	▪ The resource has been quoted in terms of brine volume, concentration of dissolved elements, contained lithium and lithium carbonate. ▪ No mining or recovery factors have been applied (although the use of the specific yield = drainable porosity is used to reflect the reasonable prospects for economic extraction with the proposed mining = pumping methodology). ▪ Mining of the brine will be completed using extraction wells with the layout presented in Figure 16. Extraction and injection well designs and related pumping systems have been developed to a DFS level as part of the well field development plan (DBSA, 2023). ▪ As noted above, the mine plan inclusive of well locations, well depths and the pumping schedule have been simulated in the numerical flow and transport model. “Particle tracking” is used to determine the origin of the brine being captured by the extraction wells. If the origin of the particle is within the Measured Resource it is converted to Proved Reserve. If the origin of the particle is Indicated Resource then it is converted to Probable. ▪ The Proved Ore Reserve is limited in time to 7-years from the start of mining to account for the fluid nature of the resource and acknowledgement that model predictions further out in time have a lower level of confidence. With additional data and model updates, the Probable Ore Reserve can likely be converted to Proved. ▪ Particle tracking indicates no recovery of Inferred Resource over the LoM and Inferred Resources have not been used in the Ore Reserve estimate. ▪ Assumptions inherent to the numerical model include the premise that the calibrated model is a reliable predictive tool. The hydrogeological parameters are discussed extensively throughout this announcement and include but are not limited to the pumping schedule (Figure 16), well field layout (Figure 17), calibrated hydraulic parameters (Table 7) and dispersivity estimates of 10 m, 0.1 m and 0.01 m for longitudinal, transverse and vertical, respectively. ▪ The overall process plant lithium recovery rate is conservatively assumed to be 75%. This includes DLE

		and any losses in other processes. ▪ After lithium extraction spent brine will be injected back into the reservoir at the locations shown in Figure 16. ▪ Dilution of the lithium brine from natural sources and from spent brine injection is explicitly simulated in the model. Dilution after 25-years of operations is about 10% as discussed in the text and presented in Figure 23. However, average lithium grades even in Year 25 are well above the design basis for the Project. ▪ The Mine Plan extracts less than 15% of the Measured and Indicated Resource over the LoM. ▪ Infrastructure required for mining extraction and injection wells, surface pumping networks and pumping infrastructure, storage ponds, raw water wells and pipelines, and monitoring and communications equipment.
Metallurgical factors or assumptions	▪ The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	▪ The metallurgical process proposed for extraction of lithium from the resource feed brine is Direct Lithium Extraction (DLE), using an ion exchange (IX) extraction method, which is a proven technology used extensively in water treatment and mineral recovery. Lilac Solutions has developed a novel ion exchange media for selective extraction of lithium from high total dissolved solids (TDS) brine. ▪ Lithium chloride eluate (LiCl) produced from the DLE system is purified and concentrated using conventional Reverse Osmosis (RO), Evaporation, and impurity precipitation technology. ▪ The purified and concentrated LiCl solution is converted to lithium carbonate via conventional carbonation process using sodium carbonate reagent to precipitate lithium carbonate. ▪ The ion exchange DLE process has been tested at bench-scale, pilot-scale, and demonstration-scale with thousands of hours of batch and continuous test work. Real brine feed from the Kachi site has been used for all levels of testing. Bench and pilot scale testing were carried out at the Lilac Solutions research and development laboratory in Oakland, California. Demonstration scale testing was carried out via an on-site demonstration unit that operated in campaigns from October 2022 to November 2023 , processed over 5.2 million litres of brine and produced over 200,000 litres of concentrated lithium chloride product. ▪ Analytical sample validation was carried out by Lilac Solutions laboratory in Oakland, California and Lilac's on-site analytical laboratory at the Kachi Demonstration plant. Independent third-party validation analysis was also performed using inductively coupled plasma optical emission spectroscopy (ICP-OES)on hundreds of select samples by accredited commercial laboratories SGS, Kemetco Research Inc. and McCampbell Analytical at

		facilities in Argentina, Canada, and the United States. ▪ Balance of plant (BOP) eluate purification, concentration, and lithium carbonate production test work was carried out by Lilac Solutions at their research and development laboratory in Oakland, California. Additional bench-scale test work (1000 L) was completed by Hazen Research in Golden, Colorado. Bench scale (20 L), pilot scale (1000 L) and demonstration scale (120,000 L) test work was conducted by Saltworks Technologies in Richmond, British Columbia to validate the BOP process for battery grade lithium carbonate production from Kachi brine via Lilac Solution ion exchange DLE technology.
Environmental factors or assumptions	▪ Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	▪ A high degree of consideration has been given to field development planning that will minimise impact on sensitive environmental areas. ▪ Process water recovery early in the project will minimise freshwater resource impacts. ▪ The production / exploitation environmental impact assessment is well advanced and have been undertaken in parallel with the Resource and Reserve estimation process. ▪ Lake Resources is taking the initiative with regards to the permitting process early and ensuring environmental protection requirements are considered in the project design. ▪ The Kachi Project currently has valid exploration environmental impact assessment approved in 2017, and updated in accordance with the established legislation, with the latest renewal in November 2022 and valid until November 2024. Additionally, the Kachi Project holds other sectoral permits including for chemical precursors, fuel tanks, freshwater use, hazardous waste, black water permit and local industrial permit. ▪ Numerical modelling indicates that operational impacts to sensitive areas will be small and within expected ranges of natural seasonal variations because of the Lake's injection strategy which maintains reservoir and aquifer pressures during operations in sensitive areas. ▪ The Kachi Project have obtained a temporary freshwater extraction permit for a period of one year (valid until September 2024), authorizing the extraction from 4 wells at a rate of 64m3 per day. Activity is underway to secure the definitive permit for future phases.
Bulk density	▪ Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and	▪ Density measurements were taken as part of the drill core assessment. This included determining dry density and particle density as well as field measurements of brine density. ▪ Note that no mining is to be carried out, so density measurements are not directly relevant for resource estimation, as brine is to be extracted by pumping and consequently sediments are not actively mined. The

	representativeness of the samples. ▪ The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. ▪ Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	lithium is extracted by pumping of mineral bearing brine. ▪ No bulk density was applied to the estimates because resources are defined by volume, rather than by tonnage.
Classification	▪ The basis for the classification of the Mineral Resources into varying confidence categories. ▪ Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). ▪ Whether the result appropriately reflects the Competent Person's view of the deposit.	▪ The resource has been classified into two possible resource categories based on confidence in the estimation. ▪ The Measured resource, within a 2.5 km radius of drill holes, reflects the predominance of drilling with a spacing of approximately 1.5 km between holes. This classification reflects the suggestion of Houston et. Al., 2011 regarding the classification of resources. Porosity measurements have been made in these diamond and rotary holes with the BMR porosity tool, providing 200,000 individual measurements. Any measurements that were related to washouts in holes were removed and porosity data was composited to 10 m data points. Physical porosity samples were also taken and compared with BMR porosity data, with samples from drill cores well constrained within the holes. These samples have an overall higher average porosity, but sampling was less systematic than the BMR porosity data, which was used in preference, with the laboratory data as a check on this data source. ▪ The Inferred resource surrounding the Measured resource in the properties reflects more limited drilling in the surrounding area, and locations closer to the border of the basin. Some additional lithium assay data will be incorporated into the next resource that is likely to result in conversion of part of the Inferred resource to Measured or Inferred resources. This classification includes holes and data within 5 km of holes. Brine within this radius has been classified more conservatively as Inferred resources than the suggestion of Houston et. Al., 2011 regarding the classification of resources. It is expected that with further drilling much of the Inferred resources can be converted to Indicated resources. ▪ There are currently no Indicated resources defined in the project. In the view of the Competent Person the resource classification is believed to adequately reflect the available data and is consistent with the suggestions of Houston et. al., 2011.

Audits or reviews	- The results of any audits or reviews of Mineral Resource estimates.	- Estimation of the Mineral Resource was supervised by the Competent Person. - An audit of sampling and field procedures was undertaken by Geoffrey Balwin in February 2023.

SECTION 4

Estimation and Reporting of Mineral Ore Reserves

(Criteria listed in section 1, and where relevant in section 2 and 3, also apply to this section.)

Criteria	Section 4 - Estimation and Reporting of Ore Reserves	
Mineral Resource estimate for conversion to Ore Reserves	▪ Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve. ▪ Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	▪ The Mineral Resource estimate used as the basis of the Ore Reserve analysis is detailed in the November 22, 2023 ASX Announcement with additional details provided in Appendix A of the announcement. ▪ Lake Resources has undertaken a considerable amount of exploration drilling, sampling and processing test work such that the Kachi Resource has now been revised with Measured and Indicated Resource in excess of 7.3 Mt allowing Reserve Estimation and Definitive Feasibility Studies to be completed. ▪ The Mineral Resource estimate was completed by the Andy Fulton, the CP that also led the Ore Reserve estimates. ▪ Additional details on the Mineral Resource estimate are provided in Section 3 above. ▪ The mineral resource is inclusive of Ore Reserves
Site Visits	▪ Comment on any site visits undertaken by the Competent Person and the outcome of those visits. ▪ If no site visits have been undertaken indicate why this is the case.	▪ Regular site visits by the CP have been undertaken since early in the project, including two site visits in 2023. ▪ Close coordination with CP and Lakes Resources technical team throughout exploration program and resource / reserve estimation programs.
Study Status	▪ The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves. ▪ The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	▪ A Definitive Feasibility Study (DFS) is being issued concurrently with this Ore Reserve statement for the Kachi Project. ▪ DFS study work has defined well field development plans (i.e., mine plan) for Kachi are based on a well-defined resource model and dynamic numerical flow and transport model with a geologic framework consistent with the resource model. ▪ Key components of the study that underpin the Ore Reserve calculation encompass sampling and analytical methods, the development of the geologic and Mineral Resource models, understanding of brine and sediment properties and their variability, large scale and long duration pumping and injection tests of 12, 15 and 31 days. ▪ These data formed the basis for the numerical flow and transport models and the models were calibrated to historical data including water and brine levels, laguna

		lake stage, spring flows, drawdown and mounding during pumping and injection tests. ▪ The models consider variable density flow to capture dynamics associated with shallow freshwater aquifers and dense brine present both in portions of the shallow system and at depth. ▪ This comprehensive approach culminated in the creation of integrated numerical models that serve as the basis for the Ore Reserve assessment. As a result, there is a reasonable level of confidence that Kachi will be able to extract the specified quantities and grades of brine, as presented in this ASX Announcement. It's important to note that the estimates provided here are considered reasonable based on the data available at the time this Competent Persons Statement was prepared. ▪ The mine plan for a brine project is the well field layout, well depths and construction details and the pumping schedule haven been designed to a DFS level. The mine plan has been simulated in the numerical model and the results. The model results demonstrate it is technically achievable. ▪ The project material balance carries a total lithium recovery factor of 75% from lithium extraction through final lithium product. This recovery has been used in the technical and economic assessments of the project. ▪ Costs and modifying factors have been extensively considered, as discussed in this document, other portions of Section 4 and the DFS concurrently released with this announcement.
Cut-off parameters	▪ The basis of the cut-off grade(s) or quality parameters applied.	▪ Grade-tonnage curves for the Project (see November 22, 2023 ASX Announcement) indicate that a cut-off grade of 150 mg/L would result in less than a 0.1% reduction in total lithium resource. As a result, Mineral Resources are estimated utilizing a conservative cut-off grade of 150 mg/L lithium. ▪ The proposed DLE technology has been demonstrated to operate cost-effectively at much lower lithium concentrations (e.g., less than 75 mg/L). Effectively no Mineral Resources have been quantified below 150 mg/L, however, the opportunity exists for incorporation of lower grade resources should they be discovered or otherwise evolve at the planned extraction wells. In this instance, the cut-off grade could be revised lower based on operating costs for the lithium grade considered
Mining factors or assumptions	▪ The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate	▪ Mining of the brine will be completed using extraction wells with the layout presented in Figure 16. Extraction and injection well designs and related pumping systems have been developed to a DFS level as part of the well field development plan (DBSA, 2023). ▪ As noted above, the mine plan inclusive of well locations, well depths and the pumping schedule have

	factors by optimisation or by preliminary or detailed design). ▪ The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc. ▪ The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling. ▪ The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate). ▪ The mining dilution factors used. ▪ The mining recovery factors used. Any minimum mining widths used. ▪ The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion. ▪ The infrastructure requirements of the selected mining methods.	been simulated in the numerical flow and transport model. “Particle tracking” is used to determine the origin of the brine being captured by the extraction wells. If the origin of the particle is within the Measured Resource it is converted to Proved Reserve. If the origin of the particle is Indicated Resource then it is converted to Probable. ▪ The Proved Ore Reserve it limited in time to 7-years from the start of mining to account for the fluid nature of the resource and acknowledgement that model predictions further out in time have a lower level of confidence. With additional data and model updates, the Probable Ore Reserve can likely be converted to Proved. ▪ Particle tracking indicates no recovery of Inferred Resource over the LoM and Inferred Resources have not been used in the Ore Reserve estimate. ▪ Assumptions inherent to the numerical model include the premise that the calibrated model is a reliable predictive tool. The hydrogeological parameters are discussed extensively throughout this announcement and include but are not limited to the pumping schedule (Figure 16), well field layout (Figure 17), calibrated hydraulic parameters (Table 7) and dispersivity estimates of 10 m, 0.1 m and 0.01 m for longitudinal, transverse, and vertical, respectively. ▪ The overall process plant lithium recovery rate is conservatively assumed to be 75%. This includes DLE and any losses in other processes. ▪ After lithium extraction spent brine will be injected back into the reservoir at the locations shown in Figure 16. ▪ Dilution of the lithium brine from natural sources and from spent brine injection is explicitly simulated in the model. Dilution after 25-years of operations is about 10% as discussed in the text and presented in Figure 23. However, average lithium grades even in Year 25 are well above the design basis for the Project. ▪ The Mine Plan extracts less than 15% of the Measured and Indicated Resource over the LoM. ▪ Infrastructure required for mining extraction and injection wells, surface pumping networks and pumping infrastructure, storage ponds, raw water wells and pipelines, and monitoring and communications equipment.
Metallurgical factors or assumptions	▪ The metallurgical process proposed and the appropriateness of that process to the style of mineralisation. ▪ Whether the metallurgical process is well-tested	▪ The metallurgical process proposed for extraction of lithium from the resource feed brine is Direct Lithium Extraction (DLE), using an ion exchange (IX) extraction method, which is a proven technology used extensively in water treatment and mineral recovery. Lilac Solutions has developed a novel ion exchange media for selective extraction of lithium from high total dissolved solids (TDS) brine.

	technology or novel in nature. ▪ The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied. ▪ Any assumptions or allowances made for deleterious elements. ▪ The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole. ▪ For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	▪ Lithium chloride eluate (LiCl) produced from the DLE system is purified and concentrated using conventional Reverse Osmosis (RO), Evaporation, and impurity precipitation technology. ▪ The purified and concentrated LiCl solution is converted to lithium carbonate via conventional carbonation process using sodium carbonate reagent to precipitate lithium carbonate. ▪ The ion exchange DLE process has been tested at bench-scale, pilot-scale, and demonstration-scale with thousands of hours of batch and continuous test work. Real brine feed from the Kachi site has been used for all levels of testing. Bench and pilot scale testing were carried out at the Lilac Solutions research and development laboratory in Oakland, California. Demonstration scale testing was carried out via an on-site demonstration unit that operated in campaigns from October 2022 to November 2023, processed over 5.2 million litres of brine and produced over 200,000 litres of concentrated lithium chloride product. ▪ Analytical sample validation was carried out by Lilac Solutions laboratory in Oakland, California and Lilac's on-site analytical laboratory at the Kachi Demonstration plant. Independent third-party validation analysis was also performed using inductively coupled plasma optical emission spectroscopy (ICP-OES) on hundreds of select samples by accredited commercial laboratories SGS, Kemetco Research Inc. and McCampbell Analytical at facilities in Argentina, Canada, and the United States. ▪ Balance of plant (BOP) eluate purification, concentration, and lithium carbonate production test work was carried out by Lilac Solutions at their research and development laboratory in Oakland, California. Additional bench-scale test work (1000 l) was completed by Hazen Research in Golden, Colorado. Bench scale (20 l), pilot scale (1000 l), and demonstration scale (120,000 l) test work was conducted by Saltworks Technologies in Richmond, British Columbia to validate the BOP process for battery grade lithium carbonate production from Kachi brine via Lilac Solution ion exchange DLE technology.
Environmental	▪ The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste	▪ A high degree of consideration has been given to field development planning that will minimise impact on sensitive environmental areas. ▪ Process water recovery early in the project will minimise freshwater resource impacts. ▪ The production / exploitation environmental impact assessment is well advanced and have been undertaken in parallel with the Resource and Reserve estimation process. ▪ Lake Resources is taking the initiative with regards to the permitting process early and ensuring environmental

	dumps should be reported.	protection requirements are considered in the project design. The Kachi Project currently has valid exploration environmental impact assessment approved in 2017, and updated in accordance with the established legislation, with the latest renewal in November 2022 and valid until November 2024. Additionally, the Kachi Project holds other sectoral permits including for chemical precursors, fuel tanks, freshwater use, hazardous waste, black water permit and local industrial permit. ▪ Numerical modelling indicates that operational impacts to sensitive areas will be small and within expected ranges of natural seasonal variations because of the Lake's injection strategy which maintains reservoir and aquifer pressures during operations in sensitive areas. ▪ The Kachi Project have obtained a temporary freshwater extraction permit for a period of one year (valid until September 2024), authorizing the extraction from 4 wells at a rate of 64m3 per day. Activity is underway to secure the definitive permit for future phases.
Infrastructure	▪ The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	▪ Transportation analysis from the Argentine logistics company Transmining SA has been procured to ensure adequate allowance for transport is included in the cost-estimate for Kachi project. ▪ Kachi site freshwater availability for LoM has been confirmed by the hydrogeologic model. ▪ Power and accommodations are not available at site. Lake resources intends to advance the project with on-site power generation while a grid connection is added prior to steady state operation. The grid connection will involve contracting with an Independent Power Producer (IPP) in Argentina under a long-term Power Purchase Agreement (PPA). Dialogue has commenced with IPPs on a commercial process which will progress in 2024 and with the relevant regulatory bodies. For the DFS estimate a feasibility level study has been completed by Districuyo SA on routing, construction and operation of the line within the Argentina grid infrastructure. Please refer to the DFS summary report for more information. ▪ The Project will require construction of a construction camp and future operations camps, electricity infrastructure, pumping and pipes for brine extraction and reinjection, permitted water storage facilities, chemical and product storage facilities, and water purification facilities. Please refer to the DFS summary report for more information.
Cost	▪ The derivation of, or assumptions made, regarding projected capital costs in the study.	▪ The capital costs were estimated by Hatch engineering with input from project partners to produce a +/- 15% Class III estimate. The cost of the well field development was provided by Lake Resources and the capital costs

	▪ The methodology used to estimate operating costs. ▪ Allowances made for the content of deleterious elements. ▪ The source of exchange rates used in the study. ▪ Derivation of transportation charges. ▪ The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc. ▪ The allowances made for royalties payable, both Government and private.	of the Lilac plant was a joint effort with quantities provided by Lilac and unit costs provided by Hatch. ▪ The operating costs were estimated by Hatch engineering with operating and IXM costs provided by Lilac and electricity rates provided by Districuyo SA. ▪ The Lilac IXM has been demonstrated to be robust to the deleterious elements of the brine. Future allowance is made for Barium Chloride addition to eliminate Sulphate impurities prior to lithium carbonation. Acid pre-treatment to facilitate metal removal is included in the design as well as costs associated with operating this pre-treatment, although it may not be required. ▪ Allowance for key taxes and charges include: • An Argentine Export tax of 4.5% of gross revenue • A Catamarca Province Royalty of 3.5%of Boca Mina value (e.g., mine head value) of extracted mineral for Catamarca province under the Mining Investment Law. As final royalty rates for the project are yet to be agreed with the Government of Catamarca, the mine head value has been provisionally set to represent lithium chloride revenues at a provisional price of $5,000/tonne. ▪ The Kachi project forecast includes production of Battery Grade Lithium Carbonate for the duration of the life of mine across the design range of brine chemistries. ▪ The Kachi project economic forecast utilizes a forward price projection provided in a DFS (See Lake Resources ASX Announcement 19 December 2023 entitled Lake Resources Kachi Project Phase One Definitive Feasibility Study) bespoke study commissioned by the project with Wood Mackenzie and delivered in December 2023. Prices for lithium carbonate considered in the economic evaluation correspond to CIF Asia contract prices in real 2023 terms. ▪ The annual forecast sales price for the period (2025 to 2050) was provided by Wood Mackenzie. This resulted in an average sales price for the model of $33,000 for the economic analysis for the Kachi project. ▪ All costs were estimated in US Dollars. These costs included facility wide costs, direct extraction package, reagents, lithium chemical plant, general and administrative expenses, transportation, power, export duties and government royalties. ▪ Operating expenditure excludes corporate overhead costs. Opex level is approximately $6k/tonne providing adequate headroom between operating cost and potential sales price. ▪ No private royalty agreement is included in the model.

		▪ Lake expects to produce one by-product at its Kachi plant – sodium hydroxide NaOH. Potential revenues from this have been applied as a by-product credit in operating expenditures for the Kachi project.
Revenue factors	▪ The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc. ▪ The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	▪ The Kachi project forecast includes production of Battery Grade Lithium Carbonate for the duration of the life of mine across the design range of brine chemistries. ▪ The Kachi project economic forecast utilizes a forward price projection provided in a DFS bespoke study commissioned by the project with Wood Mackenzie and delivered in December 2023. Prices for lithium carbonate considered in the economic evaluation correspond to CIF Asia contract prices in real 2023 terms ▪ These prices do not reflect any assumptions of potential concessions or discounts that Lake may agree in the future with any potential Strategic Partners, Offtake Partners, Royalty Providers, or other type of project partner. ▪ The Kachi Project intends to enter long term binding offtake arrangements to support project financing. The final form of these agreements has not yet been finalized but they are intended to cover a significant proportion of production for the tenor of any debt facility and include a ‘floor’ mechanism. The Kachi Project has retained Goldman Sachs as Financial Adviser in connection with exploring a potential strategic partnership, which may involve offtake arrangements. Goldman Sachs begins the formal process of identifying a strategic partner in 2024. ▪ The impact of any future offtake contract agreements on pricing will be reflected in any subsequent bridging studies. ▪ The annual forecast sales price for the period (2025 to 2050) was provided by Wood Mackenzie. This resulted in an average sales price for the model of $33,000 for the economic analysis for the Kachi project.
Market assessment	▪ The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future. ▪ A customer and competitor analysis along with the identification of likely market windows for the product. ▪ Price and volume forecasts and the basis for these	▪ Lithium demand has been increasing rapidly over the last few years primarily driven by demand for rechargeable batteries used in Electric Vehicles and the company is well placed to benefit from the increased demand related to electric vehicle uptake globally ▪ Lake Resources contracted Wood Mackenzie to conduct a lithium market study which included demand, supply, and pricing outlooks. ▪ Wood Mackenzie concluded that Kachi is strategically well positioned to benefit from the increasing demand for lithium around the world and particularly for battery grade lithium chemicals which show the most robust potential.

	forecasts. • For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	▪ Some upside and downside factors to lithium price were identified by Wood Mackenzie for the global lithium market, but none were specific to Kachi and are well counterbalanced by the strengths and opportunities Kachi' offers. Some of the upside risk factors include the US Inflation Reduction Act (IRA) and other sector policies that bolster CAM, gigafactory and EV rollout, greater and faster EV adoption, government policies towards regionalization and reshoring of key battery commodities, heightened geopolitical tension, consumer willingness to pay for “green” battery/lithium products and high levels of disruption at brine and hard rock projects that are currently operating. Some of the downside risk factors include persistent high inflation that generates weaker demand or slows industrial output, reversal of globalization and surge in geopolitical tension around the world, slower than expected adoption of EV technology and/or rapid expansion of Li-ion alternatives that push down long term demand, strengthening battery recycling processes and value chains could result in higher supply, and minimal disruptions to current supply combined with greenfield projects delivering on expectations could result in oversupply. ▪ Kachi plans to produce a final battery grade product, unlike many hard rock competitor companies. The Kachi project is well positioned, competitive with other (existing and forecast) new lithium projects as its run-rate operating (C1) costs are forecast to fall on the first quartile of the global cost curve when compared with other producers in the Benchmark Minerals Global Cost Model Q3 2023. ▪ The annual forecast sales price for the period (2025 to 2050) was provided by Wood Mackenzie. This resulted in an average sales price for the model of $33,000 for the economic analysis for the Kachi project.
Economic	▪ The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. • NPV ranges and sensitivity to variations in the significant assumptions and inputs	▪ The project costs will be released to a Class III AACE estimate (+/-15%) with the imminent release of the DFS. The project cost assessment (Opex/ Capex) was completed by Hatch LTD engineering with input from Lilac on DLE costs, Lake resources on drilling and well field costs and Disticuoyo on electricity rates. ▪ Lake conducted a DFS level economic analysis using its own financial model developed with the assistance of KPMG. ▪ The economic evaluation was based on the brine flow rates from the production forecasts. The lithium carbonate production rate after ramp-up is assumed to peak at 25 ktpa and remain at peak until the last year of production. ▪ Mining industry practitioners typically undertake financial modelling using real NPV values, meaning it does not account for the effect of inflation or price escalation. The resultant cashflows are then discounted by a weighted

		average cost of capital or discount rate. Lake Resources conformed with this practice. ▪ A discount rate of 8% was applied to the cashflow in line with the industry average for lithium assets. ▪ Sensitivity analyses were conducted to evaluate the LCE prices, Opex and Capex. The Kachi Project is generally resilient to Opex and Capex factors and most sensitive to lithium price. ▪
Social	▪ The status of agreements with key stakeholders and matters leading to social licence to operate	▪ Lake's community relations team has initiated engagement and consultation activities at various levels, including local, state, and federal. They have put in place a comprehensive communications strategy to support these efforts.
Other	▪ To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves: ▪ Any identified material naturally occurring risks. ▪ The status of material legal agreements and marketing arrangements. ▪ The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	▪ The DFS has identified a number of risk factors, both related to the natural environment and other aspects of the Kachi Project. The natural risks identified are considered to be manageable by application of a rigorous risk management process and include: • Finance Kachi Construction with Debt and Equity. Excessive debt affects interest payments, while abundant equity dilutes ownership, impacting future returns. Mitigation in place to include retention of appropriate expert advisors and completion of a robust business plan. • Possible gaps in emergency response capabilities may arise from inadequate leadership, untrained personnel, outdated equipment, and communication issues, leading to safety incidents. Mitigation includes periodic reviews, audits, training and newcomer inductions. • Permitting Failure impacting the Bank Loan. Mitigation includes retention of suitably experienced personnel and 3rd party consultant with experience of Equator Principles. • Critical Hazard: Release of Toxic Chlorine Gas and Explosive Hydrogen Gas from Chlor-Alkali Plant. Equipment failure poses dual risks of safety and environmental concerns. Malfunctions in machinery or systems elevates the potential for adverse impacts on the surrounding environment. Mitigation includes siting in the most appropriate area of the process plant to reduce occurrence severity and selection of experienced contractors for supply, delivery and operation. • Lithium demand price drop due to oversupply, from increased production or changing consumer behaviour, leads to a competitive

		market with surplus goods. This results in businesses losing revenue, facing financial challenges, impacting profitability and economic performance. Mitigation includes pursuing long term offtake agreements which include protection mechanisms such as a ‘price floor’. • Exceeding planned capital costs due to inadequate control, underestimation of requirements, and miscalculation pose significant project risks. Delays in critical components and external factors like climatic events or civil unrest compound challenges, leading to higher costs, potential investor abandonment, startup delays or failure and insolvency threats. Mitigation includes selection of suitability skilled Project Director, adoption of pro-active approach to management and selection of the most appropriate EPCM contractor. • Raw material and contractor costs (Opex) escalate beyond current estimates. DFS failure to capture all operating costs, project cost escalation, flawed budgeting, procurement, logistics issues, and external shocks (e.g., inflation). Mitigation includes retaining suitably qualified Project Director, the application of appropriate contingency allowance and implementation of pro-active risk management processes. • Cooling tower performance, whether it be a dry cooling tower or a closed-loop system, arise from adverse weather conditions such as extreme heat, strong winds, cold temperatures or rain. Those unforeseen environmental factors, contribute to performance issues in cooling towers, whether dry or closed-loop. These unexpected elements result in additional costs, lost productivity, and necessitate process modifications, collectively impacting the overall operational efficiency of the cooling systems. Mitigation includes adoption of most appropriate design basis during future engineering phases • The project can have workforce challenges, including a limited pool of skilled workers, insufficient pre-hire training, and high turnover during rapid development. Mitigation includes strategic human relations management including training, careeer progression and competitive remuneration and benefits.package • Changing brine chemistry - The composition of the brine may change over time, moving outside the design range, leading to changes in system performance, requiring process

		modifications. Variability in feed product poses risks such as increased costs, lost productivity, and the need for process modifications. Mitigation includes extensive investigation and modelling during the DFS and taking a conservative position with respect to the basis of design. ▪ Material legal agreements are understood to be in good standing. The Kachi project tenements are granted as mining licenses. Such licenses have no expiry date so long as annual fees are paid, and all obligations are met under the national mining code. The Kachi project encompasses 52 mineral concessions covering 103,898 hectares. These are in good standing, with only one mineral property application still pending approval. The Project has not yet entered into binding offtake agreements. ▪ Whilst there can be no assurance that the Kachi Project will obtain all the permits it needs on time or at all, no reason is known of by the Company to expect delays to permit approvals based on the consultations that the Kachi Project has conducted with the regulatory agencies, local communities and other stakeholders. There are therefore reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the DFS.
Classification	▪ The basis for the classification of the Ore Reserves into varying confidence categories. • ▪ Whether the result appropriately reflects the Competent Person's view of the deposit. • ▪ The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	▪ The Mineral Reserves CP is of the opinion that Lake has conducted sufficient geologic and hydrogeological and mineral processing test work to provide a high level of certainty for the modifying factors for Kachi Project. ▪ Mineral Ore Reserves are estimated for Proved and Probable classifications using the numerical model to determine the origin of the recovered brine from either the Measured or Indicated Resources. ▪ The Mineral Reserves estimate for Kachi is Proved at 170.3 kt LCE, and Probable at 454.1 kt LCE. The Mineral Reserves for Kachi are 85% derived from the Measured Mineral Resource mass estimated per Section 5.5 of this Reserves Estimate
Audits and Reviews	▪ The results of any audits or reviews of Ore Reserve estimates.	▪ An audit of sampling and field procedures was undertaken by Geoffrey Balwin in February 2023. ▪ Mineral Resource Estimation of November 2023 was independently reviewed by J Houston.
Discussion of relative accuracy/ confidence	▪ The infrastructure requirements of the selected mining methods.	▪ The accuracy of the Mineral Resource and Ore Reserve is influenced by several factors, including the quality and quantity of available data, as well as engineering and geological interpretation and judgment. Key components of the study that underpin the Ore Reserve calculation encompass sampling and analytical methods, the development of the 3D hydrostratigraphic mineral resource model, understanding of brine and sediment properties and their variability, and the creation and

		calibration of integrated numerical models for groundwater flow and mass transport. These tasks were carried out sequentially, with regular validation and calibration exercises conducted at each stage. ▪ Industry accepted guidance was recognised with respect to bore spacing. The M&I for which this Reserve Statement is based is defined by a compact exploration program with drill hole pattern well within the recommended maximum borehole spacing. ▪ All of the multiple parameter assessments have been undertaken with an inherent factor of safety. ▪ Sampling protocols have been adapted through the program based on QA/QC outcomes to reflect uncertainty of analytical result outside the control of the project. ▪ The reserve estimate is considered a local with respect to the previously stated resource estimate. The reserve component is located 100% within the previously announced M&I resource of which 94% is within Measured Resource. The resource which includes inferred is considered global. ▪ This comprehensive approach culminated in the creation of integrated numerical models that serve as the basis for the Ore Reserve assessment. As a result, there is a reasonable level of confidence that Kachi will be able to extract the specified quantities and grades of brine, as presented in this ASX Release. It's important to note that the estimates provided here are considered reasonable based on the data available at the time this Competent Persons Statement was prepared.

Appendix F: Updated Resource Estimate of Contained Lithium

Measured November 2023 (to 400 m depth)

Unit	Sediment Volume m^3	Specific Yield %	Brine volume m^3	Liters	Li mg/l	Li grams	Li Tonnes	Tonnes LCE
A	11,001,000,000	0.078	858,078,000	858,078,000,000	210	179,783,644,000	180,000	956,000
B	4,366,100,000	0.081	352,090000	352,090,162,000	229	80,628,647,000	81,000	429,000
C	8,007,400,000	0.068	544,503,000	544,503,200,000	230	125,427,401,000	125,000	667,000
Fan West	8,833,000,000	0.095	839,135,000	839,135,000,000	220	184,609,700,000	185,000	982,000
Total	**32,207,500,000**	**-**	**2,593,806,000**	**2,593,806,362,000**	**-**	**570,449,393,000**	**570,000**	**3,035,000**

Indicated November 2023 to 600 m

Unit	Sediment Volume m^3	Specific Yield %	Brine volume m^3	Liters	Li mg/l	Li grams	Li Tonnes	Tonnes LCE
A (South)	3,694,300,000	0.076	278,924,000	278,924,452,000	181	50,485,326,000	50,000	269,000
B (South)	1,489,000,000	0.075	111,543,000	111,543,670,000	179	19,959,624,000	20,000	106,000
C (South)	4,382,400,000	0.067	294,407,000	294,407,879,000	182	53,582,234,000	54,000	285,000
A (North)	3,075,200,000	0.095	292,144,000	292,144,000,000	232	67,891,052,000	68,000	361,000
B (North)	4,294,400,000	0.095	407,968,000	407,968,000,000	241	98,166,484,000	98,000	522,000
C (North)	9,188,400,000	0.092	845,333,000	845,332,800,000	182	206,021,447,000	206,000	1,096,000
400 – 600m Under Salar	12,230,170,000	0.066	806,922,000	806,922,156,000	242	195,275,162,000	195,000	1,039,000
400 – 600m West Fan Deep	4,858,200,000	0.092	446,954,000	446,954,400,000	244	109,056,874,000	109,000	580,000
Total	43,212,070,000		3,484,197,000	3,484,197,358,000		800,438,203,000	800,000	4,258,000

Combined Measured + Indicated

	Sediment Volume m^3	Specific Yield %	Brine volume m^3	Liters	Li mg/l	Li grams	Li Tonnes	Tonnes LCE
	75,419,570,000		6,078,004,000	6,078,003,721,000		1,370,887,596,000	1,370,000	7,293,000

Inferred November 2023

Unit	Sediment Volume m^3	Specific Yield %	Brine volume m^3	Liters	Li mg/l	Li grams	Li Tonnes	Tonnes LCE
A	4,756,500,000	0.080	378,325,000	378,325,351,000	185	69,975,435,000	70,000	372,000
B	1,671,300,000	0.079	131,198,000	131,197,886,000	191	25,101,960,000	25,000	134,000
C	5,287,600,000	0.074	393,746,000	393,746,422,000	218	85,950,119,000	86,000	457,000
Fan North	8,895,490,000	0.081	716,324,000	716,324,455,000	232	166,081,974,000	166,000	884,000
Fan South	12,248,490,000	0.064	781,249,000	781,249,112,000	239	186,718,538,000	187,000	993,000
Under volcano	6,718,700,000	0.074	500,471,000	500,471,260,000	192	96,334,211,000	96,000	512,000
Total	**39,578,080,000**		**2,901,314,000**	**2,901,314,485,000**		**630,162,237,000**	**630,000**	**3,352,000**

Notes to Appendix F:

- JORC definitions were followed for Mineral resources.
- The CP for this Mineral Resource estimate is Andrew Fulton, MAIG.
- No internal cut-off concentration has been applied to the resource estimate. The resource is reported at a 150 mg/L cut-off.
- Some numbers do not add due to rounding.
- Specific Yield (Sy) = Drainable Porosity.
- Lithium is converted to lithium carbonate (Li2CO3) with a conversion factor of 5.32. For details on the lithology units please refer to the June 15, 2023, August 22, 2023, and October 4, 2023 ASX announcements.