Technical Report

Lithium and Potassium Resources

Cauchari Project

Jujuy Province, Argentina

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1 SUMMARY

1.1 Terms of reference

The Cauchari Project (herein Cauchari Project or the "Project") is operated by Advantage Lithium Corporation (TSX-V: AAL) and which holds an indirect 75% stake in the Project. AAL retained FloSolutions to prepare this Technical Report for the Project in the Jujuy Province in northern Argentina. The objective of this report is to prepare an estimate of brine resources based on exploration work carried out between 2011 and May 2018 on the AAL mineral claims in Salar de Cauchari. Resource estimates are for lithium and potassium contained in brine.

This report has been prepared in conformance with the requirements of National Instrument 43-101 Standards of Disclosure for Mineral Projects and the associated Companion Policy 43-101CP and Form 43-101F1 of the Canadian Securities Administrators and the associated Best Practice Guidelines for Industrial Minerals and Mineral Processing as issued by the Canadian Institute of Mining and Metallurgy. The Report also includes technical judgment of appropriate additional technical parameters to accommodate certain specific characteristics of minerals hosted in liquid brine as outlined in CIM Best Practice Guidelines for Resource and Reserve Estimation for Lithium Brines and as discussed by Houston (Houston et al, 2011).

1.2 Property description and ownership

The Cauchari Project is located in the Puna, 230 km west of the city of San Salvador de Jujuy in the Jujuy Province of northern Argentina. The Project is at an altitude of 3,900 masl and sits just to the south of paved Hwy. 52 that connects with the international border with Chile (80 km to the west) and the major mining center of Calama and the ports of Antofagasta and Mejillones in northern Chile, both major ports for the export of mineral commodities and import of mining equipment.

The Cauchari tenements cover 27,772 ha and consist of 22 minas which were applied for on behalf of South American Salars (SAS). There is an agreement between the vendors of these tenements and SAS. SAS is a joint venture company with the beneficial owners being Advantage Lithium with a 75% interest and La Frontera with a 25% stake. La Frontera is an Argentine company 85% owned by Orocobre Ltd and 15% owned by Argentine shareholders S. Rodriguez and M. Peral. La Frontera holds a 1% gross royalty on the Cauchari Project.

AAL acquired a 75% indirect ownership in the Cauchari Project by incurring exploration expenditures of USD 5 million in the Project and issuing 46,325,000 and 8,175,000 common shares of the Company, respectively, to Orocobre and Peral. Orocobre will have rights of first refusal on brine production (and may enter into an offtake agreement in respect of such brine production). The Project is operated by AAL and managed through a joint venture committee to which Orocobre appoints two members.

1.3 Physiography, climate and access

The physiography of the Project area on the Puna Plateau is characterized by north-south trending basins and ranges with canyons cutting through the Western and Eastern Cordilleras. There are numerous volcanic centers in the Puna. Dry salt lakes (salars) occur within many of the closed basins which have internal (endorheic) drainage. Inflow to these salars is in the form of summer rainfall, surface water runoff and groundwater inflows. Discharge is through evaporation. The Cauchari drainage basin covers some 6,000 km^2 with the nucleus of the Salar covering approximately 250 km^2. The large Archibarca alluvial fan is present on the western side of Salar de Cauchari. The eastern side of the Salar hosts smaller alluvial fans entering the basin. The Tocomar River enters from the south into the Cauchari basin and flows north towards the nucleus of the Salar. Hot springs are reported in the head water of the river in the southeastern extent of the basin.

The climate in the Project area is severe and can be described as typical of a continental, cold, high altitude desert, with resultant scarce vegetation. Daily temperature variations may exceed 25^oC. Solar radiation is intense, especially during the summer months of October through March, leading to high evaporation rates. The rainy season is between the months of December to March. Occasional flooding can occur in the Salar during the wet season and may limit access to parts of the Salar until water evaporates. The climatic conditions are attractive for solar evaporation processes as demonstrated by the FMC and Orocobre lithium operations.

The Project site is reached by paved and unpaved roads from either Salta or Jujuy. The distance between San Salvador de Jujuy, the capital city of Jujuy Province, and the Project is approximately 230 km and takes about 4 hrs by car. The access from Jujuy is via Hwy RN 9 for approximately 60 km to the town of Purmamarca, from there via Hwy RN 52 for a further 150 km, passing the village of Susques to RP 70 along the west side of Cauchari (approximately 70 km east of the international border with Chile at Paso Jama). The Cauchari Project is accessed directly from RP 70.

1.4 Exploration and drilling

Two drilling campaigns have been carried out for the Project since 2011, and a third is taking place now during 2018. The first program in 2011 by SAS (Phase I) covered the SE Sector of the Project area, the second and third campaigns (Phase II and III) by AAL cover both the NW and SE Sectors of the Project area. The work carried out during the two drilling campaigns can be summarized as follows:

- Exploration drilling on a general grid basis to allow the estimation of “in-situ” brine resources. The drilling methods were selected to allow for 1) the collection of continuous core to prepare “undisturbed” samples from specified depth intervals for laboratory porosity analyses and 2) the collection of depth-representative brine samples at specified intervals. The 2011 campaign included five (5) diamond core holes CAU01 though CAU05 and one rotary hole (CAU06). The second campaign in 2017/8 included seven (7) diamond core holes (CAU12 through CAU18). The 2018 Phase III drilling program, currently in execution, will include up to 10 additional diamond core holes.

- Brine sample collection during the drilling programs consisted of bailed and packer samples in the diamond holes, and packer and pumped samples in the rotary holes. A total of 562 brine samples (including 185 QA/QC samples) were analyzed by Norlabs (Jujuy, Argentina) as the primary laboratory and by Alex Steward Assayers (Mendoza, Argentina) and the University of Antofagasta (Chile) as secondary QA/QC laboratories. Additional brine QA/QC analyses were carried out on centrifuged samples collected by Corelabs in Houston, TX.

- HQ core was retrieved during the diamond core drilling from which some 172 primary undisturbed samples were prepared for laboratory drainable porosity and other physical parameter determinations by GeoSystems Analysis (GSA) in Tucson, AZ. Laboratory QA/QC porosity analyses were undertaken by Corelabs in Houston, TX and Daniel B Stephens & Associates laboratories (DBSA) in Albuquerque, NM.

- The 2017/8 campaign included five rotary holes (CAU07 though CAU11) which were drilled and completed as test production wells to carry out pumping tests and additional selective brine sampling. Monitoring wells will be installed adjacent to these test production wells for use during the pumping tests as part of the Phase III program.

- Initial short-term (48 hour) pumping tests were carried out on CAU07 through CAU11 during 2017. It is planned that long-term pumping tests (30 day) will be carried out on some of these wells during 2018 as soon as the installation of the adjacent monitoring wells have been completed.

- A number of geophysical surveys have been carried out since 2011 in the Project area to further define basin geometry, continuity of lithological units, and to define the brine / fresh water interface along the perimeter of the Salar. These geophysical surveys included gravity, TEM, VES and AMT methods.

1.5 Geology and mineralization

1.5.1 Geology

Based on the drilling campaigns carried out in the Salar between 2011 and 2018, seven major geological units were identified and correlated from the logging of drill cuttings and undisturbed core to a general depth of over 400 m. No borehole has reached bedrock. Salar de Cauchari is a mixed style salar, with a halite nucleus in the center of the Salar overlain with up to 50 m of fine grained (clay) sediments. The halite core is interbedded with clayey to silty and sandy layers. The Salar is surrounded by relative coarse grained alluvial and fluvial sediments. These fans demark the perimeter of the actual Salar visible in satellite images and at depth extend towards the center of the Salar where they form the distal facies with an increase in sand and silt. At depth (between 300 m and 500 m) a deep sand unit has been intercepted in several core holes in the SE Sector of the Project area.

1.5.2 Mineralization

The brines from Salar de Cauchari are solutions nearly saturated in sodium chloride with an average concentration of total dissolved solids (TDS) of 290 g/L. The average density is 1.18 g/cm3. Components present in the Cauchari brine are: K, Li, Mg, Ca, Cl, SO4, HCO3 and B. Table 1.1 shows a breakdown of the principal chemical constituents in the brine including maximum, average, and minimum values, based on the 442 brine samples that were collected and analyzed from the exploration boreholes during the 2011 and 2017/8 drilling programs.

Table 1.1 Maximum, average and minimum elemental concentrations of the Cauchari brine

Analyte	Li	K	B	Na	Ca	Mg	SO4	Density
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	g/cm^3
Maximum	1,064	8,898	1,488	135,362	1,681	2,823	62,530	1.23
Mean	488	4,542	799	105,956	452	1,184	22,236	1.18
Minimum	6	80	18	1,656	106	71	494	1.07
Std.Dev.	190	1,628	273	23,929	246	478	9,172	0.04

1.6 Status of exploration, development and operations

AAL has contracted Tier-1 global engineering consultancy Worley Parsons to complete a Preliminary Economic Assessment (PEA) for the Project by Q3 2018, based on the production of 20 ktpa of lithium carbonate. Currently the Phase III drilling and testing program is ongoing and consists of infill resource drilling (10 core holes) to a depth of up to 600 m to convert the Inferred Resources to M+I Resources in support of the Project Definitive Feasibility Study (DFS) for completion in 2019. Long-term pumping tests are planned for Q3 2018 along with brine chemistry characterization and process evaluation work. Estudios y Servicios Ambientales SRL (Ambiental), a major Argentine environmental consultancy, with extensive experience in salars and Northern Argentina has been contracted to oversee the preparation of an Environmental Impact Statement (EIA) for the Project by Q2 2019.

1.7 Brine resource estimate

The brine resource estimate was determined by defining the aquifer geometry, the drainable porosity or specific yield (Sy) of the hydrogeological units in the Salar, and the concentration of the elements of economic interest, lithium and potassium. The model resource estimate is limited to the AAL mining concessions in Salar de Cauchari and covers an area of 92,6 km^2.

The resource model domain is constrained by the following factors:

- The top of the model coincides with the brine level in the Salar as measured in a number of monitoring wells and further interpreted by TEM and SEV geophysical profiles.
- The lateral boundaries of the model domain are limited to the area of the Cauchari tenements where they flank the neighboring Lithium Americas Corp (LAC) concessions and by the brine / fresh water interface along the eastern and western limits of the Salar as interpreted from borehole information and TEM and SEV profiles.
- The bottom of the model coincides with a total depth of 300 m. Locally, a deeper resource volume has been defined in the Lower sand unit between 400 m and 480 m depth as defined by boreholes CAU11R, CAU12D and CAU13D.

The specific yield values used to develop the resource estimate are based on results of the logging and hydrogeological interpretation of recovered core of 12 diamond boreholes, results of drainable porosity analyses carried out on 172 primary undisturbed samples by GSA with additional measurements made by DBSA, Corelabs and with additional data available from the British Geological Survey (BGS) in 2011. Table 1.2 shows the drainable porosity values assigned to the different geological units for the resource model.

Table 1.2 Specific yield (Sy) values applied in the resource model

Geological Unit	Sy
Clay	0.03
Halite: High Sy	0.11
Halite	0.03
Archibarca Fan	0.12
East Fan	0.05
West Fan	0.11
Lower Sand	0.14

The distributions of lithium and potassium concentrations in the model domain are based on a total of 449 brine analyses mentioned in Section 1.5.2 above. The boreholes within the inferred resource area are appropriately spaced at a borehole density of one bore per 5 km^2

The resource estimate for the Project was developed using the Stanford Geostatistical Modeling Software (SGeMS) and the geological model as a reliable representation of the local lithology. The authors were closely involved with the block model development; all results have been reviewed and checked at various stages and are believed to be valid and appropriate for this resource estimate. Table 1.3 shows the Inferred Lithium and Potassium Resources for the Cauchari Project.

Table 1.3 Cauchari Project Lithium and Potassium Resource estimate (June 27, 2018)

Inferred Resources (lithium cut-off concentration: 300 mg/l)						
Parameter	**NW Sector**		**SE Sector**		**Total**	
Resource area (km^2)	35.2		57.4		92.6	
Aquifer volume (km^3)	6.5		13.9		20.4	
Mean specific yield (Sy)	9%		4%		6%	
Element	**Li**	**K**	**Li**	**K**	**Li**	**K**
Mean concentration (mg/l)	465	3,920	443	4,078	450	4,028
Mean grade (g/m^3)	44	373	20	184	28	244
Total Resource (tonnes)	288,000	2,420,000	280,000	2,560,000	568,000	4,980,000

Notes to Table 1.3:

- CIM definitions were followed for mineral resources.
- The Qualified Person for this Mineral Resource estimate is Frits Reidel, CPG.
- A lithium cut-off concentration of 300 mg/L has been applied to the resources estimate.
- Numbers may not add due to rounding.

Table 1.4 shows the Mineral Resource of the Cauchari Project expressed as lithium carbonate equivalent (LCE) and potash (KCl).

Table 1.4 Cauchari Project Mineral Resources expressed as LCE and potash

Inferred Resources (t)	
Lithium Carbonate (LCE)	3,020,000
Potash (KCl)	9,500,000

Notes to Table 1.4:

- Lithium is converted to lithium carbonate (Li_2CO_3) with a conversion factor of 5.32.
- Potassium is converted to potash with a conversion factor of 1.91.
- Numbers may not add due to rounding.

It is the opinion of the authors that the Salar geometry, brine chemistry composition and the specific yield of the Salar sediments have been adequately characterized to support Inferred Resource estimates for the Project herein.

1.8 Geological exploration target

In addition to the Inferred Resource described herein, significant additional exploration potential exists below the currently defined Inferred Resources. Based on results of deep exploration boreholes and the geophysical information, it is the opinion of the authors that a significant exploration target with up to 3 million tonnes of LCE exists below the current resource.

1.9 Conclusions and recommendations

Based on the analyses and interpretation of the results of the exploration work carried out on the Cauchari Project between 2011 and May 2018, the following concluding statements are prepared:

- The entire Cauchari Project area within the NW and SE Sectors has been covered by exploratory drilling between 2011 and May 2018 at an approximate borehole density of one exploration borehole per 5 km^2; it is the opinion of the authors that such borehole density is appropriate for the mineral resource estimate described herein. AAL has additional properties south of the resource which have not been subject to any drilling and which have potential to host lithium brine.

- The results of the drilling (12 diamond core holes and 6 rotary boreholes) and the analysis of 285 primary brine samples identify distinct brine composition and grade at specific depth intervals, showing a relatively uniform distribution of lithium bearing brines throughout the Project area to a depth of 480 m.

- The lithium bearing brine contains sufficient levels of lithium and potassium to be potentially economic for development.

- It is the opinion of the authors that the Salar geometry, brine chemistry composition and the specific yield of the Salar sediments have been adequately defined to support the Inferred Resource estimate described in Table 1.3.

- Based on results of deep exploration boreholes and the geophysical information, it is the opinion of the authors that a significant exploration target with up to 3 million tonnes of LCE exists below the Inferred Resource defined above.

- It is recommended that the resource infill drilling program (Phase III) is completed during 2018 so that the Inferred Resources can be converted to Indicated and/or Measured Resources in support of the DFS. This infill drilling will consist of some 10 additional core holes to depths of up to 600 m.

- It is recommended that the PEA and DFS for the Cauchari Project are completed as is planned during 2018 and 2019, respectively.

- Baseline monitoring and studies in support of the EIA should be completed during 2018. Long–term pumping tests should be completed in CAU07 (NW Sector) and CAU11 (SE Sector) to further define aquifer parameters and evaluate brine concentrations during the duration of these tests.

- The estimated cost for the Phase III program is approximately USD 9.7 million.

2 INTRODUCTION

2.1. Terms of reference

The Cauchari Joint Venture (herein Cauchari Project or the "Project") is operated by Advantage Lithium Corp. (TSX-V: AAL) and which hold a 75% stake in the Project. AAL retained FloSolutions to prepare this Technical Report for the Project in the province of Jujuy in the north of Argentina. The objective of this report is to prepare an estimate of brine resources based on exploration work carried out between 2011 and May 2018 on the SAS mineral claims in Salar de Cauchari. Resource estimates are for lithium and potassium contained in brine.

This report has been prepared in conformance with the requirements of National Instrument 43-101 Standards of Disclosure for Mineral Projects and the associated Companion Policy 43-101CP and Form 43-101F1 of the Canadian Securities Administrators and the associated Best Practice Guidelines for Industrial Minerals and Mineral Processing as issued by the Canadian Institute of Mining and Metallurgy. The Report also includes technical judgment of appropriate additional technical parameters to accommodate certain specific characteristics of minerals hosted in liquid brine as outlined in CIM Best Practice Guidelines for Resource and Reserve Estimation for Lithium Brines and as discussed by Houston (Houston et al, 2011).

2.2. Sources of Information

Previous technical reports prepared for the Project include:

- Technical Report on the Cauchari Lithium Project Jujuy Province, Argentina. NI 43-101 Report Prepared for Advantage Lithium Corp by Murray Brooker and Peter Ehren. Effective 5th December, 2016, Amended 22 December, 2016.

- Technical Report on the Cauchari Project Jujuy Province, Argentina. NI 43-101 Report Prepared for Orocobre Limited. Prepared by Consulting Hydrogeologist John Houston. Effective April 30, 2010.

The authors were provided full access to the AAL database including drill core and cuttings, drilling and testing results, brine chemistry and porosity laboratory analyses, aquifer testing results, geophysical surveys and all other information available from the work carried out on the Project between 2011 and 2018. The documentation reviewed, and other sources of information, are listed at the end of this report in Section 27 References.

The report was prepared by Frits Reidel, CPG, "qualified person" (QP) who is independent of AAL as such terms are defined by NI 43-101, and Peter Ehren, MAusIMM, also a QP and independent of AAL as such terms are defined by NI 43-101. The authors have relevant experience in the evaluation of brine deposits in South America and have been involved with exploration and development efforts of the Olaroz and Cauchari Salars since 2009. The authors have been to the project area numerous times since 2009. Specifically, Frits Reidel visited the Cauchari Project area during the Phase II Drilling Program in June, August, September and December 2017 and in March 2018. Consultant Processing Engineer Mr Peter Ehren visited the project in 2011, when initial exploration was undertaken.

2.3. Units

The metric (SI system) units of measure are used in this report unless otherwise noted.

List of abbreviations

All currency in this report is US dollars (US$) unless otherwise noted.

µ	Micron	km^2	square kilometer
°C	degree Celsius	kPa	Kilopascal
°F	degree Fahrenheit	kVA	kilovolt-amperes
µg	Microgram	kW	Kilowatt
A	Ampere	kWh	kilowatt-hour
a	Annum	L	Litre
bbl	Barrels	L/s	litres per second
Btu	British thermal units	M	Metre
C$	Canadian dollars	M	mega (million)
cal	Calorie	m^2	square metre
cfm	cubic feet per minute	m^3	cubic metre
cm	centimeter	Min	Minute
cm^2	square centimeter	MASL	metres above sea level
d	Day	Mm	millimeter
dia.	Diameter	Mph	miles per hour
dmt	dry metric tonne	MVA	megavolt-amperes
dwt	dead-weight ton	MW	Megawatt
ft	Foot	MWh	megawatt-hour
ft/s	foot per second	m^3/h	cubic metres per hour
ft^2	square foot	opt, oz/st	ounce per short ton
ft^3	cubic foot	Oz	Troy ounce (31.1035g)
g	Gram	Ppm	part per million
G	giga (billion)	Psia	pound per square inch absolute
Gal	Imperial gallon	Psig	pound per square inch gauge
g/L	gram per litre	RL	relative elevation
g/t	gram per tonne	S	Second
gpm	Imperial gallons per minute	St	short ton
gr/ft^3	grain per cubic foot	Stpa	short ton per year
gr/m^3	grain per cubic metre	Stpd	short ton per day
hr	hour	T	metric tonne
ha	hectare	Tpa	metric tonne per year
hp	horsepower	Tpd	metric tonne per day
in	inch	US$	United States dollar
in^2	square inch	USg	United States gallon
J	joule	USgpm	US gallon per minute
k	kilo (thousand)	V	Volt
kcal	kilocalorie	W	Watt
kg	kilogram	Wmt	wet metric tonne
km	kilometre	yd^3	cubic yard
km/h	kilometre per hour	Yr	Year

3 RELIANCE ON OTHER EXPERTS

The preparation of a technical report of this nature requires multiple technical disciplines; the authors have relied on other experts in items related to the legal status of mining properties, environmental affairs and topography.

Legal – For the purpose of this report, the authors have relied on ownership information provided by AAL. This includes a report by independent lawyer, Santiago Saravia Frias for information regarding the legal status of the properties, the property (tenement) agreements, the surveyed limits of properties and permits, and surface property rights dated 8th August 2016 and applies to information in Section 4 and related summaries in its entirety. The independent QPs have not investigated title or mineral rights of the Project and express no legal opinion as to the ownership status of the Cauchari Properties

Environmental – SAS representatives Miguel Peral and Silvia Rodriguez for information regarding permits held by the company and the environmental reporting status of the Project. This refers to information in Sections 4 and 20.

Topography - The authors also rely on the topographic information provided by AAL.

4 PROPERTY LOCATION AND DESCRIPTION

4.1. Location

The Cauchari Project is located in the Puna region of the Jujuy Province in northern Argentina as shown in Figure 4.1. The Project is at an altitude of 3,900 masl and is located 230 km west of the city of San Salvador de Jujuy, the capital of the Jujuy Province.

The Project site sits just to the south of paved Hwy. 52 that passes through the international border with Chile, approximately 80 km west (Jama Pass) and continues on to the major mining center of Calama and the ports of Antofagasta and Mejillones in northern Chile, both major ports for the export of mineral commodities and import of mining equipment.

4.2. Exploration and exploitation licenses

4.2.1. Licenses & coordinate system

The location of the SAS licenses is shown in Figure 4.2, with property (tenement) information presented in Table 4.1. Tenement co-ordinates (and all other co-ordinates used in this report) are given in the Argentine coordinate system, which uses the Gauss Krueger Transverse Mercator projection and the Argentine Posgar 94 datum. The properties are located in Argentine GK Zone 3.

Two tenement types exist in the Argentine mining regulations. Cateos (Exploration Permits) are licenses that allow the holder to explore the tenement for a period of time that is proportional to its size. An Exploration Permit of 1 unit (500 hectares) is granted for a period of 150 days. For each additional unit (500 hectares) the period is extended by 50 days. The maximum allowed permit size is 20 units (10,000 hectares) and which is granted for a period of 1,100 days. The period begins 30 days after granting of the permit.

A relinquishment must be made after the first 300 days, and a second one after 700 days. The applicant should pay a canon fee of $1,600 Argentine pesos per unit (500 hectares) and submit an exploration work plan and environmental impact assessment.

Minas (Mining/exploitation Permits) are licenses which allow the holder to exploit the tenement subject to regulatory environmental approval. Minas are of unlimited duration, providing the tenement holder meets its obligations under the Mining Code. These include:

- Paying the annual rent (canon) payments;
- Completing a survey of the tenement boundaries;
- Submitting a mining investment plan; and
- Meeting the minimum investment commitment.

Figure 4.1 Location map of the Cauchari Project

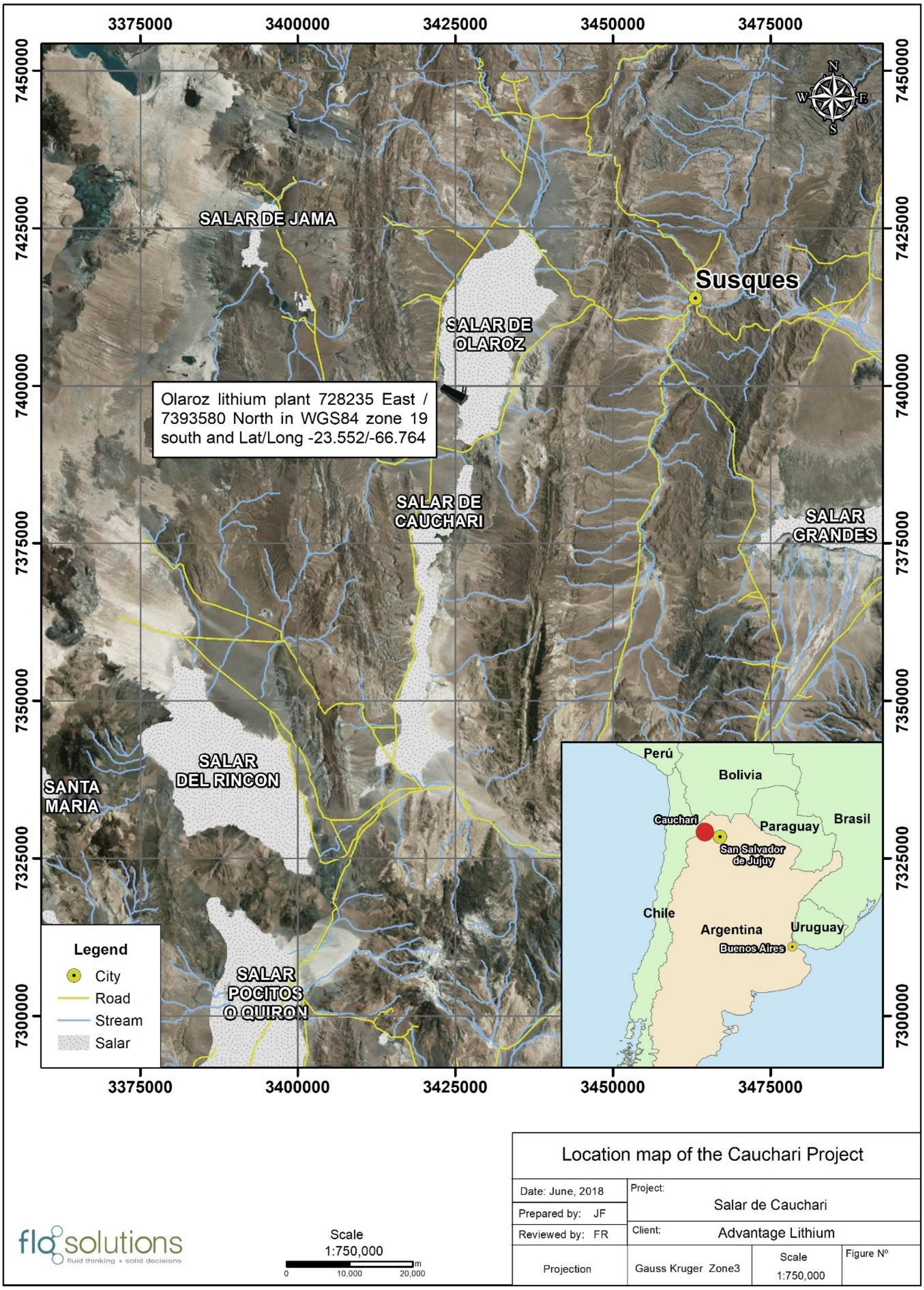
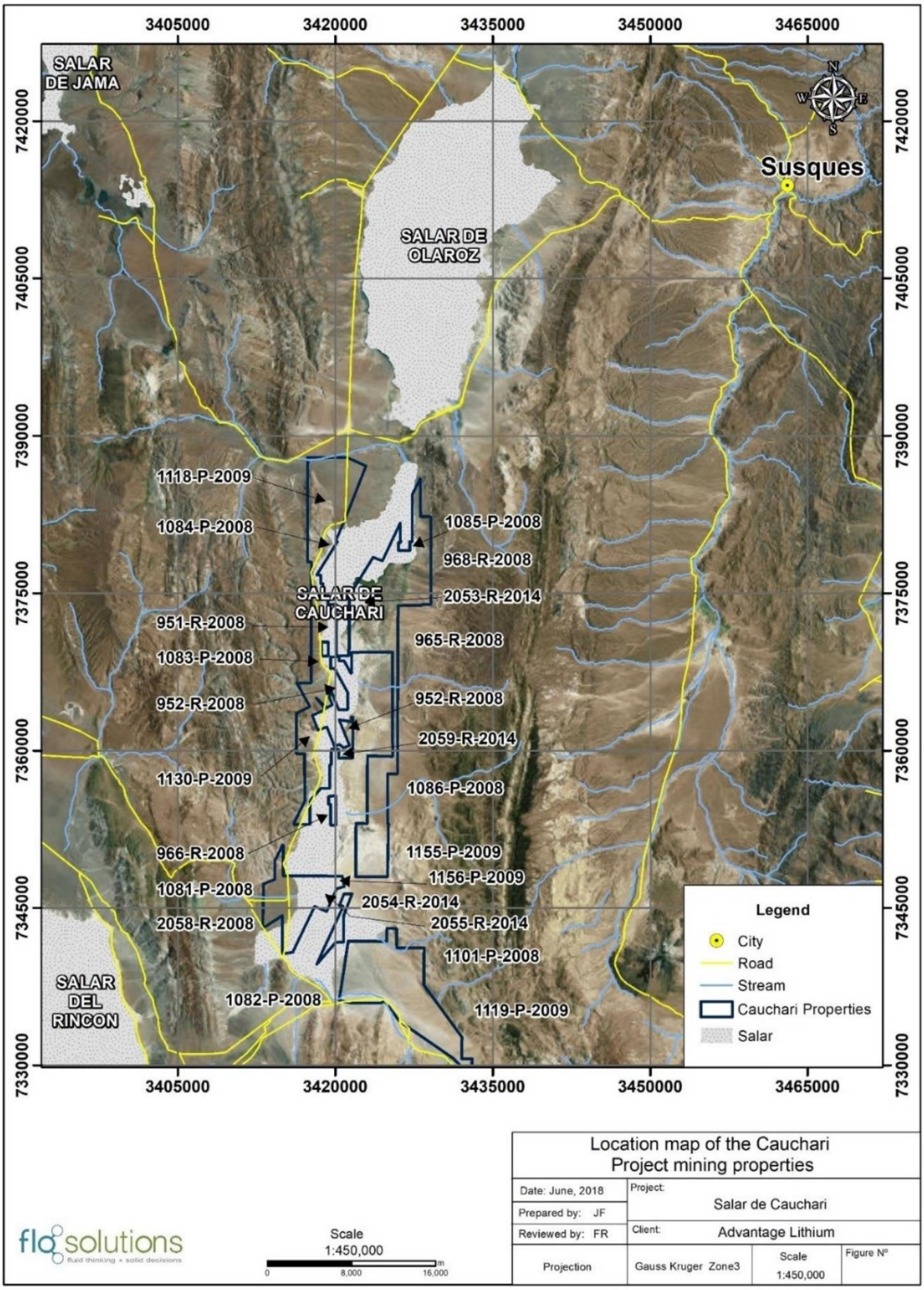


Figure 4.2 Location map of the Cauchari Project mining claims



4.2.2. Expenditure commitments for Minas

The Cauchari properties are now all held as applications for minas.

- The investment commitment is 300 times the annual rent payment, to be spent over a five year period and payable within five years of the filing of a capital investment plan.
- During each of the first two years the amount of the investment shall not be less than 20% and the rest of the investment (60 %) freely distributed during the remaining three years.
- The annual tenement tax varies according to the mineral commodity. For brines it is $3,200 Argentine pesos/yr per 100 hectares.

Mining claims (of both types) must specify the type of mineral the holder is seeking to explore and exploit. The canon fees are dependent on the class of minerals applied for. Claims cannot be over-staked by new claims specifying different minerals; adding a new mineral species to a claim file is a relatively straightforward procedure and may require payment of a different canon fee.

All Cauchari tenements are in the process of being granted as minas/exploitation permits, replacing the Cateos previously held by SAS. Provided that the title holder fulfils the legal requirements, in due time the pertinent exploitation licence/concession should be granted. Independent legal review has confirmed the property obligations have been met and that the properties are in good standing.

Expenditure commitments for individual properties are listed in Table 4.1.

4.2.3. The Cauchari tenement package

The Cauchari tenements cover approximately 27,772 hectares in the province of Jujuy. These consist of 22 minas which were applied for on behalf of SAS. There is an agreement between the vendors of these tenements and SAS. The legal report prepared by independent Argentine registered lawyer Mr Santiago Saravia Frias (dated 12 August, 2016) showed that these properties were originally owned by Silvia Rodriguez and are in the legal process of being transferred to SAS..

4.2.4. Surface rights and legal access

Mineral rights, in general, have a nature of public benefit and are owned by the Provinces which grant exploration and exploitation concession rights for the development of mining projects. Surface rights are independently owned from mining rights and in the case of the Cauchari Project are owned by the communities of Catua, Termas de Tuzgle de Puesto Sey and/or Los Manantiales de Pastos Chicos. Table 4.1 shows the details of surface ownership in the Cauchari Project area. The owners of mineral exploration and exploitation concessions have certain obligations to the surface rights owners including the approval of an Environmental Impact Analyses (EIA) and possible other compensation measures to be agreed.

Table 4.1 Surface rights of Cauchari Project tenements

Property	Property Number	Property Area (ha)	Property Type & Expiry	Land owner (communities)	Total Five Year Mining Investmen (Argentine Pesos)t	Annual canon (rent) fee US$
Juan Pablo II	2055R 2014	495	Mina - Perpetual	Termas de Tuzgle de Puesto Sey	320,000	1,067
Juan XXIII	2054 R 2014	442	Mina - Perpetual	Termas de Tuzgle de Puesto Sey	320,000	1,067
Papa Francisco I	2053 R 2014	1,997	Mina - Perpetual	Termas de Tuzgle de Puesto Sey and Los Manantiales de Pastas Chicos.	1,280,000	4,267
San Gabriel I	951R 2008	795	Mina - Perpetual	Catua,Termas deTuzgle de Puesto sey and Los Manantiales de Pastas Chicos.	512,000	1,707
San Joaquin I	952 R 2008	488	Mina - Perpetual	Catua and Termas deTuzgle de Puesto Sey	320,000	1,067
San Francisco Sur	965 R 2008	1,345	Mina - Perpetual	Catua,Termas deTuzgle de Puesto sey and Los Manantiales de Pastas Chicos.	896,000	2,987
San Carlos Este	966 R 2008	118	Mina - Perpetual	Termas de Tuzgle de Puesto Sey	128,000	427
Francisco Norte	968 R 2008	700	Mina - Perpetual	Pastas Chicos	448,000	1,493
Georgina	1081 p 2008	1,247	Mina - Perpetual	Catua	832,000	2,773
Olacapatita I	1082 p 2008	1,422	Mina - Perpetual	The Province of Jujuy has established an encumbrance for solar energy in the whole tenement	960,000	3,200
San Gabriel Sur	1083 p 2008	1,450	Mina - Perpetual	Catua, Termas de Tuzgle de Puesto Sey and Los Manantiales de Pastos Chicos.	960,000	3,200
San Gabriel Norte	1084 p 2008	1,527	Mina - Perpetual	Cauta and Los Mantantiales de Pastos Chicos	1,024,000	3,413
San Francisco Este	1085 p 2008	1,201	Mina - Perpetual	Termas de Tuzgle de Puesto Sey and Los Manantiales de Pastos Chicos.	768,000	2,560
Sulfita	1086 p 2008	1,717	Mina - Perpetual	Termas de Tuzgle de Puesto Sey	1,152,000	3,840
Olacapatita II	1101 p 2008	2,484	Mina - Perpetual	The Province of Jujuy has established an encumbrance for solar energy in the whole tenement	1,600,000	5,333
Olacapatita III	1119 p 2009	2,493	Mina - Perpetual	The Province of Jujuy has established an encumbrance for solar energy in the whole tenement	1,600,000	5,333
San Gerardo	1118 p 2009	2,396	Mina - Perpetual	Catua, Termas de Tuzgle de Puesto Sey and Los Manantiales de Pastos Chicos.	1,536,000	5,120
San Gerardo II	1130 p 2009	1,239	Mina - Perpetual	Catua Comunity	832,000	2,773
Antonito I	1155 p 2009	1,500	Mina - Perpetual	Termas de Tuzgle de Puesto Sey	960,000	3,200
Solitaria I	1156 p 2009	66	Mina - Perpetual	Termas de Tuzgle de Puesto Sey	64,000	213
Mina San Gabriel X	2059 R 2014	885	Mina - Perpetual	Termas de Tuzgle de Puesto Sey	576,000	1,920
Mina Juan Pablo I	2058 R 2014	1,765	Mina - Perpetual	Termas de Tuzgle de Puesto Sey	1,152,000	3,840
Total		**27,772**			**18,240,000**	**60.800**

4.3. Environmental liabilities

The Cauchari tenements are not subject to any known environmental liabilities. There have been historical ulexite / borax mining activities adjacent to the Cauchari Project in the north of the Salar. These mining operations are generally limited to within three meters of the surface and it is assumed that these borax workings will naturally reclaim when mining is halted due to wet season inflows.

4.4. Permit status

Exploration and mining activities on cateos and minas are subject to regulatory approval of an environmental impact report ("EIR") before initiating activities. The authors understand that AAL obtained all approvals required for the current drilling and testing programs in the Salar.

4.5. Royalties

The Argentine federal government regulates ownership of mineral resources, although mineral properties are administered by the provinces. In 1993 the Federal Government established a limit of 3% on mining royalties to be paid to the provinces as a percentage of the "pit head" value of extracted minerals. AAL will is expected to have a 3% royalty payable to the Jujuy Province based on earnings before income and tax, if a brine mining operation is established.

4.6. Ownership of the Cauchari Project

SAS is a joint venture company with the beneficial owners being Advantage Lithium with a 75% interest and La Frontera with a 25% stake. La Frontera is an Argentine company 85% owned by Orocobre Ltd and 15% owned by Argentine shareholders S. Rodriguez and M. Peral. La Frontera holds a 1% gross royalty on the Cauchari Project.

AAL acquired a 75% indirect ownership in the Cauchari Project by incurring exploration expenditures of US$ 5 million in the Project and issuing 46,325,000 and 8,175,000 common shares of the Company, respectively, to Orocobre and Peral. Orocobre will have rights of first refusal on brine production (and may enter into an offtake agreement in respect of such brine production). The Project is operated by AAL and managed through a joint venture committee to which Orocobre appoints two members.

4.7. Other Significant Factors and Risks

A number of normal risk factors are associated with the exploration and development of the Cauchari Project. These risks include, but are not limited to:

- Mining properties may not be renewed by the provincial authorities.
- Final environmental approvals may not be received from the necessary authorities.
- Obtaining all necessary licenses and permits on acceptable terms in a timely manner or at all.
- Changes in federal or provincial laws and their implementation may impact planned activities.
- Potential flooding in the Salar could temporarily delay planned exploration and development activities.
- The company may be unable to meet its obligations for expenditure and maintenance of property licenses.
- Activities on adjacent properties having an impact on the Cauchari project.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1. Accessibility, local resources and infrastructure

The Project site is reached by paved and unpaved roads from either the Salta or Jujuy Provinces. The distance between San Salvador de Jujuy and the Project is approximately 230 km and takes about 4 hrs by car. The access from Jujuy is via Hwy RN 9 for approximately 60 km to the town of Purmamarca, from there Hwy RN 52 for a further 150 km, passed the village of Susques to RP 70 along the west side of Cauchari. The Cauchari Project is accessed directly from RP 70.

The Project is reached from the city of Salta, capital of Salta Province, via the town of Campo Quijano, then continuing along Hwy RN 51 through Quebrada del Toro, the town of San Antonio de los Cobres and a further 130 km to the junction with RP 70 on the west side of Salar de Cauchari. Total driving time from Salta to the Project is approximately 5 hours.

Both Jujuy and Salta have international airports with regular flights to Buenos Aires. The Project is located 20 km to the south of Orocobre's Olaroz lithium plant which has full infrastructure available including water, gas, and electricity. The Puna gas pipeline crosses to the north of Salar de Olaroz. Orocobre has constructed a connection to this pipeline for the Olaroz Project. A railway line connecting northern Argentina to Chile passes along the southern end of Salar de Cauchari, approximately 40 kilometers to the south of the Project site.

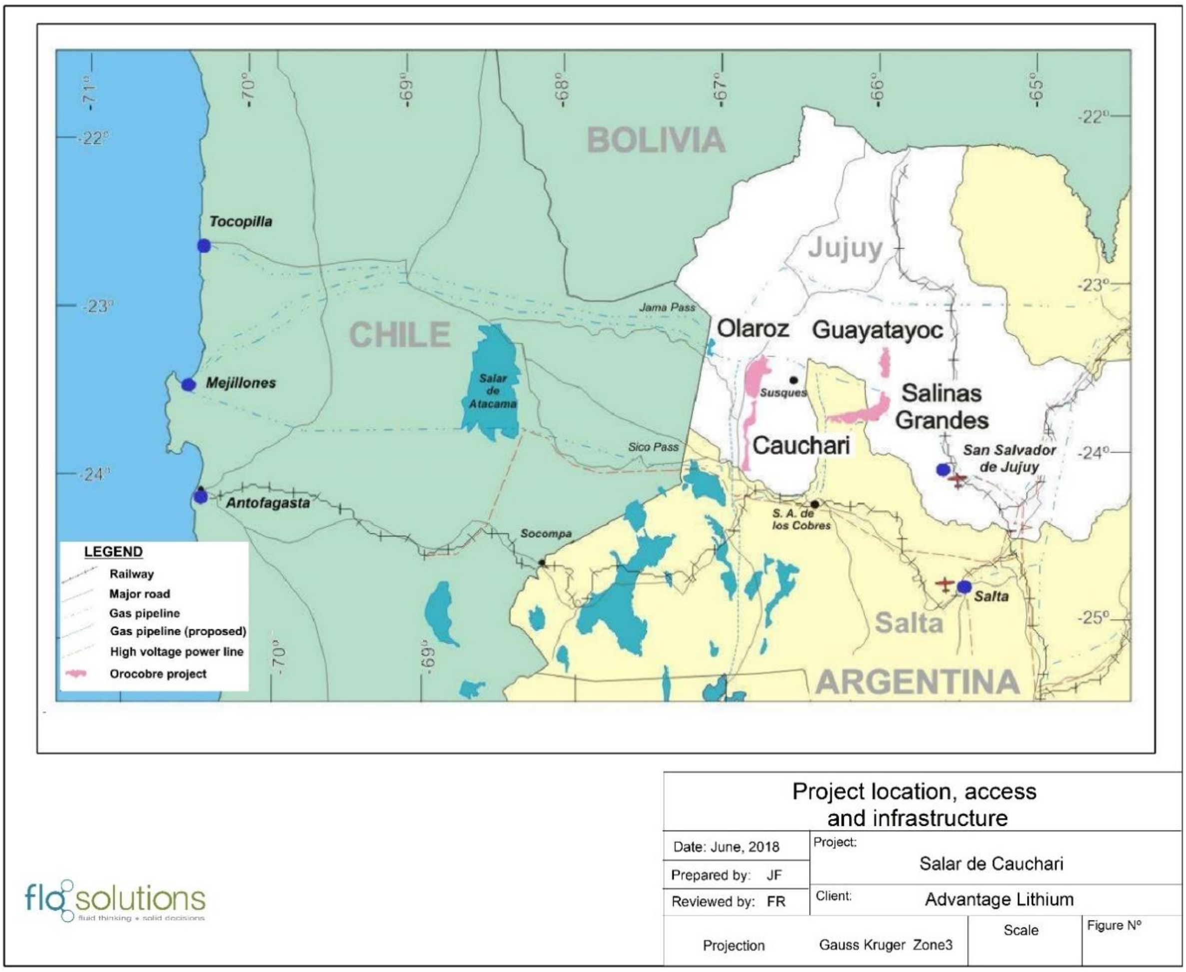
5.2. Local population centers and accommodation

There are a number of local villages within 50 kilometers of the Project site. These include: Catua 37 km southwest, Pastos Chicos and Puesto Sey to the east and Olaroz Chico 34 km north and Olacapato 50 km south. The regional administration is located in the town of Susques (population ~2,000) some 60 km northeast of the Project site. Susques has a regional hospital, petroleum and gas services, and a number of hotels. A year-round camp exists at the Project site and provides all services and accommodations for the on-going exploration program.

5.3. Physiography

The Altiplano-Puna is an elevated plateau within the central Andes (see Figure 5.2 below). The Puna covers part of the Argentinean provinces of Jujuy, Salta, Catamarca, La Rioja and Tucuman with an average elevation of 3,700 masl (Morlans, 1995; Kay et. al., 2008).

Figure 5.1 Project location, access and infrastructure

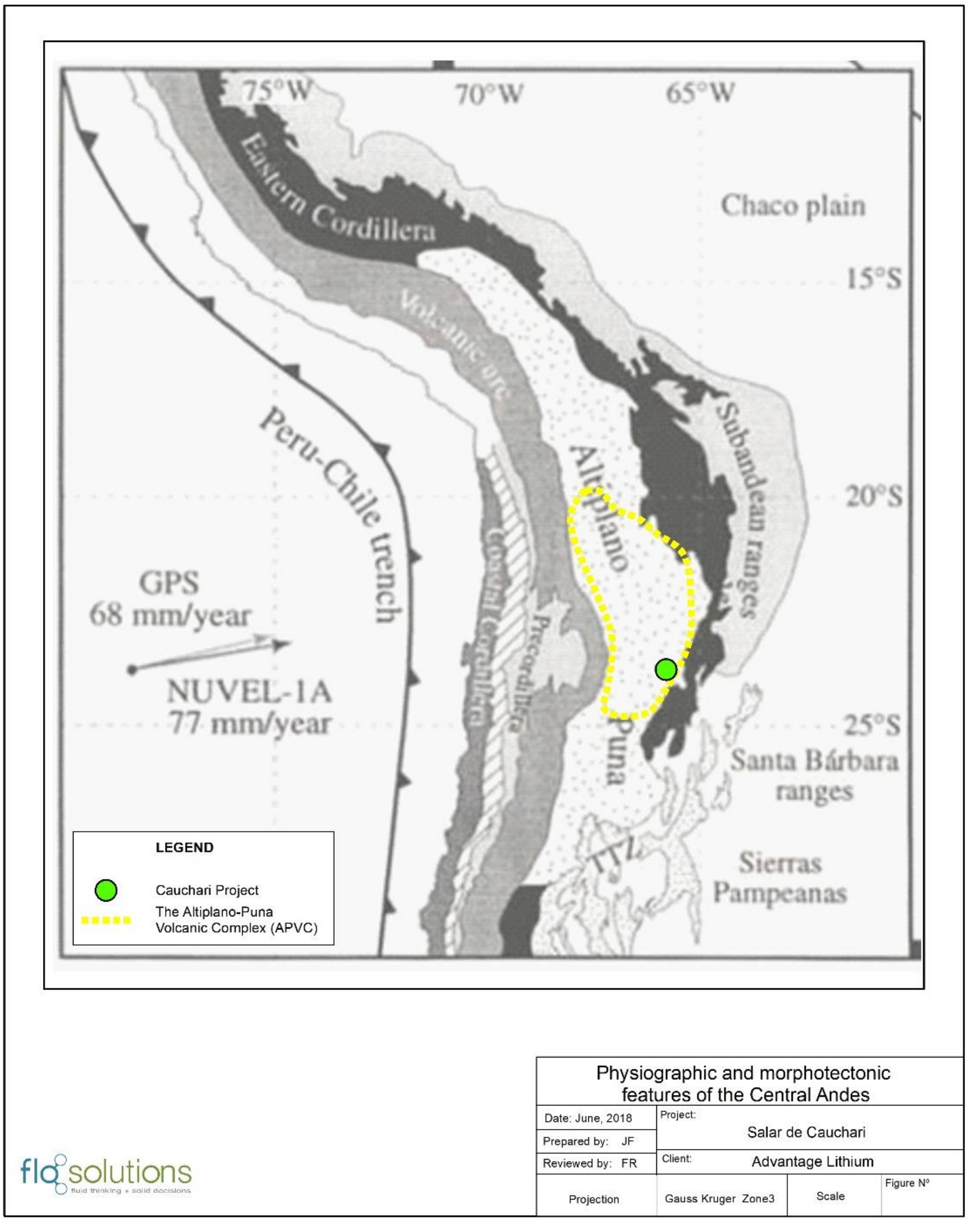


The Altiplano-Puna Volcanic Complex (APVC) is shown on Figure 5.2 and is associated with numerous stratovolcanoes and calderas. Investigations have shown that the APVC is underlain by an extensive magma chamber at 4-8 km depth (de Silva et al., 2006).

The physiography of the region is characterized by generally north-south trending basins and ranges, with canyons cutting through the Western and Eastern Cordilleras. There are numerous volcanic centers in the Puna, particularly in the Western Cordillera, where volcanic cones are present along the border of Chile and Argentina.

Dry salt lakes (salars) in the Puna occur within many of the closed basins (see Figure 5.2 below), which have internal (endorheic) drainage. Inflow to these salars is from summer rainfall, surface water runoff and groundwater inflows. Discharge is though evaporation.

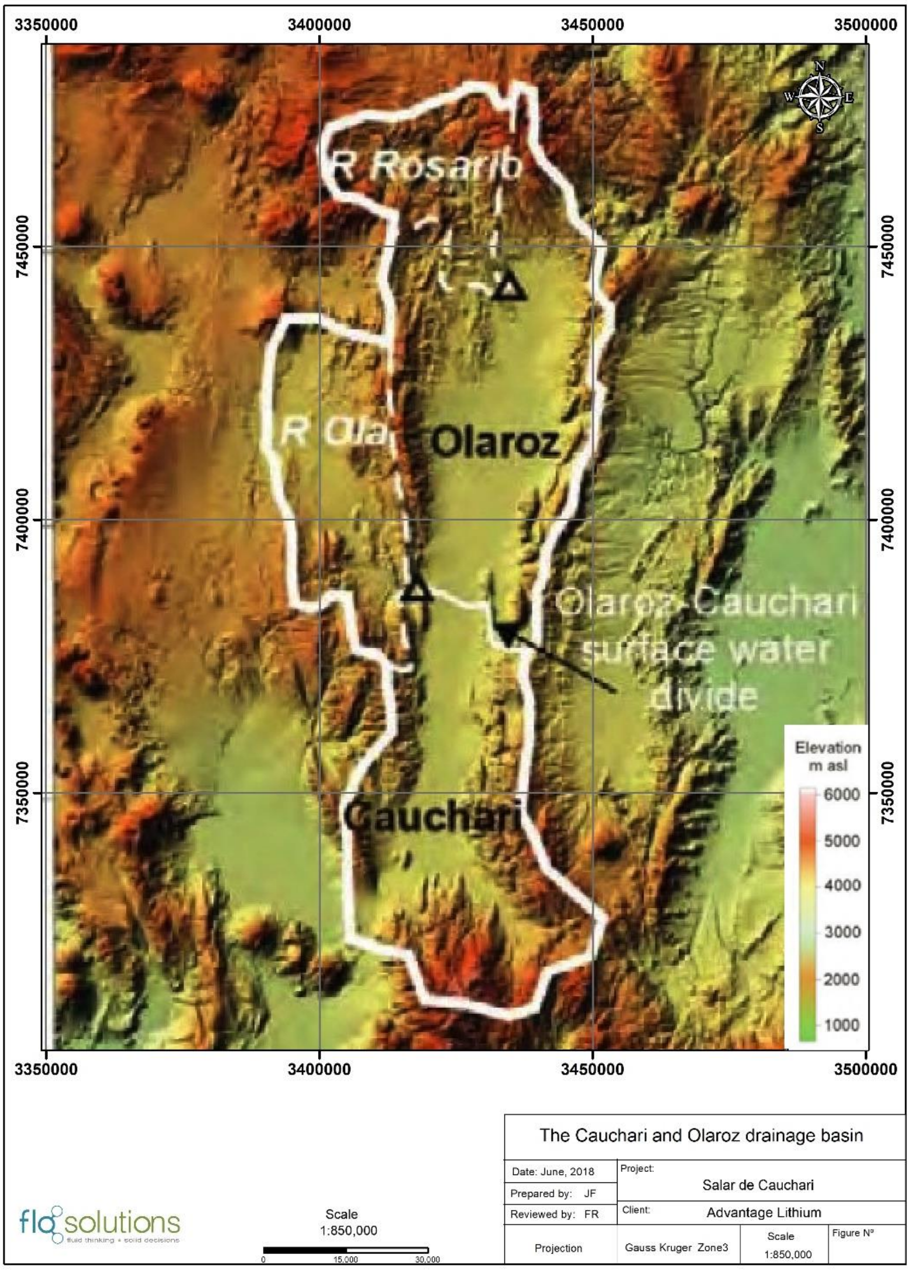
Figure 5.2 Physiographic and morphotectonic features of the Central Andes.



Key physiographic observations regarding the Cauchari salar include:

- The drainage divide between the Cauchari salar to the south and the Olaroz salar to the north is coincident with the international Hwy RN 52 crossing between these salars and continuing west to link Argentina to Chile at the Jama pass.
- The large Archibarca alluvial fan is present on the western side of Salar de Cauchari. The eastern side of the Salar hosts smaller alluvial fans entering the basin.
- The Tocomar River enters from the south into the Cauchari basin and flows north towards the nucleus of the Salar. Hot springs are reported in the head water of the river in the southeastern extent of the basin.
- The Cauchari drainage basin covers some 6,000 km^2 with the nucleus of the Salar covering approximately 250 km^2 as shown in Figure 5.3

Figure 5.3 The Cauchari and Olaroz drainage basin



5.4. Climate

The climate in the Project area is severe and can be described as typical of a continental, cold, high altitude desert, with resultant scarce vegetation. Daily temperature variations may exceed 25ºC. Solar radiation is intense, especially during the summer months of October through March, leading to high evaporation rates. The rainy season is between the months of December to March. Occasional flooding can occur in the Salar during the wet season and may limit some mining activities.

Limited historical climate data are available for the Project and surrounding areas. Orocobre and Lithium Americas Corporation (LAC) operate weather stations in Salar de Olaroz and Cauchari, respectively since

2010. The climatic conditions are attractive for solar evaporation processes as demonstrated by the FMC and Orocobre lithium operations.

5.4.1. Rainfall

The rainy season is between the months of December to March when most of the annual rainfall occurs often in brief convective storms that originate from Amazonia to the northeast. The period between April and November is typically dry. Annual rainfall tends to increase towards the northeast, especially at lower elevations. Significant control on annual rainfall is exerted by ENSO (El Niño-Southern Oscillation) (Houston, 2006a) with significant yearly differences in rainfall linked to ENSO events.

Table 5.1 lists local rainfall data available from stations at the Olaroz pilot plant (20 km north), Susques (50 km northeast), Olacapato (50 km south), La Quaica (210 km north-northeast), Mina Pan de Azucar (140 km north-northeast) and Salar de Hombre Muerto (200 km south). Based on the historical data, location and elevation, Houston (2011) calculated that a mean long-term annual rainfall of 130 mm is probable for Salar de Olaroz. The Olaroz station shows an average annual precipitation of 49 mm over the 2008-2009 period (this data is incomplete; and actual rainfall is likely to be closer to 130 mm/yr as estimated by Houston in 2011). Considering the proximity of the Salar de Cauchari salar to Olaroz a similar rainfall would be expected.

Figure 5.4 Lines of iso-precipitation in Jujuy/Northern Salta

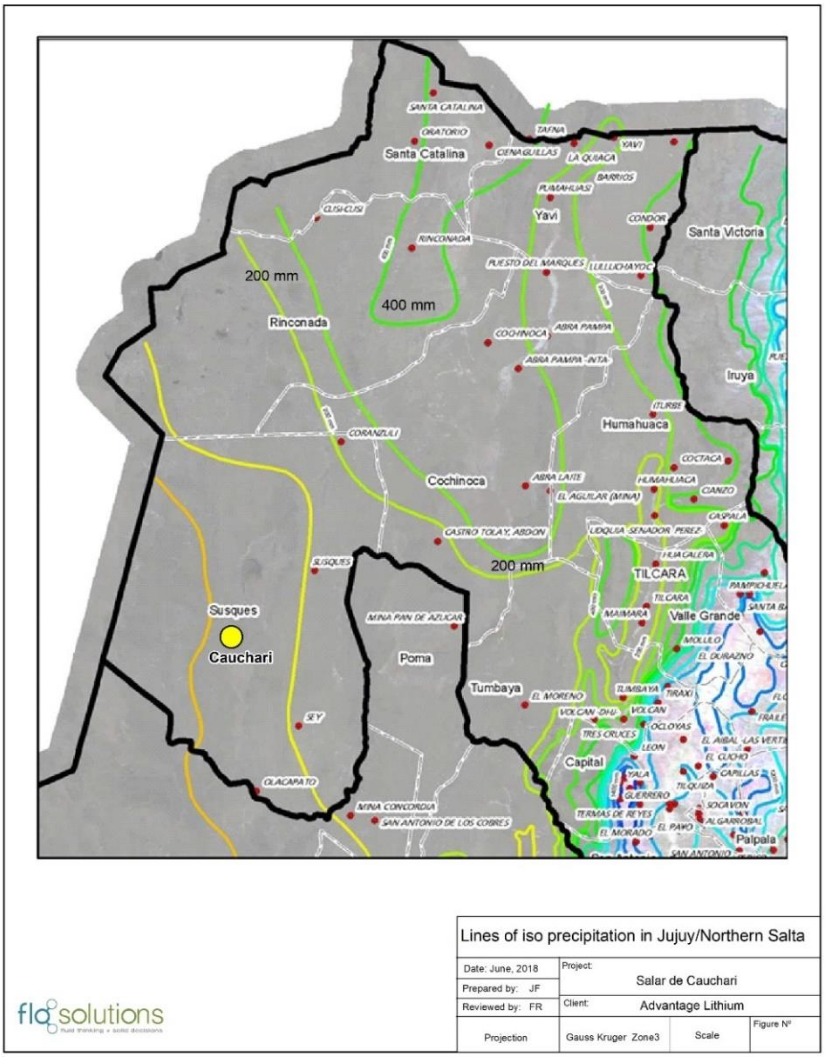


Table 5.1 Average monthly rainfall (mm)

Olaroz project weather station, 30 km north of Project (3,900 masl) 2008-2016												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total mm
19	15.5	9.4	0	0	0	0	0	0	0	0	5	48.9*
Hombre Muerto salar, 180 km south of Project (4,000 masl) 2008-2009												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total mm
8.7	17.1	25.2	0	0	0	0	0	0	2.4	4.2	17	74.6
Susques, 50 km northeast of Project (3,675 masl) 1982-1990												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total mm
53.3	58.3	30.4	0.6	0	0	0	0	0	0.3	16	29.1	188.1
La Quaica, 210 km north northeast of Project (3,442 masl) 1982-1990												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total mm
80.3	72.6	52.4	11.8	0	0	0	0	0	12.8	35.2	73.9	339
Mina Pan de Azucar, 140 km northeast of Project (3,690 masl) 1982-1990												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total mm
100.6	100	66.4	19.7	0	0	0	0	0	6.7	76.3	87.9	457.6
olacapato, 50 km south of Project(3,820 masl) 1950-1990												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total mm
34	23	4	0	0	0	0	0	0	0	0	10	71

** Incomplete data*

5.4.2. Temperature

Table 5.2 shows temperature data for stations around the Project including Susques, and Olaroz. The Olaroz station shows average monthly temperatures throughout the year from 4oC in July to 14oC in February based on data collected between Dec 2012 and Aug 2016.

Table 5.2 Average monthly temperature (°C)

Olaroz project (3,900 masl) Dec 2012 – Aug 2016													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Mean	12.8	14.1	11.6	10.8	6.9	5.1	4.3	5.3	5.5	9.3	11.5	13.0	9.2
Maximum	22.9	24.1	21.9	21.6	19.1	15.5	13.4	16.8	17.9	21.2	22.6	24.1	20.1
Minimum	2.7	4.1	1.4	-0.8	-5.2	-5.3	-4.9	-6.3	-7.0	-2.7	0.4	1.9	-1.8
Susques Temp, 50 km northeast of Project (3,675 masl) 1972-1996													
Mean*	11.3	11.2	10.5	8.1	4.9	3.0	2.5	4.6	6.6	8.9	10.4	11.1	7.8
Other Jujuy and Puna area data													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
La Quiaca	12.3	12.0	12.2	10.0	6.4	3.9	4.1	5.8	8.6	10.4	12.0	12.2	9.2
Abra Laite	11.3	11.2	10.5	8.2	5.1	3.2	2.7	4.7	6.6	8.9	10.4	11.0	7.8
Barrios	11.9	11.7	11.2	9.0	6.1	4.2	3.7	5.7	7.5	9.8	11.1	11.6	8.6
Cangrejillos	11.6	11.5	10.2	7.5	4.0	1.6	1.1	3.3	5.4	7.8	10.1	11.4	7.1
Castro Tolay Abdon	12.4	12.2	11.5	9.1	6.0	4.0	3.4	5.6	7.6	10.0	11.5	12.2	8.8
Abra Pampa	11.8	11.8	11.5	10.6	6.5	4.0	3.9	6.1	8.5	10.5	11.8	12.2	8.0
Susques	10.8	10.6	10.2	8.3	5.0	2.3	2.0	3.8	6.1	9.8	10.3	11.1	7.5
Tres Cruces	10.3	10.2	9.7	8.5	5.4	3.3	3.1	5.1	7.4	9.0	10.5	10.7	7.8
Cieneguillas	10.7	10.7	10.3	8.2	5.3	3.5	2.9	4.8	6.5	8.8	10.0	10.5	7.7
Cochinoca	11.2	11.0	10.5	8.3	5.2	3.4	2.8	4.8	6.7	9.0	10.3	10.9	7.8
Condor	10.0	10.0	9.6	7.5	4.5	2.8	2.1	4.1	5.8	8.0	9.3	9.8	7.0
Coranzuli	9.1	9.1	8.6	6.4	3.3	1.6	0.9	3.0	4.8	6.9	8.3	8.9	5.9

The average annual temperature at Olaroz is approximately 9° C, with extremes between 25º C and -19º C across the year. Conditions are expected to be very similar at Cauchari.

5.4.3. Wind

Strong winds are frequent in the Puna, reaching speeds of over 100 km/hr on rare occasions at Olaroz, with an average of 15 km/hour. The wind during summer is generally pronounced after midday and usually calm during the night. During winter wind velocities are generally higher than the summer. Wind speed data for several stations in the Puna are presented in Table 5.3.

Table 5.3 Average monthly wind velocity (km/hr)

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Purmamarca	3.56	3.79	4.28	4.3	5.58	5.04	4.7	3.61	3.99	5.03	4.44	3.86	4.35
Susques	2.37	3.38	4.73	4.62	6.6	4.38	1.68	3.61	4.09	4.44	2.32	2.62	3.74
Olaroz	6.4	7.4	8.7	8.6	10.6	8.4	5.7	7.6	8.1	8.4	6.3	6.6	7.7

5.4.4. Evaporation

No evaporation measurements have been made at the Cauchari Project, however evaporation rates are expected to be similar to those at the Olaroz Project. Class A evaporation pans with both fresh water and brine have been monitored in Olaroz since 2008. Table 5.4 contains provisional monthly evaporation data from Olaroz. Evaporation rates reach a maximum in October before the wet season when increased cloud cover leads to a reduction in evaporation. The minimum evaporation rates are during the colder months between May and August.

Average annual evaporation (1992-2001) in Salar de Hombre Muerto at the El Fenix Camp (FMC) weather station was 2,710 mm (Houston 2010 b). Evaporation decreases with increasing elevation. The highest evaporation rates from natural soil surfaces are usually associated with the marginal areas of salars where water availability is greatest (Houston, 2006b).

Table 5.4 Olaroz - average monthly evaporation (mm)

Density g/cc	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	383	331	356	307	201	213	221	242	332	461	421	433	3,900
1.198	248	173	234	208	133	162	173	180	236	327	276	265	2,614

5.5. Vegetation

Due to the extreme weather conditions in the region, the predominant vegetation is of the high-altitude xerophytic type adapted to high levels of solar radiation, winds and severe cold. The vegetation is dominated by woody herbs of low height from 0.40 - 1.5 m, grasses, and cushion plants. With high salinity on its surface, the nucleus of the salar is devoid of vegetation.

To date no specific vegetation survey has been completed out in the Project area, although this is being carried out as part of the Project's environmental assessment. However it is possible to define a number of vegetation areas based on their physiography.

5.5.1. Low lying areas in the vicinity of water

These environments are characterized by having vegetation cover of 70-85 %, occupying small areas (1 km^2 maximum) associated with water-logged soils and more or less permanent bodies of water.

5.5.2. Mixed steppes

Different types are recognized, depending on the grass species, which may consist of *Stipa sp.*, *Festuca sp.,* and *Panicum chloroleucum*.

5.5.3. Bushy steppes

Three different types are recognized, depending on the dominant bush species, such as rica-rica (*Acantholippia sp*.), tall tolillar (*Fabiana densa*) and short tolillar (*Fabiana sp*.).

6 HISTORY

6.1. Historical mining and exploration activities

Salars in the Puna have historically been exploited for salt (halite) and for borates (typically ulexite); Salar de Cauchari was no exception. Exploration and exploitation efforts were generally limited to the upper three meters of the salar surface. Historical production levels of borates were generally not documented and therefore are unknown. Lithium and potassium have not been exploited on the Project mineral properties.

Fabricaciones Militares (an Argentine government agency) carried out sampling of brines from the Argentine salars in the Puna during the 1970's. The presence of anomalous Li values was detected at that time when only salt and borates were exploited.

Initial evaluation of the mineral potential of salars in Northern Argentina was also documented by Igarzábal (1984) as part of the Instituto de Beneficios de Minerales (INBEMI) investigation carried out by the University of Salta. This investigation involved limited sampling of Li, K and other elements; Salar de Cauchari showed some of the highest lithium values of 0.092% Li (and 0.52% K).

6.2. History of Cauchari Project ownership

The following is an overview of the history of the ownership of the mineral claims that now comprise the Cauchari Project:

- Historic borate mining was carried out in the Cauchari salar by Borax Argentina, which is now owned by Orocobre.
- The Cauchari properties were acquired by Mr Miguel Peral and Mrs Silvia Rodriguez through direct claim staking (not through third-party purchases).
- Peral and Rodriguez subsequently contributed these properties to the formation of South American Salars Pty Ltd (SAS) in return for a 15% ownership in this Australian registered company. SAS is majority owned by Orocobre (85%).
- Orocobre and SAS agreed to a joint venture with Advantage Lithium Corp (AAL) in November 2016 as described in detail in Section 4.6 above.

6.3. 2009-2011 SAS exploration on Cauchari

- Geochemical sampling in 2009 consisting of 134 brine samples from 105 pits showed that the northern part the Salar had the most elevated lithium concentrations.
- 2009 geophysical surveys undertaken by Orocobre in Cauchari consisted of three coincident gravity and AMT lines aimed at mapping the basin geometry and depth.
- Five diamond holes and one rotary hole were drilled in the SE Sector of the Cauchari Project to a maximum depth of 248 m in 2011. Drilling equipment did not perform as required, with two of the holes abandoned at <100 m depth and only one hole reaching the target depth for the program.
- An initial inferred resource of 470,000 t of lithium carbonate equivalent (LCE) was defined from the 2011 drilling program with a NI 43-101 technical report issued in December 2016 outlining the results of the previous exploration.
- Exploration work by AAL under the joint venture agreement with Orocobre was started in 2017. This report contains the results of the 2017-2018 JV work.

7 GEOLOGICAL SETTING AND MINERALIZATION

7.1. Regional geology

Salar de Cauchari is located towards the center of the Puna Plateau. The Puna is an elevated plateau in northern Argentina which has been subject to uplift along thrust systems inverting earlier extensional faults. The Puna is host to numerous large ignimbrites and stratovolcanoes. A summary evolution of the Puna is shown in Figure 7.1, after Houston (2010b)

7.1.1. Jurassic-Cretaceous

The Andes have been part of a convergent plate margin since the Jurassic with both a volcanic arc and associated sedimentary basins developed as a result of eastward dipping subduction. The early island arc is interpreted to have formed on the west coast of South America during the Jurassic (195-130 Ma), progressing eastward during the mid-Cretaceous (125-90 Ma) (Coira et al., 1982).

An extensional tectonic regime existed through the late Cretaceous, generating back-arc rifting and grabens (Salfity & Marquillas, 1994). Marine sediments of Jurassic to Cretaceous age underlie much of the Central Andes.

7.1.2. Late Cretaceous to Eocene

During the late Cretaceous to the Eocene (~78-37 Ma), the volcanic arc migrated east to the position of the current Precordillera (Allmendinger et al, 1997). Significant crustal shortening occurred during the Incaic Phase (44-37 Ma), (Gregory-Wodzicki, 2000) forming a major north-south watershed, contributing to the formation of coarse clastic continental sediments.

Initiation of shortening and uplift in the Eastern Cordillera of Argentina around 38 Ma, contributed to forming a second north-south watershed, with the accumulation of coarse continental sediment throughout the Puna (Allmendinger et al., 1997).

7.1.3. Oligocene to Miocene Volcanism

By the late Oligocene to early Miocene (20-25 Ma), the volcanic arc switched to its current location in the Western Cordillera. At the same time, significant shortening across the Puna on reverse faults led to the initiation of separated depo-centers (Figure 7.1). Major uplift of the Altiplano-Puna plateau began during the middle to late Miocene (10-15 Ma), perhaps reaching 2,500 m by 10 Ma, and 3,500 m by 6 Ma (Garzione et al., 2006). Coutand et. al. (2001) interpret the reverse faults as being responsible for increasing the accommodation space in the basins by uplift of mountain ranges marginal to the Puna salar basins. This is confirmed by the seismic section across Olaroz to the north of Cauchari (Figure 7.1).

Late Miocene volcanism at 5-10 Ma in the Altiplano-Puna Volcanic Complex (APVC) between 21°-24° S (de Silva, 1989), erupted numerous ignimbrite sheets, with associated caldera subsidence, and the formation of andesitic to dacitic stratovolcanoes. This volcanic activity was often constrained by NW-SE trending crustal mega-fractures, which are particularly well displayed along the Calama-Olacapato-El Toro lineament passing to the south of Salar de Cauchari (Salfity & Marquillas 1994; Chernicoff et al., 2002).

7.1.4. Oligocene to Miocene Sedimentation

During the early to middle Miocene red bed sedimentation is common throughout the Puna, Altiplano and Chilean Pre-Andean Depression (Jordan & Alonso, 1987). This suggests continental sedimentation was dominant at this time. With thrust faulting, uplift and volcanism intensifying in the mid to late Miocene, sedimentary basins between the thrust sheets became isolated by the thrust bounded mountain ranges. At this stage the basins in the Puna developed internal drainages, bounded by major mountain ranges to the west and east.

Sedimentation in the basins consisted of alluvial fans forming from the uplifting ranges with progressively finer sedimentation and playa sands and mudflat sediments deposited towards the low energy centers of the basins. Alonso et.al., (1991) note there has been extensive evaporitic deposition since 15 Ma, with borate deposition occurring for the past 7 to 8 Ma.

Hartley et al., (2005) suggest Northern Argentina has experienced a semi-arid to arid climate since at least 150 Ma as a result of its stable location relative to the Hadley circulation (marine current). Most moisture originating in Amazonia was blocked due to Andean uplift, resulting in increased aridity in the Puna since at least 10-15 Ma.

The high evaporation level, together with the reduced precipitation, has led to increased aridity and the deposition of evaporites in many of the Puna basins.

7.1.5. Pliocene-Quaternary

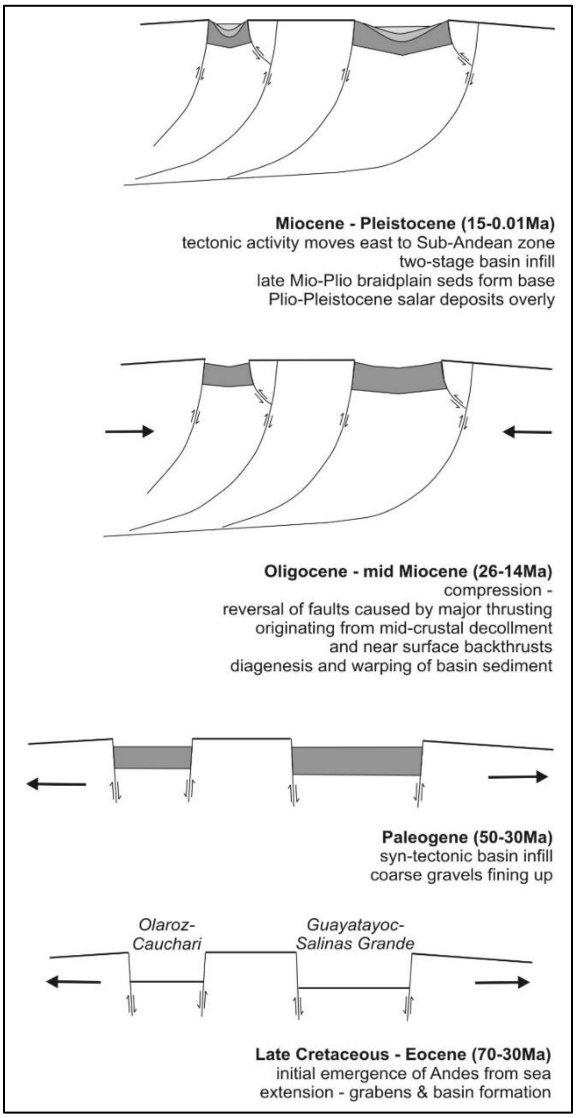
During the Pliocene-Pleistocene tectonic deformation took place as shortening moved east from the Puna into the Santa Barbara fault system. Coincident with this change in tectonic activity climatic fluctuation occurred with short wetter periods alternating with drier periods.

As a result of both, reduced tectonic activity in the Puna and the predominant arid conditions, reduced erosion led to reduced sediment accumulation in the isolated basins. However, both surface and groundwater inflows into the basins continued the leaching, dissolution transportation and concentration of minerals. Precipitation of salts and evaporites occurred in the center of basins where evaporation is the only means of water escaping from the hydrological system.

Evaporite minerals (halite, gypsum) occur disseminated within clastic sequences in the salar basins and as discrete evaporite beds. In some mature salars such as Salar de Hombre Muerto and Salar de Atacama thick halite sequences have formed.

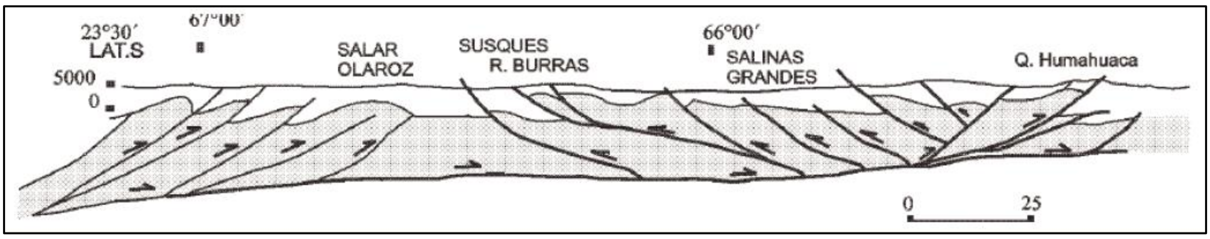
Stratovolcanoes and calderas, with associated ignimbrite sheet eruptions, are located in the Altiplano and Puna extending as far south as Cerro Bonete and the Incapillo caldera. The Altiplano-Puna Volcanic Complex (APVC), located between the Altiplano (Bolivia) and Puna (Argentina), is associated with numerous of these stratovolcanoes and calderas. De Silva et al., (2006) have shown the APVC is underlain by an extensive magma chamber at 4-8 km depth.

Figure 7.1 Generalized structural evolution of the Puna basins



Silicic magmas in the volcanoes Ojos de Salado (W of the Antofalla Salar), Tres Cruces and Cerro Bonete reflect crustal melting and melting in the thickening mantle wedge after the passage of the Juan Fernandez ridge. Volcanics of Pliocene to Quaternary age are present in the area covered by the tenement package.

Figure 7.2 Structural section between Olaroz Salar and Salinas Grandes Salar



7.2. Local geology

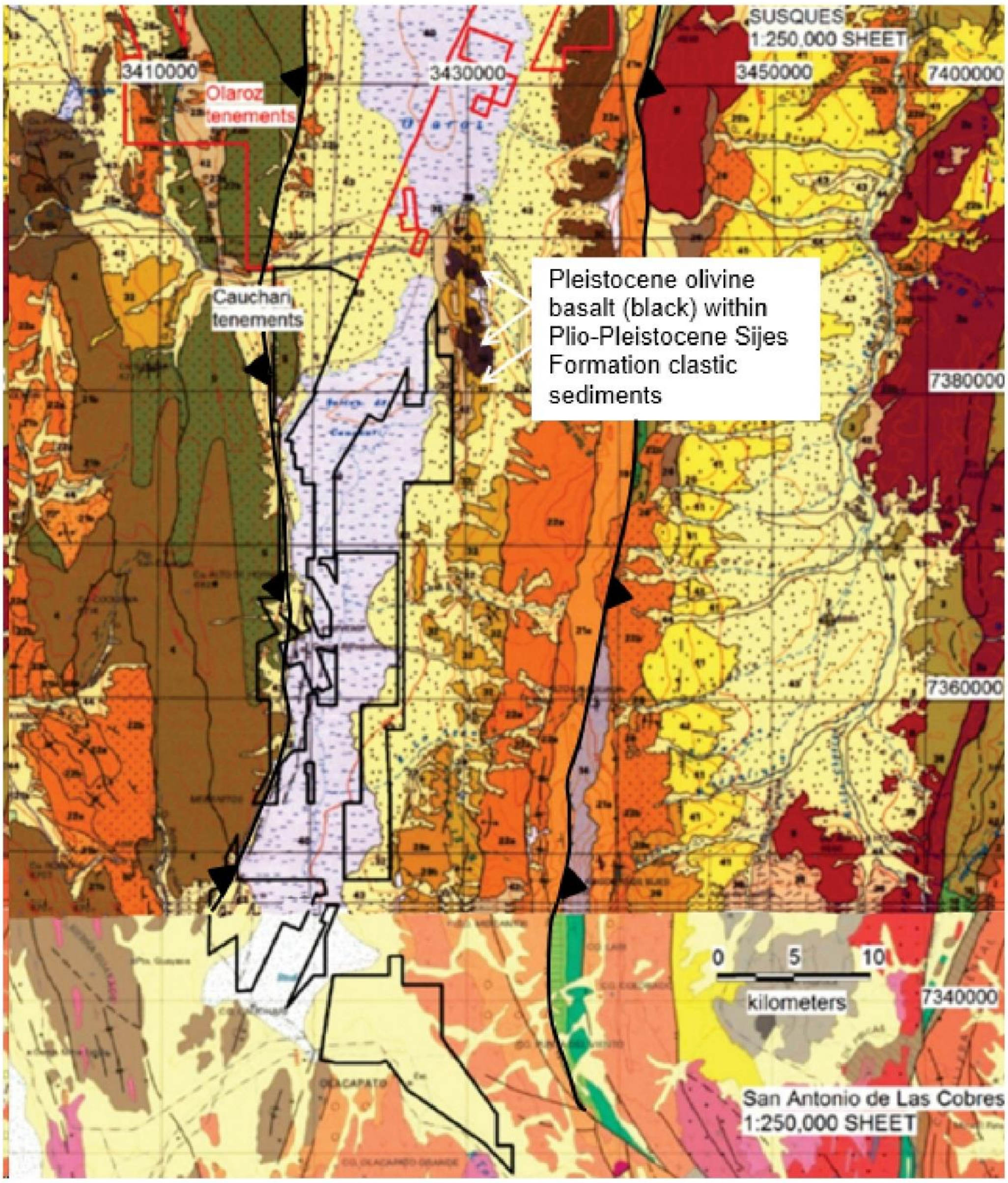
The published geological maps covering the Cauchari Project area are shown in Figure 7.3, with north-south trending belts of Ordovician and Cretaceous sediments forming the higher mountain ranges on the basin margins and younger Tertiary terrestrial sediments further within the basin, closer to the Cauchari salar. A description of individual geological units in the Cauchari basin is provided in the stratigraphic column in Figure 7.4. The information obtained from the detailed logs of the boreholes drilled during the 2011 and 2017/8 campaigns was used to prepare the geological sections shown in Figures 7.5 and 7.6. The geological model is based on the interpretation of the logging that followed an internal classification system as in Table 7.1.

Table 7.1 AAL internal classification used for core logging

CODE		DESCRIPTION
NR	No Recovery	**Non-recovered material.**
GRA	Gravel	**Gravel, coarse sediment with clasts over 4 mm.**
SND	Sand	**Fine, medium to coarse sand with scarce to no matrix.**
SNDMX	Sand with Matrix	**Sand layers with silt or clayey silt matrix.**
SNDHL	Sand with Halite	**Halite levels with sand interstitial or layers interbedded.**
CLY	Clay	**Clay, silty clays in general.**
CLYHL	Clay with Halite	**Clay with presence of crystalline halite in variable proportions.**
SILT	Silt	**Silt or clayey silt in general.**
SILTHL	Silt with Halite	**Silt and clayey silt with presence of crystalline interstitial halite.**
HAL	Halite	**Massive or granular crystalline halite with sparse proportions of clastic material.**

Six major lithological units were identified and are included in the geological conceptual model as shown in Figure 7.5.

Figure 7.3 Published geology of Salar de Cauchari



Published geology of the Cauchari salar basin and the Cauchari tenements			
Date: June, 2018	Project: Salar de Cauchari		
Prepared by: JF			
Reviewed by: FR	Client: Advantage Lithium		
Projection	Gauss Kruger Zone3	Scale	Figure Nº

Figure 7.4 Stratigraphic units in the Cauchari basin and their correlation across different published geological maps

	Age period	Ma	Rock types	Geological environment	Tectonic events	1:250,000 Map Sheet: Susques (2366-III)	1:250,000 Map Sheet: San Martin (23664)
Quaternary	Holocene	0.01	Alluvial deposits, salars	Closed basins, salars	Post Quechua deformation	Salar deposits, lacustine, colluvial and alluvial sediments (40-44)	Salar deposits, lacustine, colluvial and alluvial sediments (25c-30)
	Pleistocene	2.6	Alluvial, colluvial, lacustrine, ignimbrites	Closed basins, fan deposits, volcanic centres	NE-SW shortening (from 0.2 Ma) due to strike-slip faulting continuing to present day	Tuzgle ignimbrite (38-39)	Alluvial and glacial deposits (5a, 25b, 26)
Neogene	Pliocene	5.3	Continental sediments +/- ignimbrites	Some volcanic complexes developed in continental sediments	Major volcanic centres and calderas 8-6 Ma	Jama volcanic rocks (36-37). Andesite, dacite lavas, ignimbrites; Atana ignimbrite	Malmar, Uquia and Jujuy Formations. Continental sediments - sandstone, conglomerate +/- mudstone (19, 22-24)
	Miocene		Andesitic to dacitic volcanics	Volcanic complexes in continental sediments		Volcanic complexes (35)	Formations Oran (16 Ma - 0.25 Ma), Callegua, Formation Agua Negra. Continental sandstones, with clay interbeds (19, 20-21)
			Ignimbrites			Coyaguayma & Casabindo dacite Ignimbrites (33 & 34)	
			Continental sediments & tuffs		Start of thrusting, with WNW-ESE directed thrusting from 13-4 Ma	Sijes Formation (32) ~7-6.5 Ma sandstones, mudstones and tuffs	
			Continental sediments, tuffs, volcanic breccias		End of Quechua phase event finished by 9-15 Ma, with associated folding	Chimpa volcanic complex (31) andesites & dacites, lavas/ignimbrites. Pastos Chicos Fm ~10-7 Ma with unnamed tuff 9.5.	
			Dacite domes, pyroclastics, intrusives			Yungara dacite domes (30) & subvolcanics (SE side Olaroz)	
			Rhyolitic, dacitic volcanic complexes, continental sediments			Volcanic complexes (23-29), Cerro Morado, San Pedro, Pairique, Cerro Bayo and Aguiliri, Pucara Formation. Andesite to dacite lavas, domes and ignimbrites. Susques Ignimbrite ~10 Ma	
			Continental sediments			Vichacera Superior (22b). Sandstones and conglomerates, with tuffs & ignimbrites	
		23.8				Vichacera Inferior (22a). Sandstones and interbedded claystones	
Paleogene	Oligocene	33.9	Continental sediments	Red bed sequences	Incaic Phase II - Compression, resulting in folding	Rio Grande Fmn Superior (21b). Red aeolian sandstones	Casa Grande and Rio Grande Formations (18). Continental sandstones, conglomerates, siltstones and claystones
	Eocene					Rio Grande Fmn Inferior (21a). Alternating coarse conglomerates and red sandstones	
		55.8	Continental sediments, locally marine and limey	Local limestone development, local marine sequences		Santa Barbara subgroup (20). Fluvial and aeolian alternating conglomerates and red sandstones	Santa Barbara subgroup. (17)continental limy sandstones, siltstones, claystones
							Balbuena subgroup (16). - see below
BASEMENT - PRETERTIARY UNITS (MARINE)							
Mesozoic	Cretaceous		Continental sediments, locally marine and limey		Peruvian phase - extension and deposition of marine sediments	Balbuena Subgroup (19). Sandstones, calcareous sandstones, limestones, mudstones (Marine).	Balbuena subgroup (16). Continental/marine calcareous sandstones
			Continental sediments			Piruga Subgroup (16). Alluvial and fluvial sandstone & conglomerate	Piruga subgroup (15). Red sandstones, silty claystones and conglomerates
						Granites, syenites, granodiorite (15, 17, 18)	Granites, monzogranite (11-14)
Paleozoic	Carbonifer ous - Silurian		Marine sediments	Marine platform and turbidite deposits	Isoclinal folding on NW/SE trending axes, extending to early Cretaceous	Upper Paleozoic marine sediments (14)	Machareti and Mandiyuti Groups (10). Sandstones, conglomeratic sandstones, siltstones and diamictites. Silurian Lipeon & Barite Formations (9). claystones and diamicties
						Multiple Paleozoic intrusive suites (6-13)	El Moreno Formation (8). Porphyritic dacite
	Ordovician		Marine sediments	Marine delta and volcanic deposits/domes		Ordovician sandstones (3-5), volcaniclastic sediments & Ordovician turbidites	Guayoc Chico Group (7) & Santa Victoria Groups (6). Marine sandstones, mudstones and limey units
	Cambrian	540		Marine sediments		Meson Group (2). sandstones and mudstones	Meson Group (5). Marine sandstones
	PreCambrian		Schists, slate, phyllite	Metamorphosed turbidites		Puncoviscana Formation (1) tubidites	Puncoviscana Formation (1) tubidites - metamorphosed and intruded by plutons

Figure 7.5 W-E section looking north through the Cauchari Project geological model.

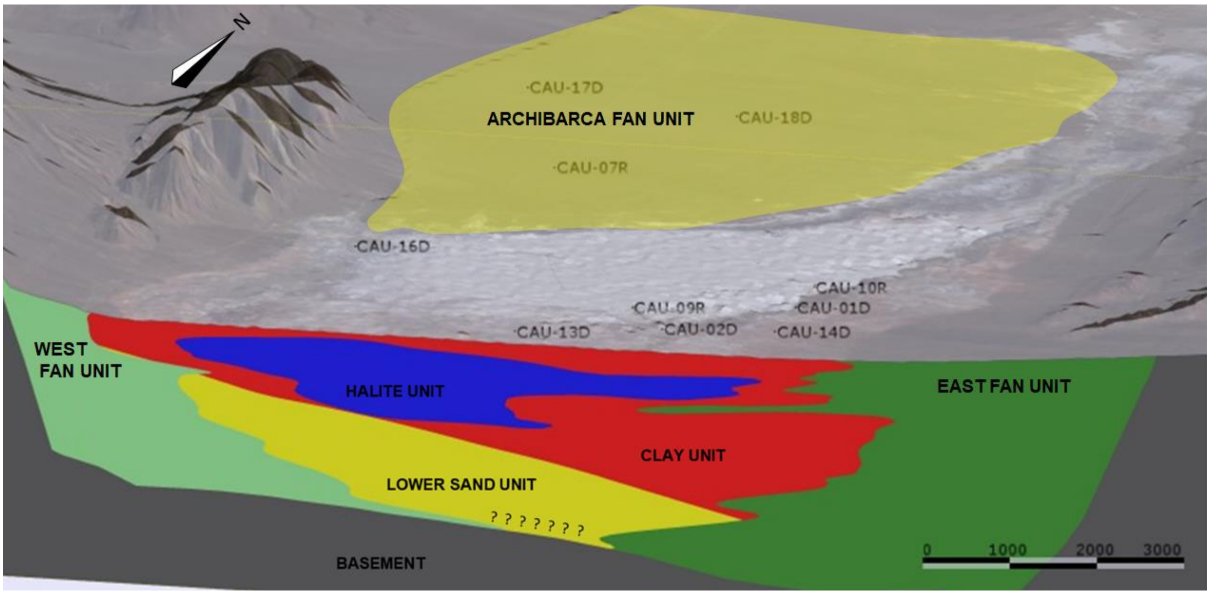


Table 7.2 provides a breakdown of the lithological composition of the units in the geological model for the Cauchari Project. A summary description of each of the geological units is provided hereafter.

Table 7.2 Lithology of the units in the Cauchari geological model

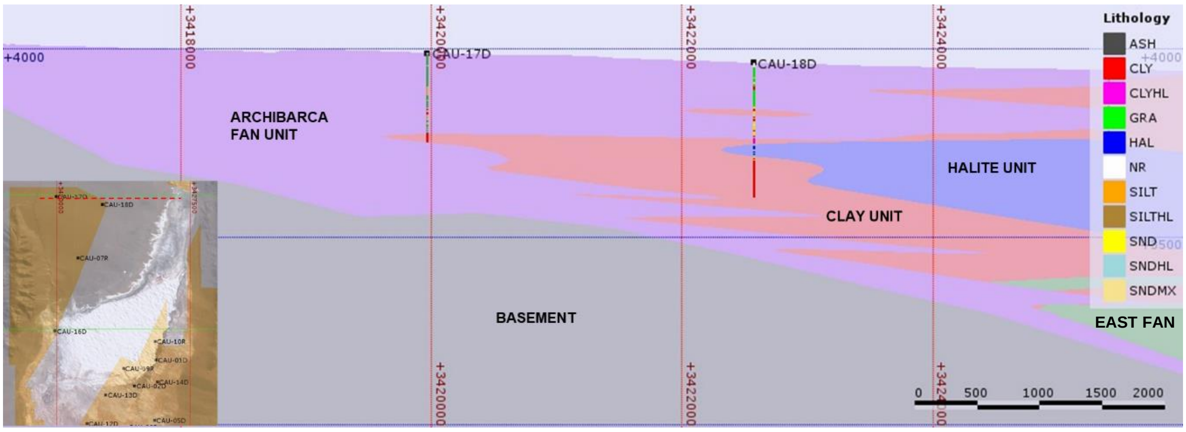
GEOLOGICAL UNIT	HAL	CLY	CLYHL	NR	SND	SNDHL	GRA	SNDMX	SILT	SILTHL	TOTAL
CLAY	0.9%	43.3%	20.3%	3.6%	1.5%	0.7%	0.0%	4.2%	16.2%	9.3%	**49.4%**
HALITE	80.6%	0.2%	0.7%	3.3%	1.6%	13.5%		0.3%			**26.8%**
HALITE High Sy	98.7%					1.3%					**2.8%**
ARCHIBARCA FAN	0.0%	1.1%		6.5%	20.8%		43.7%	26.6%	1.3%		**12.3%**
EAST FAN				18.5%	81.6%						**0.8%**
WEST FAN		5.2%		23.5%	42.3%		2.3%	26.7%			**4.7%**
LOWER SAND	1.8%	5.1%		37.6%	44.8%			10.8%			**3.1%**
TOTAL	**24.8%**	**22.0%**	**10.2%**	**5.9%**	**7.8%**	**3.98%**	**5.5%**	**7.0%**	**8.2%**	**4.6%**	

7.2.1. Archibarca fan unit

The Archibarca alluvial fan constitutes the NW boundary to the salt deposits within the Salar de Cauchari and covers a surface area of around 23.8 km² within the AAL properties, extending north into properties owned by Orocobre. This unit is the surface divide between the Salar de Olaroz basin to the North and the Salar de Cauchari basin to the South.

The boreholes (CAU07R, CAU17D and CAU18D) drilled on the Archibarca fan intercepted coarse materials (sandy gravels and gravelly sand with coarse sand levels), inter-fingering at approximately 200 m depth with saline / lacustrine deposits (Clay and Halite Unit) as shown in Figure 7.6. This suggests that the Archibarca fan unit overlies salar sediments above this depth.

Figure 7.6 W-E section looking north, showing the progressive inter-fingering of the Archibarca fan with the Clay and Halite units



The unit is characterized by a thick sequence of coarse sediments consisting of medium to coarse gravels which in turn are formed by clasts of gray quartzite and greenish-white clasts of quartz, basalts and graywackes transported downslope from the west. The clasts range from sub-angular to rounded with the presence of medium to coarse sand in variable proportions and with the presence of clay in some sandy and/or gravelly levels as shown in Figure 7.7. The alluvial fan gravel is commonly interbeddeded with thick layers of medium to coarse sand inter-fingered with levels of clay.

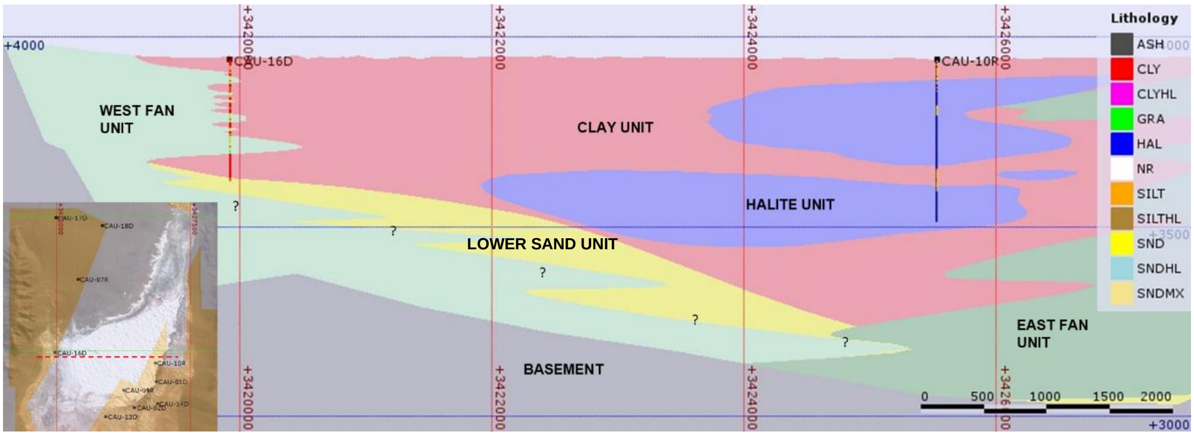
Figure 7.7 Sandy gravels with some clay from the Archibarca fan (CAU07R)

7.2.2. West fan unit

The piedmont developed at the base of the mountain range that constitutes the western boundary of Salar de Cauchari is dominated by a series of small alluvial fans that inter-finger with the saline / lacustrine sediments (Clay Unit) of the salar as shown in Figure 7.8.

Boreholes CAU16D (in the north) and CAU15D (in the south) were drilled along the western boundary of the Salar. These boreholes intersected inter-fingering clayey levels (Clay unit) with thick intervals of sand and sandy silt with a few levels of sandy gravel.

Figure 7.8 W-E section look north between boreholes CAU16D and CAU10R



The West fan is dominated by fine to medium gray-green to dark green sands with abundant presence of gypsum crystals (Selenite), quartz and dark lithic material. The sands are interbedded with scarce levels of medium to coarse gravel with sub-rounded clasts in a sandy matrix formed by the greenish quartzites and volcanic lithic material, with fragments from 1 to 8 cm in size as shown in Figure 7.9.

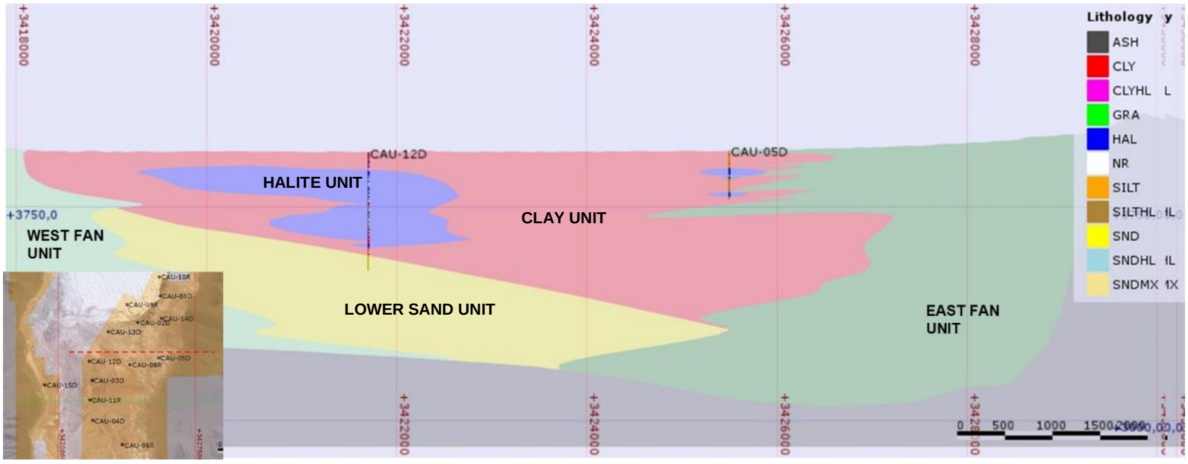
Figure 7.9 Gravel from CAU16D (264.5-268m) with sub-rounded green quartzites.

7.2.3. East fan unit

The entire eastern boundary of the Cauchari basin is dominated by a series of fluvial/alluvial fans that vary in extension and surface. Boreholes CAU01D, CAU02D, CAU05D, CAU10D and CAU14D intercept fine levels of 3 m to 20 m of alternating friable dark sands to massive cemented grits that are interpreted as distal facies of the fans seen along the eastern margin of the salar basin.

Figure 7.10 show the distribution and inter-fingering of the East fan unit with the saline / lacustrine units in the central sector of the basin, similar to observations from the West fan unit.

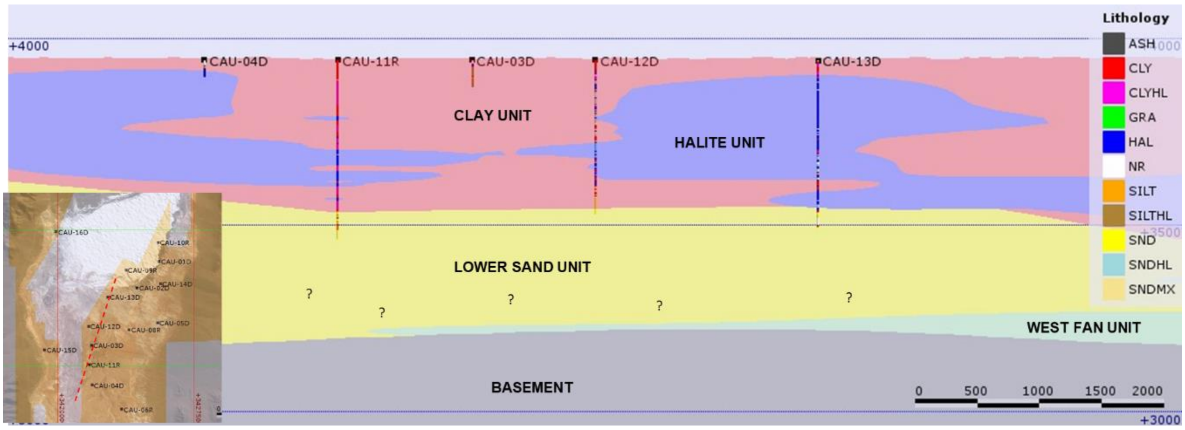
Figure 7.10 Section showing the interpreted geometry of the East fan unit



7.2.4. Lower sand unit

Boreholes CAU11R, CAU12D and CAU13D in the SE Sector of the Project intersected a sand dominant unit at approx. 400 m depth. The bottom of this sand dominant unit was not defined in these boreholes (drilled up to 480 m depth) as shown in Figure 7.11.

Figure 7.11 Section with the interpreted geometry of the Lower sand unit



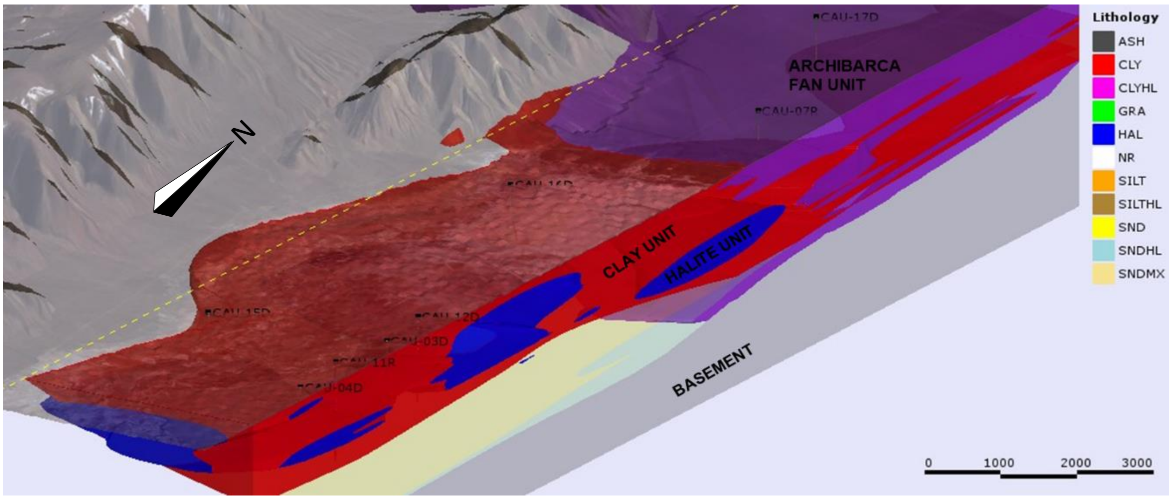
The Lower sand unit is characterized by medium, greenish gray to dark gray sand with abundant presence of friable gypsum (selenite) and with cemented levels of carbonates and in smaller proportion dark lithic and quartz crystals with some biotite (Figure 7.12). They are interspersed with scarce and fine reddish brown sandy silty and clayey levels.

Figure 7.12 Example of the Lower sand unit (CAU12D: 389 m)

7.2.5. Clay unit

The Clay unit is widely distributed in Salar de Cauchari and was intersected in all boreholes of the 2011 and 2017/18 campaigns in the SE Sector of the Project. The Clay unit is an irregular N-S elongated body and in some boreholes (CAU08R and CAU09R) can extend to below 300 m depth. It is mainly inter-fingered with the Halite unit. The Clay unit together with the Halite unit constitutes the saline / lacustrine sediments in the center of the Salar as shown in Figure 7.13. The Clay unit appears to thicken towards the east of the Salar.

Figure 7.13 N-S section (looking NW) showing the distributions of the Clay and Halite units



The Clay unit is mainly composed of reddish or reddish brown to brown clays (Figure 7.14), silty clays and/or limey clays, with a variable content of halite crystals and ulexite nodules. To a lesser degree, some black clayey levels with a presence of organic matter and green clays were recognized. It is commonly inter-fingered with some thin levels of fine to very fine sand. Numerous crystals of twinned gypsum (selenite) are locally present forming inter-grown polycrystalline aggregates.

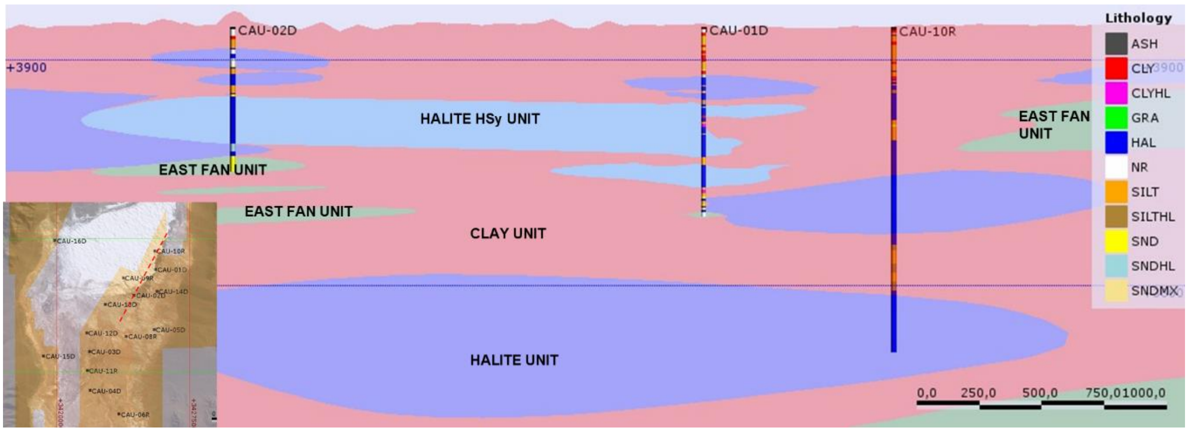
Figure 7.14 Example of the Clay unit (CAU12D: 177.5-179m)

7.2.6. Halite unit

The boreholes in the SE Sector of the Project intersected numerous, thick and extensive levels of halite with a variable content of clastic sediments (sands and clays). These levels are interpreted as an irregular body of crystalline halite that inter-fingers with the clays (Clay unit) described above. The Halite unit thins and becomes shallower towards the western margin of the Salar.

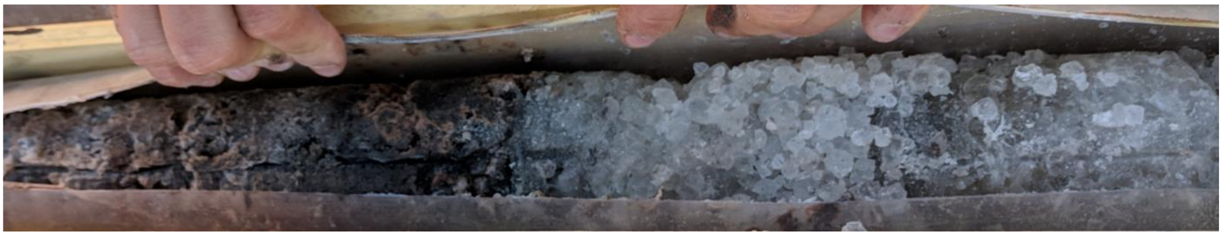
The surface of the Salar shows a very thin halite cover (a few centimeters thick) and immediately passes to the clay core (Clay unit). The first significant halite occur between 20 m and 35 m deep, as shown in Figure 7.15. It has an estimated thickness of 300 m in CAU13D and over 500 m in CAU14D.

Figure 7.15 NE-SW section looking west, showing the distribution of Halite, Halite HSy and Clay units



The Halite unit is characterized by massive crystalline halite or, to a lesser extent, friable aggregates of crystals that can exceed one centimeter in size (Figure 7.16), mainly with gray to reddish brown colors, according to the associated clastic sediments (fine sands with selenite and clays and silt-clays respectively). It is commonly inter-fingered with fine to very fine sand levels, of variable thickness, with abundant gypsum crystals (selenite) and clay layers with abundant presence of halite crystals. The halite is accompanied by crystals of Mirabilite (sodium sulphate) and scarce Ulexite (hydrated sodium calcium borate hydroxide).

Figure 7.16 Example of the Halite unit



7.2.7. Halite Hsy unit

Based on results of drainable porosity test work carried out on core obtained from boreholes CAU01 and CAU02D, it was possible to identify and correlate a thick layer (60 m thickness) of halite with an increased drainable porosity. Figure 7.15 shows the distribution of the higher drainable porosity halite unit (Halite Hsy). The lithology of the Halite Hsy unit is similar to that of the main Halite unit described in Section 7.2.6. It is composed of crystalline material (halite) with abundant presence of interstitial sandy clastic material.

7.3. Mineralization

The brines from Cauchari are solutions saturated in sodium chloride with an average concentration of total dissolved solids (TDS) of 290 g/L. The average density is 1.18 g/cm3. The other components present in the Cauchari brine are: K, Li, Mg, Ca, Cl, SO4 and B.

Table 7.3 shows a breakdown of the principal chemical constituents in the Cauchari brine including maximum, average, and minimum values, based on 442 brine samples used in the brine resource estimate herein that were collected from the 2011 to 2018 drilling programs.

Table 7.3 Maximum, average and minimum elemental concentrations of the Cauchari brine

Analyte	Li	K	B	Na	Ca	Mg	SO4	Density
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	g/cm^3
Maximum	1,064	8,898	1,488	135,362	1,681	2,823	62,530	1.23
Mean	488	4,542	799	105,956	452	1,184	22,236	1.18
Minimum	6	80	18	1,656	106	71	494	1.07
Std.Dev.	190	1,628	273	23,929	246	478	9,172	0.04

Figures 14.8 and 14.9 show the kriged distribution of lithium and potassium concentrations in the Salar. Typically concentrations of lithium and potassium show a high degree of correlation. The kriged three-dimensional distribution of lithium and potassium concentrations were used in the updated resource model as further described in Section 14.

Brine quality is evaluated through the relationship of the elements of commercial interest lithium and potassium. Components of the brine that in some respect constitute impurities, include Mg, Ca and SO_4. The calculated ratios for the averaged brine chemical composition are presented in Table 7.4.

Table 7.4 Average values (g/L) of key components and ratios for the Cauchari brine

K	Li	Mg	Ca	SO_4	B	Mg/Li	K/Li	$(SO_4+2B)/(Ca+Mg)^*$
4.54	0.49	1.18	0.45	22.24	0.79	2.54	9.67	14.63

*$(SO_4+2B)/(Ca+Mg)$ is a molar ratio

As in other natural brines in the region, such as those of the Salar de Atacama and Salar del Hombre Muerto, the higher content of ions Cl^-, $SO_4^=$, K^+, Mg^{++}, Na^+ at Cauchari, allows a simplification for the study of crystallization of salts during an evaporation process. The known phase diagram (Janecke projection) of the aqueous quinary system (Na^+, K^+, Mg^{++}, $SO_4^=$, Cl^-) at 25°C and saturated in sodium chloride (equilibrium data in the technical literature) can be used when adjusted for the presence of lithium in the brines. The Janecke projection of $MgLi_2$-SO_4-K_2 in mol % is used to make this adjustment. The Cauchari brine composition is represented in the Janecke Projection diagram (field of KCl), in Figure 7.17 along with brine compositions from other salars. The Cauchari brine composition is compared with those of Silver Peak, Salar de Atacama, Salar del Hombre Muerto, Salar de Rincon and Salar de Uyuni in Table 7.5.

Figure 7.17 Comparison of brines from various salars in Janecke Projection

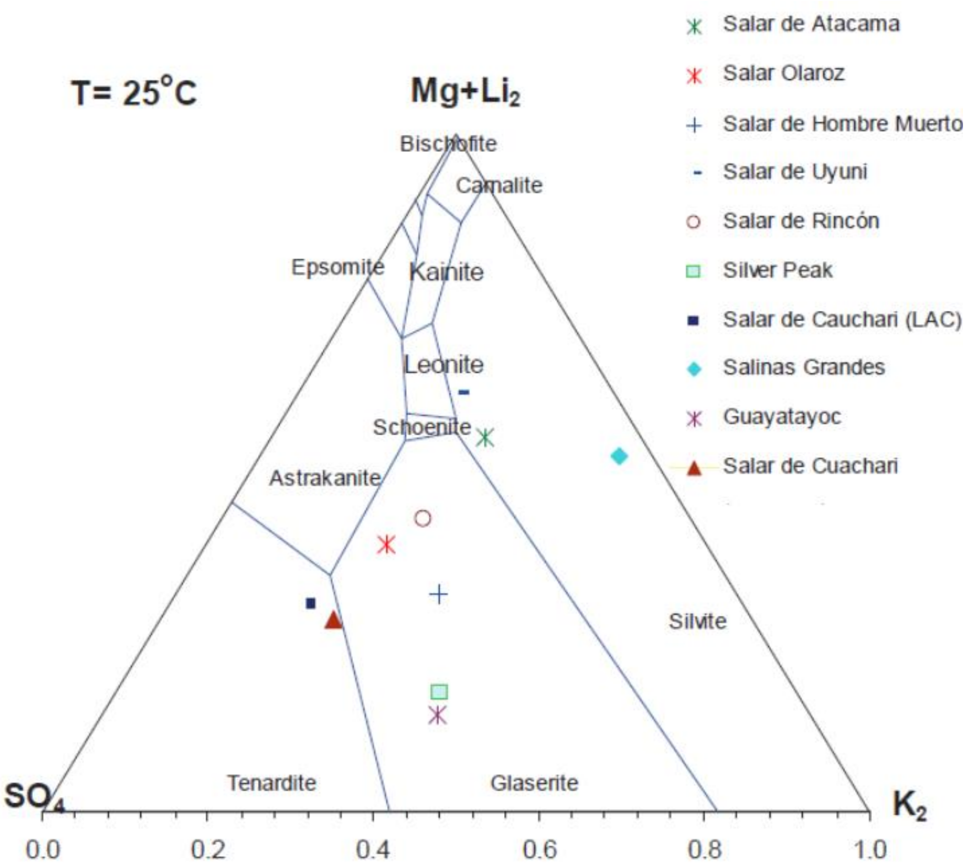


Table 7.5 Comparative chemical composition of various salars (weight %)

	Salar de Cauchari (Argentina)	Silver Peak (USA)	Salar de Atacama (Chile)	Hombre Muerto (Argentina)	Salar de Maricunga (Chile)	Salar del Rincon (Argentina)	Salar de Uyuni (Bolivia)
K	0.38	0.53	1.85	0.617	0.686	0.656	0.72
Li	0.041	0.023	0.150	0.062	0.094	0.033	0.035
Mg	0.10	0.03	0.96	0.085	0.61	0.303	0.65
Ca	0.04	0.02	0.031	0.053	1.124	0.059	0.046
SO_4	1.88	0.71	1.65	0.853	0.06	1.015	0.85
Density	1.183	n.a.	1.223	1.205	1.200	1.220	1.211
Mg/Li	2.54	1.43	6.40	1.37	6.55	9.29	18.6
K/Li	9.67	23.04	12.33	9.95	7.35	20.12	20.57
SO_4/Li	53.04	30.87	11.0	13.76	0.64	31.13	24.28
SO_4/Mg	18.78	23.67	1.72	10.04	0.097	3.35	1.308
Ca/Li	0.382	0.87	0.21	0.86	9.5	1.79	1.314

Source: Published data from various sources

8 DEPOSIT TYPE

8.1. General

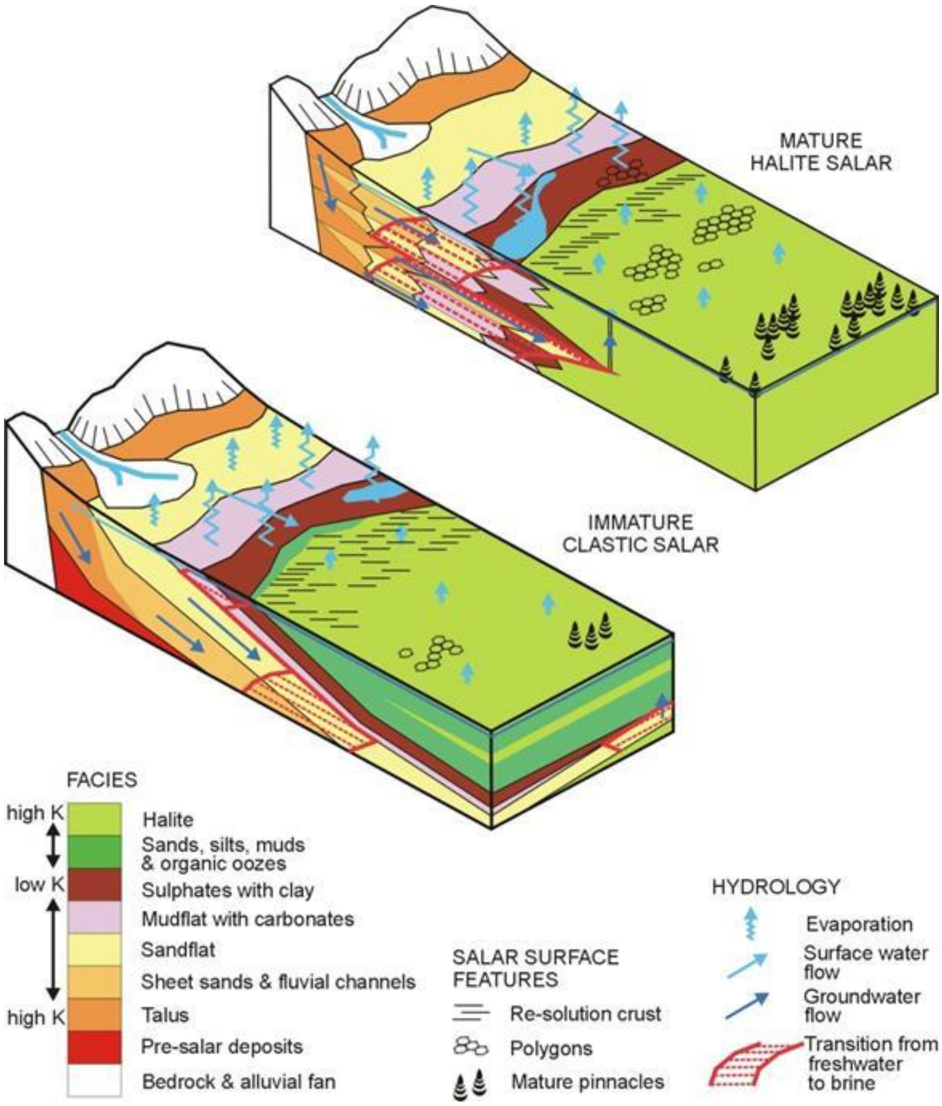
Salars occur in closed (endorheic) basins without external drainage, in dry desert regions where evaporation rates exceed stream and groundwater recharge rates, preventing lakes from reaching the size necessary to form outlet streams or rivers. Evaporative concentration of surface water over time in these basins leads to residual concentration of dissolved salts (Bradley et al., 2013) to develop saline brines enriched in one or more of the following constituents: sodium, potassium, chloride, sulfate, carbonate species, and, in some basins, metals such as boron and lithium. Salar de Cauchari is a brine deposit with enriched concentrations of lithium and potassium.

Houston et al., 2011 identified two general categories of Salars: 1) mature, halite dominant (those containing extensive thicknesses – often hundreds of meters - of halite, such as the Salar de Atacama, and the FMC Hombre Muerto operation), and 2) immature salars, which are dominated by clastic sediments with limited thicknesses of halite.

Mature salt dominated salars can have high permeability and intermediate values of specific yield near surface, with both parameters decreasing rapidly with depth. In these salars the brine resource can be within 50 m below surface.

Immature salars conversely have porosity and permeability controlled by individual layers within the salar sequence. The porosity and permeability may continue to depths of hundreds of meters in clastic salars but can be highly variable due to differences between sand and gravel units and finer grained silts and clays. The presence of different stratigraphic units in clastic salars can result in a variable distribution of the contained brine.

Figure 8.1 Model showing the difference between mature and immature salars



8.2. Hydrogeology

Salars generally consist of an inner nucleus of halite surrounded by marginal deposits of mixed carbonate and sulphate evaporites with fine grained clastic sediments. Coarser grained sediments generally occur on the margins of the basin, with successive inner shells of finer grained clastic units. Towards the center of the salar, sediments can show a progressive change from carbonate to sulphate and finally chloride evaporites (principally halite).

Drilling results in Cauchari to date have helped identify the following hydrogeological units:

- Alluvial fans surrounding the Salar. These are coarse grained and overall highly permeable units that drain towards the Salar. Groundwater flow is unconfined to semi-confined; specific yield (drainable porosity) is high. Water quality in the fans above the brine interface is fresh to brackish. The initial CAU07 pumping test in the NW Sector has yielded positive results and will be further tested during the Phase III program.

- A clay unit. This clay unit covers a large area over the central part of the Salar and could potentially extend below the alluvial fans. This clay unit has a low permeability and could locally form a hydraulic barrier. The clay contains brine in the central part of the Salar. Fresh water may sit on top of this clay unit along the edges of the Salar.

- A semi-confined to confined halite unit can be identified in the central portion of the Salar where it underlies the clay unit. Locally the halite unit is interbedded with fine grained sediment of the clay unit. Data collected to date suggest that the halite unit is not very permeable. It is host to medium- to high lithium concentration brine.

- A deep sand unit. This deep sand unit has been identified in three boreholes in the SE Sector at depths below 300 m. The unit appears to be relatively permeable based on initial pumping test results of CAU11. It is planned that additional pumping test work will be carried out on the deep sand unit during the Phase III program to further define its hydraulic behavior. The deep sand hosts high quality lithium brine.

8.3. Drainable Porosity

Porosity is highly dependent on lithology. Total porosity is generally higher in finer grained sediments, whereas the reverse is true for drainable porosity or specific yield since finer grained sediments have a high specific retention (portion of fluid that cannot be extracted). The lithology within the Salar is variable with halite and halite mixed units, clay and gravel-sand-silt-clay sized mixes spanning the full range of sediment types.

Drainable porosity analyses were carried out on undisturbed core samples by GSA, DBSA and the BGS. Based on the results of these analyses, drainable porosity values were assigned to the specific lithological units defined in the geological model as described in Section 7.2. Table 8.1 summarizes the results of the porosity analysis. The analysis of drainable porosity is further discussed in Section 11.

Table 8.1 Results of drainable porosity analyses

Geological Unit	No. Samples	Average Sy	S. DEVIATION	C.V.
Clay	74	0.03	0.02	0.7
Halite: High Sy	40	0.11	0.03	0.2
Halite	68	0.03	0.04	1.1
Archibarca Fan	14	0.12	0.07	0.6
East Fan	3	0.05	0.03	0.5
West Fan	40	0.11	0.08	0.7
Lower Sand	3	0.14	0.15	1.1

8.4. Permeability

Permeability (or hydraulic conductivity) is also a parameter that is highly dependent of lithology. Generally finer grained and well-graded sediments have a lower permeability than coarser grained poorly graded sediments. The permeability of halite can be enhanced though fracturing and solutions features. AAL has carried out two initial pumping tests within the Salar and LAC has carried out other pumping tests in the adjacent mining properties. The analysis of the AAL pumping tests is further discussed in Section 10 below. Table 8.2 provides a general overview of the permeability values for the various hydrogeological units. AAL will carry out additional pumping tests during the Phase III program to defined the hydraulic parameters in more details.

Table 8.2 Summary of estimated permeability values

Unit	Description	K (m/d)
Clay	Local silt and sand	0.01 - 1
Halite	Confined / massive	0.01 - 1
Archibarca Fan	Confined	1-50
Deep sand	Confined	1-20

9 EXPLORATION

This section provides an overview of the geophysical exploration work that has been carried out on the Cauchari Project between 2009 and 2017 by the various owners.

9.1. Geophysical Surveys - 2009

Orocobre Ltd contracted Wellfield Service Ltda to undertake a gravity and audio-magnetotelluric (AMT) survey over the Cauchari project. Three lines were conducted: one east-west line across the central properties in Cauchari, a second east-west line in the south, and third line aligned northwest along the Tocomar River in the south of the basin. The objective of the gravity survey was to obtain first order estimates of the geometry and depth of the basin, and if possible, to establish the main sedimentary sequences within the basin. The objective for the AMT survey was to define the limits of the brine body hosted in the basin sediments, and to define the brine-fresh water interface. The location of the geophysical survey lines are shown in Figure 9.1.

9.2. Gravity Survey - 2009

Gravity techniques measure the local value of acceleration which, after correction, can be used to detect variations in the gravitational field on the earth's surface which may then be attributed to the density distribution in the subsurface. As different rock types have different densities, it is possible to infer the likely subsurface structure and lithology, although various combinations of thickness and density can produce the same measured density; resulting in multiple possible models for layers in the salar (referred to as non-unique solutions to the gravity data).

9.2.1. Data acquisition

Gravity data was acquired at 200 m spaced stations which were surveyed with high precision GPS equipment. A Scintrex CG-5 gravimeter (the most up-to-date equipment available) was used, and measurements were taken over an average 15 minute period in order to minimise noise. A base station was established with readings taken at the beginning and end of each day's activities in order to establish and subsequently correct for the effects of instrument drift and barometric pressure changes. The daily base stations were referred to the absolute gravity point PF-90N, close to Salta, where a relative gravity of 2,149.14 mGal was obtained. Since this point is distant from Cauchari, intermediate stations were used to transfer the absolute gravity to Pastos Chicos where a relative gravity base station was established with a value of 1,425.31 mGal.

A differential GPS was used to survey the x, y, and z coordinates of the gravity stations (Trimble 5700). This methodology allows centimeter accuracies with observation times comparable to or less than the corresponding gravity observation. The gravity station position data was recorded using a mobile GPS (Rover). Another GPS (Fixed) at the fixed base station recorded data simultaneously to correct the Rover GPS. The Fixed and Rover GPS units were located within a radius of 10 to 20 km of each other. Both data sets were post-processed to obtain a vertical accuracy of 1 cm.

9.2.2. Data processing

In order to arrive at the complete Bouguer anomaly which can be used to interpret the subsurface the following corrections to the acquired data must be made:

- Tidal correction.

- Drift, instrumental height and ellipsoid corrections.
- Free air, latitude, Bouguer and topographic corrections.

The tidal correction compensates for variations in gravity caused by the sun and moon. Using TIDES software, the acceleration due to gravity for these effects can be determined corresponding to the location and time of measurements. The data acquired in the survey were translated to UTC time to facilitate data handling. The exported data were converted from µGal to mGal and used to correct the acquired data.

Instrument drift was calculated from the difference in gravity measured at the base station. This difference was then linearly distributed with respect to time of each reading and used to correct the acquired data.

Figure 9.1 Location of the Cauchari gravity (yellow) and AMT (red) lines

Each reading was corrected for the height of the instrument using the following formula:

$r_h = r_t + 0.308596\ h_i$
where r_h is the corrected instrument height, r_t is the tidal correction, and h_i is the observed instrument height.

The formula employed to correct variations in gravity associated with the ellipsoidal shape of the earth corresponds to the 1980 model:

$$gl = 978032.7\ [\ 1 + 0.0053024\ \sin^2(l) - 0.0000058\ \sin^2(2l)\ ]$$
where gl is the theoretical gravity in milligals and l is latitude

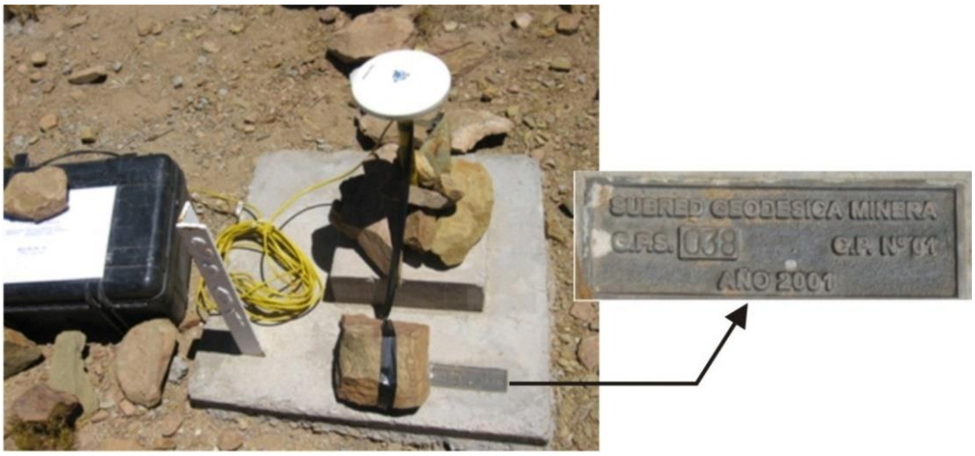
The free air anomaly is calculated as:

$$g_{free\ air} = -0.3086\ (\Delta h)$$

where $g_{free\ air}$ is the correction factor and Δh refers to the difference in altitude of the station with respect to the base.

Figure 9.2 Gravimeter base station

Figure 9.3 GPS base station



To eliminate the effect of the rock masses between the reference level and observation station, the Bouguer correction was employed.

$g_{CB} = 0.04191(\Delta h)\ \rho$

where g_{CB} is the correction factor, the value Δh refers to the difference in altitude between the observation point and the base station, and ρ is the mean rock mass density in the area calculated using the graphical Nettleton method to be 2.07 gm cm^{-3}.

The topographic correction is used to compensate the effects of the relief in the gravity measurements. It takes into account the topography at different levels of accuracy and importance, according to its distance from the gravimetric station to correct. Centered areas are considered at the station with radii of 100 m, 2.5 km and 150 km respectively.

The result of applying all corrections is the Bouguer anomaly.

9.2.3. Gravity data modelling

The Bouguer anomaly can be modeled to represent the subsurface geology. However, any model is non-unique and it is essential to take into account the known geology and rock density. Subsequent to the gravity survey, drilling was carried out 2011 and density measurements were made on 18 core samples. This information (Table 9.1) was used to remodel the gravity profile across the central part of the Salar. The interpretation is provided in Figure 9.4.

Table 9.1 Bulk rock density values used in the gravity interpretation

Salar Unit	Density used in modelling (g/cc)	Density measured from Cauchari samples (g/cc)
Salar deposits	1.6	
Clastic sediments	1.8	1.8
Compact halite		1.7
Porous halite		1.4
Basement 2	2.6	
Basement 1	2.7	

The gravity interpretation extends the asymmetric nature of the Salar de Cauchari towards the south (Figure 9.4), although the maximum basin depth increases to greater than 450 m along the eastern boundary in the southern gravity line. Recent drilling by the company, with Rotary hole CAU11 completed to 480 m, suggests that the gravity modelling substantially underestimates the thickness of the salar sediments and the depth to underlying basement. Drilling by neighboring property owner Lithium Americas Corp (LAC) supports this interpretation, with the deepest historical hole drilled by LAC to 450 m (King, 2010).

9.3. Audio Magnetotelluric Survey - 2009

9.3.1. Data acquisition

AMT measures temporary variations in the electromagnetic field caused by electrical storms (high frequencies >1 Hz), and the interaction between the solar wind and the terrestrial magnetic field (low frequencies <1 Hz), which allows variations in the electrical subsurface to depths of 2 km or more.

The electrical properties of the subsurface depend on Archie's Law: $R_t = a\, R_w / P^m$ where R_t is the measured total resistivity, R_w is the resistivity of the fluid in the rock pores and P is the rock porosity, a and m are constants. Hence, it is possible to infer the subsurface variations in fluid resistivity and porosity, although it is important to note that once again the problem of a non-unique solution always exists.

Data at 250 m spaced stations was acquired using Phoenix Geophysics equipment within a range of 10,000-1 Hz, using up to 7 GPS synchronized receptors. The equipment includes a V8 receptor with 3 electrical channels and 3 magnetic channels which also serves as a radio controller of auxiliary RXU-3E acquisition units. Three magnetic coils of different size and hence frequency were used at each station, and non-polarizable electrodes that improve signal to noise ratios. The natural geomagnetic signal during the acquisition period remained low (the Planetary A Index was <= 5 for 95% of the acquisition time) requiring 18-20 hours of recording at each station.

All stations were surveyed in using differential GPS to allow for subsequent topographic corrections.

AMT requires a Remote Station, far from the surveyed area, in a low level noise location to act as a baseline for the acquired data.

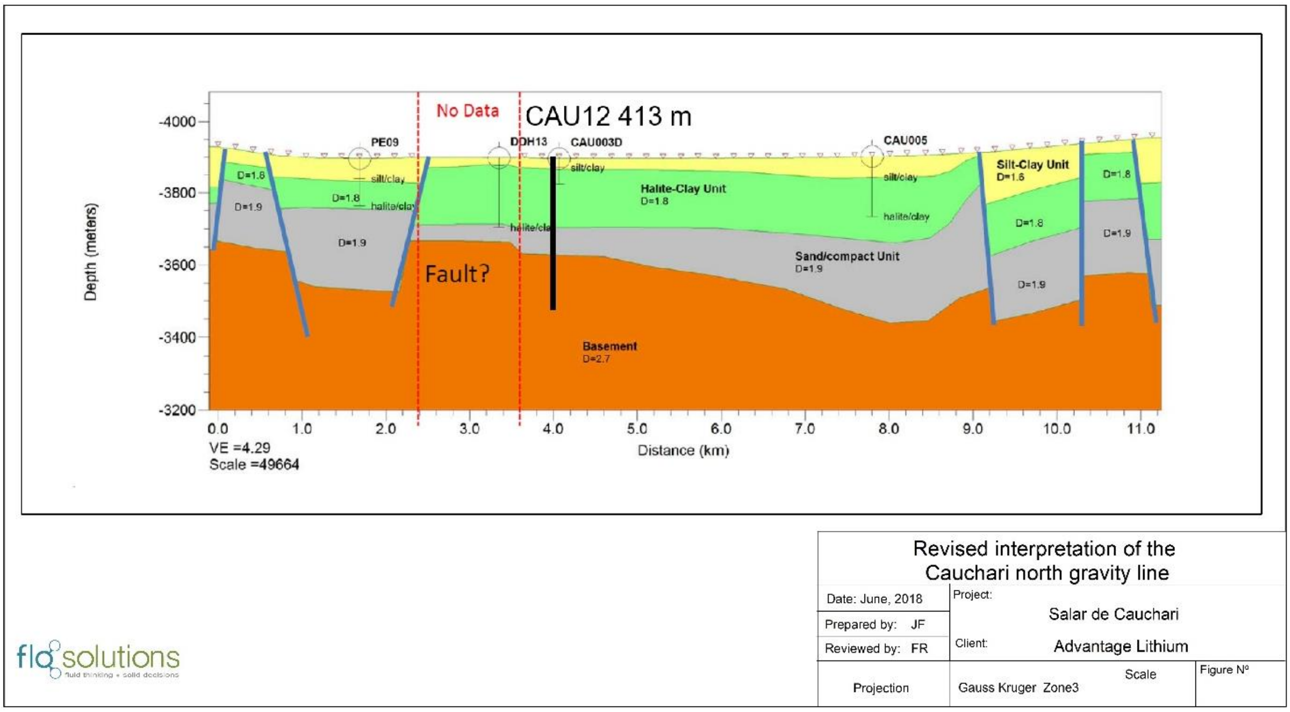
9.3.2. Data processing and modelling

Processing of the AMT data requires the following stages:

- Filtering and impedance inversion of each station
- 1D inversion for each station
- Development of a resistivity pseudo-section
- 2D profile inversion (including topographic 3D net)

The WinGlink software package was used for filtering, inversion and development of the pseudo-section and eventually the 2D model output.

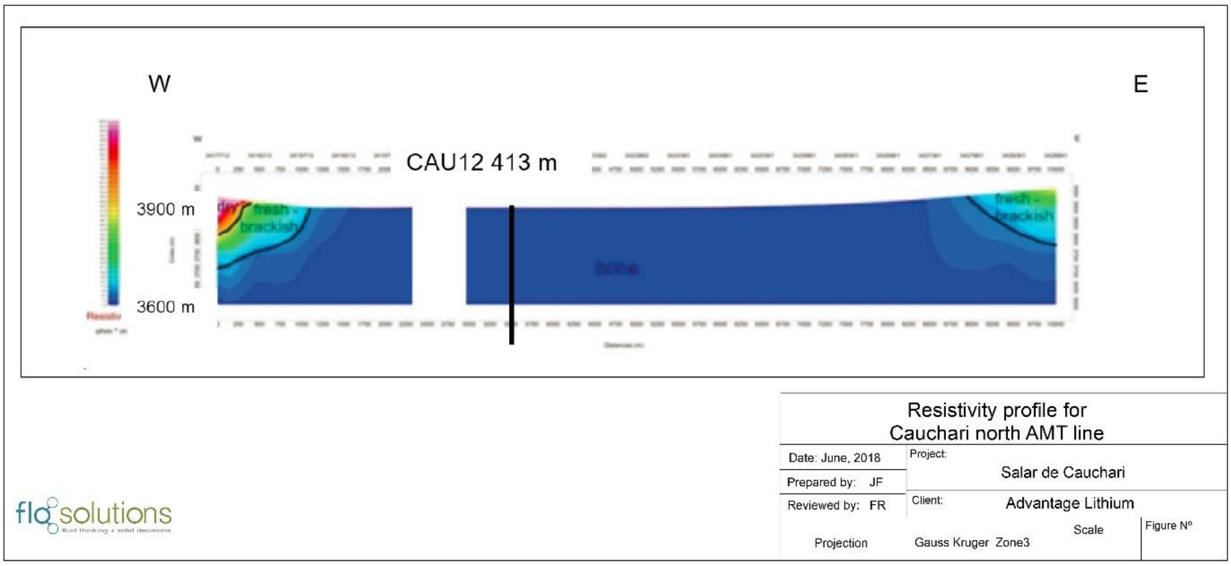
Figure 9.4 Interpretation of the Cauchari north gravity line (looking north)



9.3.3. Model output and interpretation

The 2D AMT model results for the northern section at Cauchari are presented below in Figures 9.5. The drill hole CAU12 is located within 1 km of the geophysical profile. In the Cauchari north AMT line the darkest blue on the AMT line is interpreted to represent brine, which extends across the salar between bounding reverse faults which thrust older sediments and unsaturated units over the salar sediments on the margins of the salar basin. This interpretation is supported by TEM (King, 2010b) and electrical soundings (Vazques, 2011) conducted by LAC in the adjacent tenements.

Figure 9.5 Resistivity profile for Cauchari north AMT line



9.4. Gravity Survey - 2016

In late 2016 additional gravity data was collected on a quasi-grid basis across the NW Sector and SE Sectors of the Cauchari salar. The work was carried out by staff from the Seismology and Geophysics institute at the University of San Juan using Scintrex CG-3 and CG-5 gravimeters and digital GPS equipment to precisely locate each gravity station. A series of regional gravity points were measured in the surrounding area and a residual bouguer map was generated from the available information. Lines were on a nominal 1 km spacing north-south, with gravity stations measured every 200 m along the lines. Process of gravity data is consistent with the activities described above in the section discussing processing of the earlier acquired geophysical data.

The gravity survey confirmed the geometry of the Cauchari basin is similar to that presented in Figure 9.4, with the deepest part of the basin on the eastern side.

9.5. TEM Survey - 2018

In 2018 a TEM survey was undertaken in the NW Sector to assist mapping of the brine body. The TEM survey was conducted with a Geonics Protem 20 channel transmitter, with 195 stations read across five lines, using 200 x 200 m loops transmitting at 25 and 2.5 Hz with 100 V output. The receiver was configured to automatically make 3 readings, each with an integration period of 30 seconds. To evaluate the coherency of the data a comparison of the graphical display of the Z component resistivity with time was made on the three recorded measurements. If noise was detected a repeat set of 3 measurements was made.

Further quality control was made when data was downloaded from the Protem device. The data was then presented as profiles, which clearly identified the unsaturated zone, fresh to brackish water, the transition to brine and the brine body itself, as well as basement features on the margins of the survey area, near outcropping rocks. This information has been incorporated into the geological and resource model for the project, as diamond drilling has provided useful information to validate the TEM profiles.

10 DRILLING

10.1. Overview

Two drilling campaigns have been carried out for the Project since 2011, and a third is taking place now during 2018. The first program in 2011 by SAS (Phase I) covered the SE Sector of the Project area, the second and third campaigns (Phase II and III) by AAL cover both the NW and SE Sectors of the Project area. The objectives of the drilling can be broken down into three general categories:

1. Exploration drilling on a general grid basis to allow the estimation of “in-situ” brine resources. The drilling methods were selected to allow for 1) the collection of continuous core to prepare “undisturbed” samples from specified depth intervals for laboratory porosity analyses and 2) the collection of depth-representative brine samples at specified intervals. The 2011 campaign included five (5) diamond core holes CAU01 though CAU05 and one rotary hole (CAU06). The second campaign in 2017/8 included seven (7) diamond core holes (CAU12 through CAU18). Figure 10.1 shows the location of the exploration boreholes. The 2018 Phase III drilling program, currently in execution, will include up to 10 additional diamond core holes.

2. Test well installations. The 2017 campaign included five rotary holes (CAU07 though CAU11) which were drilled and completed as test production wells to carry out pumping tests and additional selective brine sampling. Monitoring wells will be installed adjacent to these test production wells for use during the pumping tests as part of the Phase III program.

3. Pumping tests. Initial short-term (48 hour) pumping tests were carried out on CAU07 through CAU11 during 2017. It is planned that long-term pumping (30 day) tests will be carried out on some of these wells during 2018 as soon as the installation of the adjacent monitoring wells have been completed.

10.2. Exploration drilling

Five HQ and NQ diamond core holes (CAU01 through CAU05) were drilled for a total of 721 m by Falcon Drilling using a Longyear 38 trailer mounted rig in 2011. CAU06R was drilled as a rotary hole to 150 m depth. Seven diamond HQ core holes were drilled for a total of 2,534 m by Falcon / AGV with an Atlas Copco diamond rig in 2017/8. Core recovery averaged 76% and 64.22% in the 2011 and 2017 programs, respectively. Table 10.1 shows the details of the drilling depths that varied from 46.5 m in CAU04D to 600 m in CAU14D. All holes were drilled vertical.

Diamond drilling was carried out in 1.5 m core runs with lexan (plastic) tubes in the core barrel in place of a split triple tube. Core recovery was measured for each run. The retrieved core was subsampled by cutting off the bottom 15 cm of alternating 1.5 m length plastic core tubes (nominal 3 m intervals) for porosity analysis. Thereafter, cores were split and the lithology was described by the on-site geological team.

Brine samples were collected using a bailer and following protocols developed by Orocobre for resource drilling at the Olaroz Project. Brine samples were taken at 3 m intervals during the 2011 program and at 6 m to 12 m intervals (due to deeper holes) during the 2017/18 program. Up to 3 well volumes of brine were bailed from the hole prior to sampling. The bailed brine volume was adjusted based on the height of the brine column at each sampling depth.

Core drilling was carried out using brackish water from the margins of the Salar as drilling fluid. This fluid has a Li concentration of less than 20 mg/l. Fluorescein, an organic tracer dye was added to the drilling fluid to distinguish between drilling fluid and natural formation brine. Detection of this bright red dye in samples provided evidence of contamination from drilling fluid and these samples were discarded.

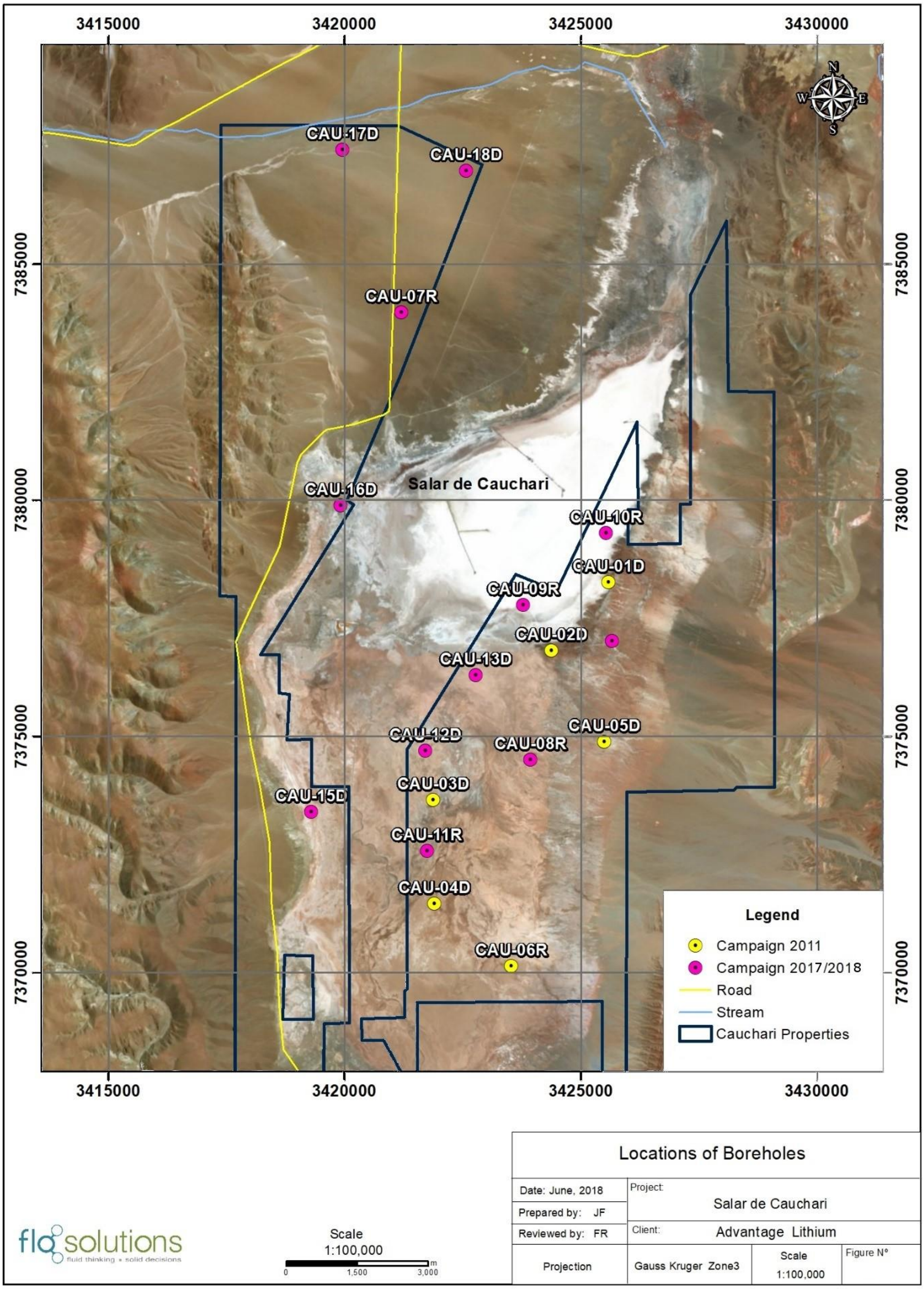
Brine sample recovery from halite and clay units was low due to the low permeability and brine samples were not obtained in a number of intervals in various holes. Double packer brine sampling equipment was used to obtain check samples from selected depth intervals. On completion of the drilling and sampling, each diamond hole was completed as a monitoring well by the installation of 3-inch diameter schedule slotted PVC.

Table 10.1 Cauchari summary borehole information (2011-2018)

Hole ID	UTM mE*	UTM mN*	Elev. (masl)	TD (m)	Type	Year	Drilling Co.	Rec. (%)	SWL (m)	Screened Interval	Casing Dia.(in)
CAU01D	3,425,589	7,378,259	3940.42	249	DDH	2011	Falcon	76	0.00	0–249 m	2
CAU02D	3,424,385	7,376,814	3940.41	189	DDH	2011	Falcon	69	2.15	0-189 m	2
CAU03D	3,421,874	7,373,649	3941.06	71.5	DDH	2011	Falcon	80	4.16	0-71.5 m	2
CAU04D	3,421,903	7,371,452	3941.53	46.5	DDH	2011	Falcon	77	5.50	0-46.,5 m	2
CAU05D	3,425,500	7,374,882	3945.57	168	DDH	2011	Falcon	82	0.00	0-168 m	2
CAU06R	3,423,531	7,370,126	3941.95	150	Rotary	2011	Valle	NA	3.97	-	-
CAU07R	3,421,200	7,383,987	3964.13	348	Rotary	2017	Andina	NA	-	134-326 m	6
CAU08R	3,423,938	7,374,503	3940.95	400	Rotary	2017	Andina	NA	2.82	60–396 m	8 & 6
CAU09R	3,423,778	7,377,785	3939.96	400	Rotary	2017	Andina	NA	5.04	65–394 m	8 & 6
CAU10R	3,425,532	7,379,306	3940.19	429	Rotary	2017	Andina	NA	6.84	60–418 m	8 & 6
CAU11R	3,421,752	7,372,571	3941.22	480	Rotary	2017	Andina	NA	12.20	50–471 m	8 & 6
CAU12D	3,421,708	7,374,690	3940.56	413	DDH	2017	Falcon	64	1.73	3–201 m	3
CAU13D	3,422,774	7,376,298	3940.16	449	DDH	2018	Falcon	73	1.78	0–252 m	3
CAU14D	3,425,670	7,377,021	3942.09	600	DDH	2018	Falcon	78	-	0-454.5 m	3 & 2
CAU15D	3,419,292	7,373,396	3941.34	243.5	DDH	2017	Falcon	39	0.00	6–204 m	3
CAU16D	3,419,924	7,379,892	3940.83	321.5	DDH	2017	Falcon	63	0.77	3-249 m	3
CAU17D	3,419,965	7,387,430	3990.59	237.5	DDH	2018	Falcon	48	42.07	3.5-238 m	3
CAU18D	3,422,571	7,386,977	3964.07	359	DDH	2018	Falcon	86	18.57	0–353 m	3

*Note: Coordinates are in Zone 3 of the Argentine Gauss Kruger System with the Posgar Datum

Figure 10.1 Location of boreholes



10.3. Production well drilling

Five test production wells (CAU07 through CAU11) was drilled and completed by Andina Perforaciones using a Speedstar SS-3 table drive rotary rig in 2017. The rotary holes were drilled at a first pass in $7^{7/8}$ –inch diameter and subsequently reamed to 15-inch diameter in the upper part of the hole and to 12- inch diameter in the lower part of the hole. Drilling depths varied between 343 m (CAU07) and 480 m (CAU11). A total of 2,052 m was drilled with the rotary method during which cutting samples were collected at 2 m intervals for geological logging using a hand lens and binocular microscope. Cuttings were stored in chip trays. The holes were completed with 8-inch (upper section) and 6-inch diameter (lower section) blank and screened stainless steel production casing. The completion details of the test wells are provided in Table 10.1. The annulus space was completed with a gravel pack and a cement surface seal. The wells were developed by pumping over a minimum 72 hour period with a submersible pump.

10.4. Pumping tests

Preliminary pumping tests were carried out on the five test production wells CAU07 through CAU11. These pumping tests were carried out over a period of 48 hours after the well development was completed. In each well the pump was installed within the upper 8 inch section of the wells. The pumping test in CAU07 (completed in the coarser grained units of the NW Sector) was carried out at a rate of 17 l/s. The test in CAU11 (completed in the deep sand unit of the SE Sector was carried out at a constant rate of 19 l/s. The tests in CAU08, CAU09, and CAU10 (all completed in the fined grained and halite units in the SE Sector) were carried out a constant rate of 4 l/s.

It is planned that nested piezometers will be drilled and completed adjacent to the CAU07 and CAU11 test wells as part of the Phase III program. Long-term pumping tests (30+ days) will be conducted in these wells as part of the Phase III program.

11 SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1. Sampling methods

11.1.1. Core sample collection, handling and transportation

Diamond drilling took place in HQ or NQ sizes with lexan tubes inside the core barrel to facilitate recovery and preparation of the porosity sub samples. When cores were recovered to surface the lexan tube was pumped from the core barrel using water and a plug separating tube and water. Upon release from the core barrel tight fitting caps were applied to both ends of the lexan tube. The tube was then cleaned, dried and labeled.

The 2011 samples were prepared for drainable porosity testing and brine extraction by the BGS and consisted of a 20 cm sub-section of core cut from the bottom section of each lexan liner. The samples prepared for total porosity testing by the Company's laboratory in Salta consisted of a 10 cm sub-section of the core. Both sample types were sealed with end-caps and taped. All samples were labelled with the borehole number and depth interval. Each day the porosity samples were transferred to the workshop in the onsite camp where the samples were labelled with a unique sample number. Prior to shipping each sample was wrapped in bubble plastic to prevent disturbance during shipping. A register of samples was compiled at the camp site to control transportation of samples to the Company's Salta office. Porosity samples prepared from the HQ core collected during the 2017/8 Program followed the same procedures as outlined above.

The following test work has been carried out on the on undisturbed core samples:

- 123 samples were analyzed by the BGS laboratory in 2011 for total porosity and specific yield from the 5 core holes drilled in 2011. 13 samples were rejected on arrival in the BGS due to damage occurred during the shipping and handling.
- 164 samples were analyzed in 2011 by the Company's Salta laboratory for total porosity.
- 172 samples were analyzed by GSA in 2017/8 for drainable porosity and other physical parameters.
- 20 samples (subsamples from the 2017/18 GSA samples) were analyzed as QA/QC analyses by Corelabs in Houston TX in 2018, with a further 16 halite samples analyzed by DBSA.

11.1.2. Brine sample preparation, handling and security

Brine samples were collected during the core drilling by bailer. Prior to bottling, the bailed sample was transferred to a bucket, which had been rinsed with the same brine as the sample. When necessary fine sediment was allowed to settle in the bucket before the brine sample was transferred from the bucket to two 1 liter plastic bottles. The bottles were rinsed with the brine and then filled to the top of the bottle removing any airspace and capped. Bottles were labeled with the borehole number and sample depth with permanent marker pens, and labels were covered with transparent tape, to prevent labels being smudged or removed. Samples with fluorescein contamination were noted at this point and except in specific circumstances these were not sent for laboratory analysis, due to the interpreted sample contamination.

A volume of the same brine as the bottled sample was used to measure the physical parameters. These included density (with a picnometer), temperature, pH, Eh and in some samples dissolved oxygen. Details of field parameters were recorded on paper tags, which were stuck to the bottle with transparent tape when completed with sample information.

Samples were transferred from the drill site to the field camp where they were stored in an office out of direct sunlight. Samples with suspended material were filtered to produce a final 150 ml sample for the laboratory. Before being sent to the laboratory the 150 ml bottles of fluid were sealed with tape and labeled with a unique sample ticket number from a printed book of sample tickets. The hole number, depth, date of collection, and physical parameters of each sample number were recorded on the respective pages of the sample ticket book and in a spreadsheet control of samples. Photographs were taken of the original 1 liter sample bottles and the 150 ml bottles of filtered brine to document the relationship of sample numbers, drill holes and depths.

Brine chemistry analyses were carried out as follows:

- 268 brine samples including (QA/QC samples: duplicates, standards and blanks) were analysed by Alex Steward Assayers (ASA) in Mendoza Argentina as the primary laboratory for the 2011 campaign.
- 15 brine samples were analyzed by the University of Antofagasta as the external secondary laboratory for QA/QC analyses during the 2011 campaign.
- 562 brine samples including (QA/QC samples: duplicates, standards and blanks) were analysed by Norlabs in Jujuy, Argentina as the primary laboratory for the 2017/8 campaign.
- 51 brine samples were analysed by Alex Steward Assayers (ASA) in Mendoza Argentina as the secondary laboratory for QA/QC analyses during the 2017/8 campaign.
- 15 brine samples were analyzed by the University of Antofagasta as the external secondary laboratory for QA/QC analyses during the 2017/8 campaign

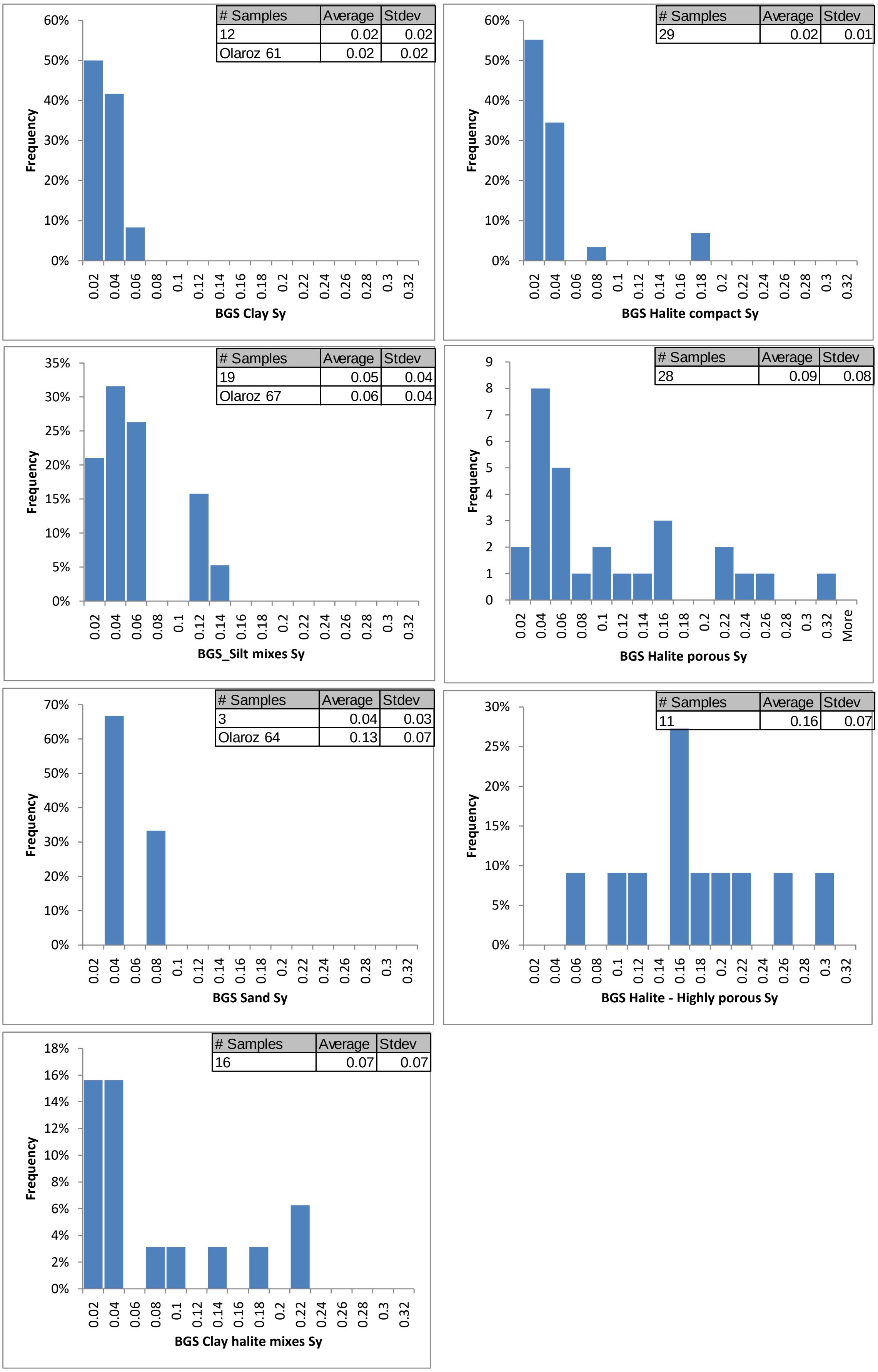
11.2. Drainable porosity analysis and quality control results

11.2.1. British Geological Survey - 2011

The BGS was used during the 2011 campaign to analyze drainable porosity. Specific yield (or drainable porosity) is defined as the volume of water released from storage by an unconfined aquifer per unit surface area of aquifer per unit decline of the water table. Bear (1979) relates specific yield to total porosity as follows: $n = Sy + Sr$; where Sr is specific retention.

The BGS determines drainable porosity using a centrifugation technique where samples are saturated with simulated formation brine and weighed. They are then placed in a low-speed refrigerated centrifuge with swing out rotor cups and centrifuged at 1,200 rpm for two hours and afterwards weighted a second time. A centrifuge speed is selected to produce a suction on the samples equivalent to 3,430 mm H_2O. This suction is chosen as it had previously been used by Lovelock (1972) and Lawrence (1977) and taken to be characteristic of gravitational drainage. Figure 11.1 shows the results of the BGS drainable porosity analyses.

Figure 11.1 Results BGS specific yield analyses



11.2.2 GeoSystems Analyses – 2017/8

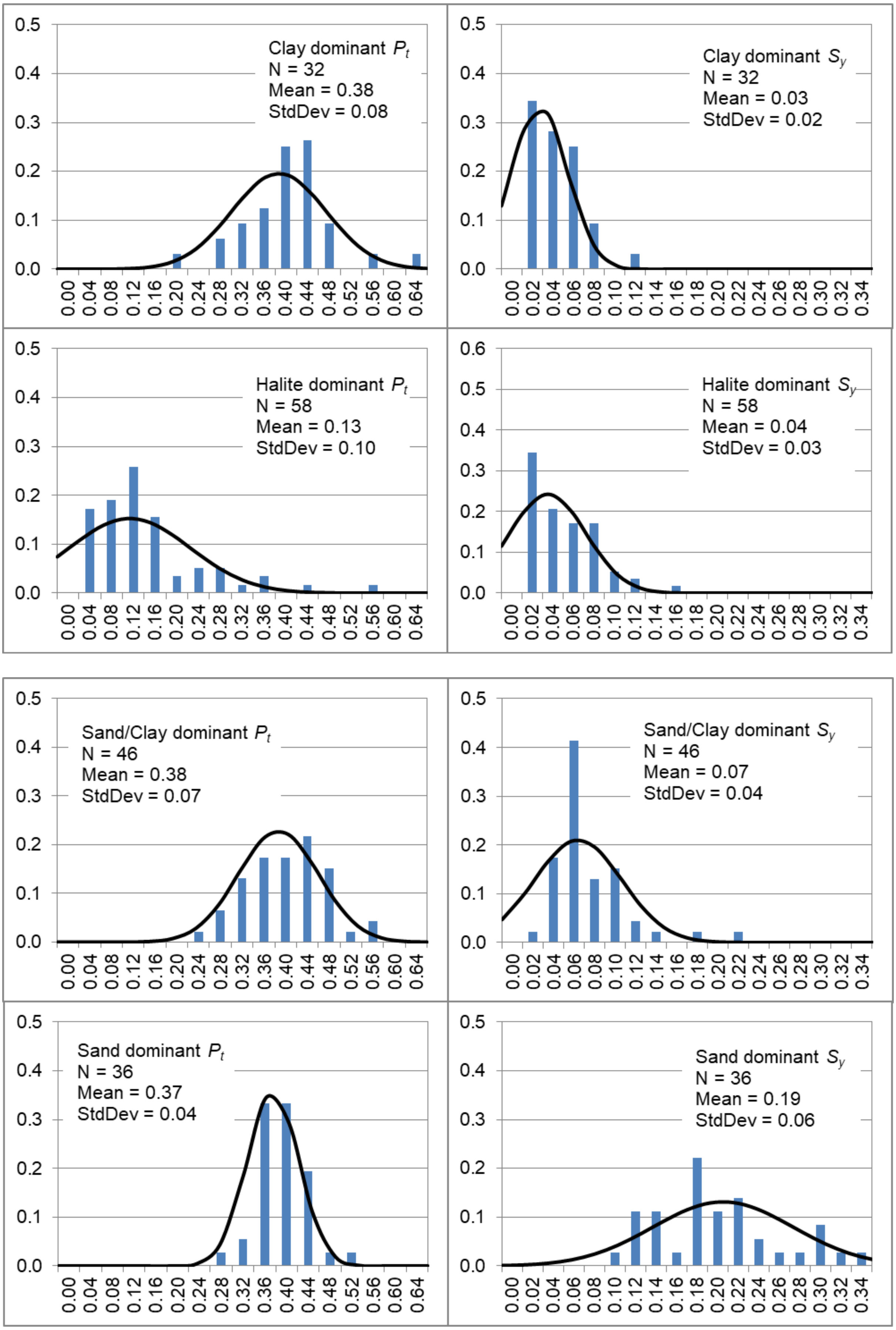
GSA was selected as the main laboratory for the Phase II drainable porosity (*Sy)* and other physical parameter analyses. GSA utilized the Rapid Brine Release method (Yao et al., 2018) to measure drainable porosity and the total porosity. The Rapid Brine Release (RBR) method is based on the moisture retention characteristics (MRC) method for direct measurement of total porosity (Pt, MOSA Part 4 Ch. 2, 2.3.2.1), specific retention (Sr, MOSA Part 4 Ch3, 3.3.3.5), and specific yield (Sy, Cassel and Nielson, 1986). A simplified Tempe cell design (Modified ASTM D6836-16) was used to test the core samples. Brine release drainable porosity was measured at 120 mbar and 330 mbar of pressure for reference (Nwankwor et al., 1984, Cassel and Nielsen, 1986).

In addition to drainable porosity, bulk density, particle size analyses and specific gravity were determined on selected core samples. Table 11.1 provides an overview of the test work being carried out by GSA. Figure 11.2 shows the results of the test work by lithology type.

Table 11.1 Physical and hydraulic test work on core samples – 2017/8

Test Type	Sample Type and Number	Test Method	Testing Laboratory	Standard[1,2]
Physical	172 core samples	Bulk Density	GSA Laboratory, (Tucson, AZ)	ASTM D2937-17e2[1]
	44 core samples	Particle Size Distribution with #200 brine wash	GSA Laboratory, (Tucson, AZ)	ASTM D6913-17 / ASTM C136-14[1]
	40 core samples	Specific Gravity of Soils	GSA Laboratory, (Tucson, AZ)	ASTM D854-14[1]
Hydraulic	16 core samples	Relative Brine Release Capacity (RBRC)	Daniel B. Stephens & Associates, Inc. (Albuquerque, NM)	Stormont et. al., 2011
	20 core samples	Centrifuge Moisture Equivalent of Soils	Core Laboratories (Houston, TX)	Modified ASTM D425-17[1]
	172 core samples	Estimated Total Porosity	GSA Laboratory (Tucson, AZ)	MOSA Part 4 Ch. 2, 2.3.2.1[2]
		Estimated Field Water Capacity		MOSA Part 4 Ch. 3, 3.3.3.2[2]
		Rapid Brine Release (RBR)		Modified ASTM D6836-16[1] MOSA Part 4 Ch. 3, 3.3.3.5[2]

Figure 11.2 Results GSA total porosity and specific yield analyses – 2018



11.2.3 Drainable porosity quality control - 2018 Program

For quality control, a subset of paired samples representative of the range in lithology types were selected by AAL and GSA for testing using the Relative Brine Release Capacity (RBRC, Stormont et. al., 2011) method by DBSA, or the Centrifuge Moisture Equivalent of Soils (Centrifuge, ASTM D 6836-16) method by Core Laboratories (Houston, TX). The goals of the test work were to provide Sy and Pt values for each sample, summary statistics of Sy and Pt by lithological group, and to compare the Sy and Pt values derived for paired core samples using the RBR, RBRC, and Centrifuge methods. A comparison is provided in Table 11.2.

Correlations between GSA and external laboratory measured values are provided in Figure 11.3. There is a lower correlation between the specific yield data (R^2 = 0.44). Correlation was slightly higher (R^2 = 0.45) between Sy (RBRC and Centrifuge) and drainable porosity at 120 mbar (RBR, Figure 11.4). Most of the samples tested for Sy fall below the 1:1 line, indicating that GSA measured Sy values were often higher than external laboratory measured Sy values, particularly those from Core Laboratories. Differences are likely attributable to testing equilibration time and testing method.

Table 11.2 Summary of the drainable porosity statistics by laboratory methods

Lithological Group	RBR Drainable Porosity @330 mbar (GSA)			RBR Drainable Porosity @120 mbar (GSA)			Centrifuge S_y (Core Laboratories)			RBRC S_y (DBS&A)		
	n	Mean	StdDev	n	Mean	StdDev	n	Mean	StdDev	n	Mean	StdDev
Clay dominated	32	0.03	0.02	32	0.02	0.02	2	0.01	0.00	0	--	--
Halite dominated	58	0.04	0.03	58	0.03	0.03	0	--	--	16	0.05	0.02
Sand/Clay dominated	46	0.07	0.04	46	0.04	0.03	13	0.06	0.05	0	--	--
Sand dominated	36	0.19	0.06	36	0.13	0.06	5	0.12	0.03	0	--	--

Figure 11.3 Comparison between GSA RBR and Core Labs Centrifuge by lithology

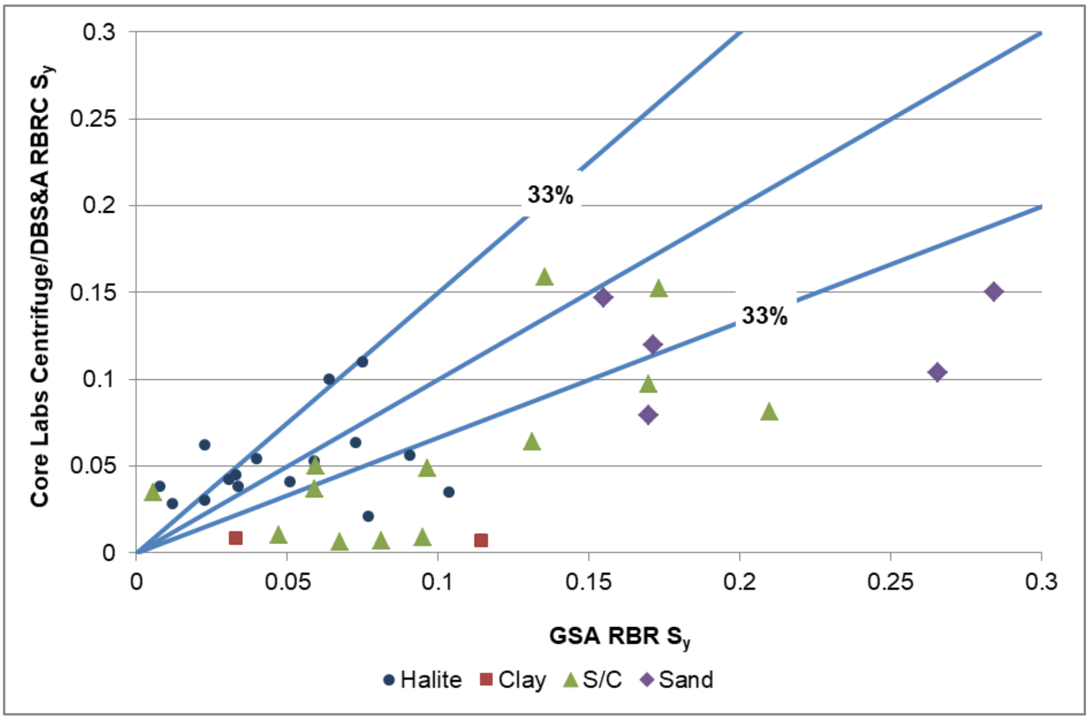
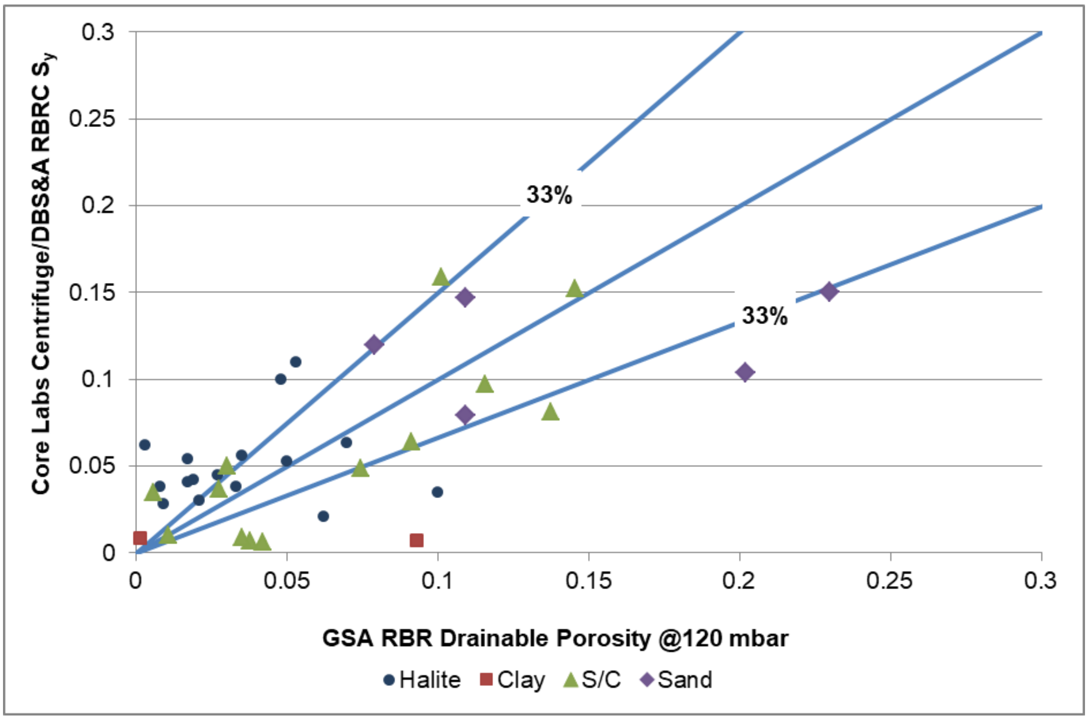


Figure 11.4 Comparison between GSA RBR @120 mbar and Core Labs centrifuge by lithology



11.3. Brine analysis and quality control results

11.3.1. Analytical methods

Alex Stewart Argentina in Jujuy, Argentina (NorLab) was selected as the primary laboratory to conduct the assaying of the brine samples collected as part of the 2017/8 drilling program. This laboratory is ISO 9001 accredited and operates according to Alex Stewart Group standards consistent with ISO 17025 methods at other laboratories.

Alex Stewart Argentina in Mendoza, Argentina (ASAMen) was used for the analysis of external check samples during the 2017/8 drilling campaign and as primary laboratory during the 2011 drilling campaign. The laboratory of the University of Antofagasta in northern Chile was also used for external check samples during the 2017/8 and 2011 campaign. This laboratory is not ISO certified, but it is specialized in the chemical analysis of brines and inorganic salts, with extensive experience in this field since the 1980s, when the main development studies of the Salar de Atacama were begun. Other clients include SQM, FMC, LAC and Orocobre.

Table 11.3 lists the basic suite of analyses requested from the laboratories. The labs used the same analytical methods based on the Standard Methods for the Examination of Water and Wastewater, published by American Public Health Association (APHA) and the American Water Works Association (AWWA), 21st edition, 2005, Washington DC.

Table 11.3 List of analyses requested from the University of Antofagasta and Alex Stewart Argentina SA Laboratories

ANALYSIS	ALEX STEWART ARGENTINA	UNIVERSITY OF ANTOFAGASTA	METHODS
Total Dissolved Solids	SM 2540-C	SM 2540-C	Total Dissolved Solids Dried at 180ºC
PH	SM 4500-H^+B	SM 4500-H^+B	Electrometric Method
Density	IMA-28	CAQ – 001DS	Pycnometer
Alkalinity	SM 2320-B	SM 2320-B	Acid-Base Titration
Boron (B)	ICP - OES	CAQ – 005 BS	Acid-Base Titration
Chlorides (Cl)	SM 4500-Cl^-B	SM 4500-Cl^-B	Argentometric Method
Sulfates (SO4)	SM 4500^{2-}C (Ignition of Residue)	SM 4500^{2-}D (Drying of Residue)	Gravimetric Method
Sodium (Na)	ICP-OES 10	SM 3111 B	Direct Aspiration-AA or ICP Finish
Potassium (K)	ICP-OES 10	SM 3111 B	Direct Aspiration-AA or ICP Finish
Lithium (Li)	ICP-OES 10	SM 3111 B	Direct Aspiration-AA or ICP Finish
Magnesium (Mg)	ICP-OES 10	SM 3111 B	Direct Aspiration-AA or ICP Finish
Calcium (Ca)	ICP-OES 10	SM 3111 D	Direct Aspiration-AA or ICP Finish

11.3.2. Analytical quality control - 2011 Program

A full QA/QC program for monitoring accuracy, precision and potential contamination of the entire brine sampling and analytical process was implemented. Accuracy, the closeness of measurements to the "true" or accepted value, was monitored by the insertion of standards, or reference samples, and by check analysis at an independent secondary laboratory.

Precision of the sampling and analytical program, which is the ability to consistently reproduce a measurement in similar conditions, was monitored by submitting blind field duplicates to the primary laboratory. Contamination, the transference of material from one sample to another, was measured by inserting blank samples into the sample stream at site. Blanks were barren samples on which the presence of the main elements undergoing analysis has been confirmed to be below the detection limit.

The results of the analyses of the standards are summarized in Table 11.4. The analyses showed little systematic drift in the results relative to the standard values over the period of analyzed. Results are generally within 10% of stated standard values, with a small number of exceptions for each element. However, boron values were consistently below the standard value for standards 4G, 5G and SG2.

Table 11.4 Standards analysis results from ASAMen (2011)

	B mg/l	Ca mg/l	K mg/l	Li mg/l	Mg mg/l	Na mg/l	Chlorides mg/l	Sulfates mg/l
Field standard CJ 1314								
# Samples	11	11	11	11	11	11	11	11
Average	392	2,189	17,235	1,547	4,159	93,338	184,782	4,335
StdDev	23	157	1,017	68	318	6,147	3,987	382
RSD%	6.0%	7.2%	5.9%	4.4%	7.6%	6.6%	2.2%	8.8%
Max	430	2,316	18,904	1,658	4,474	103,728	193,035	4,989
Min	364	1,875	16,042	1,467	3,571	83,569	177,210	3,787
RPD %	16.7%	20.1%	16.6%	12.3%	21.7%	21.6%	8.6%	27.7%
STD SG1	**20**	**1,000**	**9,000**	**1,000**	**1,735**	**80,000**	**143,556**	
# Samples	7	7	7	7	7	7	7	7
Average	21	1,176	8,494	942	1,695	87,485	131,680	22,270
StdDev	4	31	210	35	17	4,985	833	809
RSD%	18.7%	2.7%	2.5%	3.8%	1.0%	5.7%	0.6%	3.6%
Max	30	1,224	8,908	1,018	1,714	92,383	132,246	23,799
Min	18	1,143	8,304	912	1,672	78,016	130,483	21,387
RPD %	54.2%	6.9%	7.1%	11.2%	2.5%	16.4%	1.3%	10.8%
STD SG2	**80**	**200**	**6,000**	**600**	**1,301**	**90,000**	**149,289**	
# Samples	7	7	7	7	7	7	7	7
Average	69	363	6,121	584	1,133	121,435	142,596	61,823
StdDev	4	11	313	30	78	1,588	988	1,362
RSD%	5.4%	2.9%	5.1%	5.2%	6.9%	1.3%	0.7%	2.2%
Max	73	374	6,307	645	1,301	123,709	144,036	63,526
Min	62	347	5,418	561	1,071	118,365	141,329	59,838
RPD %	16.4%	7.4%	14.5%	14.3%	20.3%	4.4%	1.9%	6.0%
STD-4G	**400**	**200**	**4,000**	**400**	**1,820**	**80,000**	**129,446**	**7,500**
# Samples	12	12	12	12	12	12	12	12
Average	349.5	252.1	3943.7	401.7	1841.8	80544.9	126666.2	8688.2
StdDev	14.9	10.0	184.0	18.5	134.1	3766.8	1662.4	380.9
RSD%	4.3%	4.0%	4.7%	4.6%	7.3%	4.7%	1.3%	4.4%
Max	369.7	265.5	4171.5	438.4	2019.6	87279.7	129195.9	9203.4
Min	320.7	236.3	3618.1	385.0	1644.2	75146.4	124093.8	8092.1
RPD %	14.0%	11.6%	14.0%	13.3%	20.4%	15.1%	4.0%	12.8%
STD-5G	**800**	**100**	**7,500**	**800**	**2,707**	**85,000**	**142,200**	**11,000**
# Samples	6	6	6	6	6	6	6	6
Average	707	197	7,318	802	2,632	83,219	137,497	12,469
StdDev	20	4	144	19	81	4,572	3,119	640
RSD%	2.8%	2.2%	2.0%	2.3%	3.1%	5.5%	2.3%	5.1%
Max	734	202	7,451	820	2,716	87,768	141,417	13,295
Min	677	191	7,121	772	2,544	76,549	134,435	11,607
RPD %	7.9%	5.8%	4.5%	6.0%	6.8%	13.4%	5.1%	13.8%

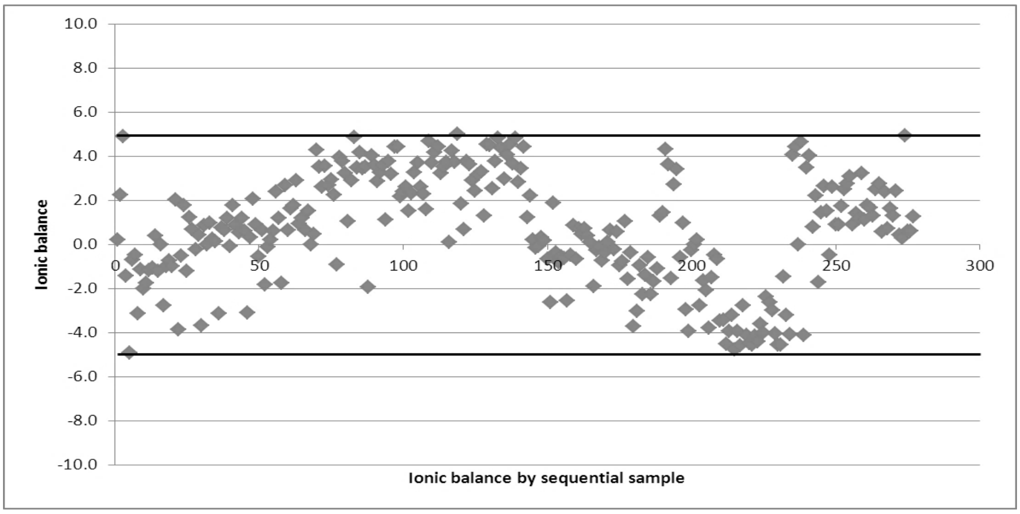
Table 11.5 shows a summary of the duplicate samples analysis. The duplicates show there is a high level of analytical repeatability and precision in the bailed samples analyzed by ASAMen, with duplicates generally well within +/-10.

Table 11.5 Duplicate analysis results (2011)

	B		K		Li		Mg	
	Original	**Duplicate**	**Original**	**Duplicate**	**Original**	**Duplicate**	**Original**	**Duplicate**
# Samples	19	19	19	19	19	19	19	19
Average mg/l	646	650	4283	4317	458	463	1143	1158
Std Dev	314	309	2292	2306	288	285	795	795
Graph r^2	0.992		0.996		0.994		0.997	
RPD%	0.6%		0.8%		1.0%		1.3%	
	SO4		**Cl**		**TDS**		**Density**	
	Original	**Duplicate**	**Original**	**Original**	**Original**	**Duplicate**	**Original**	**Duplicate**
# Samples	19	19	19	19	19	19	19	19
Average mg/l	21,499	21,372	165,287	165,283	303,932	303,917	1.2	1.2
Std Dev	7,284	7,309	16,503	16,712	32,315	32,140	0.0	0.0
Graph r^2	0.934		0.980		0.985		0.977	
RPD%	0.6%		0.0%		0.0%		0.0%	

Ionic balances shown in Figure 11.5 demonstrate that the analyses are of good quality.

Figure 11.5 Results of ionic balance analyses (2011)



A suite of inter-laboratory check samples was analyzed at the University of Antofagasta. These samples showed generally low RPD values between the ASAMen and University of Antofagasta laboratory, suggesting ASAMen analyses have an acceptable level of accuracy as well as precision. Overall the ASAMen results are considered of acceptable accuracy and precision.

11.3.3. Analytical quality control - 2017/18 program

A total of 179 primary brine samples were analyzed from the 2017/18 drilling campaign. An additional 249 brine samples from pumping tests and baseline monitoring were analyzed. These primary analyses were supported by a total 134 QA/QC analyses consisting of:

- 51 standard samples (8%) with 6 different standards.
- 42 duplicates (7%) by external laboratory (ASA Mendoza).
- 41 blank samples (7%).

The results of the standards analyses are summarized in Table 11.6. This table lists the statistics, number of samples exceeding the acceptable failure criteria of the mean ± 2 standard deviations, and the relative standard deviation (RSD) for each standard. Standard analyses at NorLab indicate very acceptable accuracy.

Table 11.6 Results of standards analysis by NorLab (2017/18)

	Li mg/l	Ca mg/l	Mg mg/l	B mg/l	Na mg/l	K mg/l	Cl^- mg/l	SO_4 mg/l
STD SG1								
# Samples	4	4	4	4	4	4	4	4
Average	521	213	1316	568	76497	4000	122461	4970
StdDev	12	13	146	6	213	57	267	64
RSD%	2.39%	6.21%	11.09%	1.01%	0.28%	1.42%	0.22%	1.29%
Max	539	228	1530	577	76715	4078	122808	5049
Min	510	201	1201	565	76213	3949	122166	4893
RPD %	5.39%	13.01%	25.01%	2.14%	0.66%	3.23%	0.52%	3.14%
STD SG2								
# Samples	5	5	5	5	5	5	3	3
Average	601	363	1375	79	115875	5795	140429	65132
StdDev	10	30	15	2	875	54	1274	548
RSD%	1.71%	8.21%	1.12%	1.90%	0.76%	0.94%	0.91%	0.84%
Max	610	396	1389	80	117191	5903	141794	65730
Min	588	334	1347	76	114837	5759	139271	64656
RPD %	3.68%	17.22%	3.05%	5.05%	2.03%	2.49%	1.80%	1.65%
STD SG4								
# Samples	24	24	24	24	24	24	21	21
Average	574	497	1862	559	71124	5572	117080	7623
StdDev	10	11	64	18	808	210	576	141
RSD%	1,74%	2,13%	3,46%	3,23%	1,14%	3,77%	0,49%	1,84%
Max	590	509	1924	596	72067	5770	117801	7730
Min	546	465	1683	520	68157	5017	115060	7079
RPD %	7.63%	8.82%	12.97%	13.68%	5.50%	13.53%	2.34%	8.54%
STD SG5								
# Samples	3	3	3	3	3	3	3	3
Average	755	233	2741	763	84638	7090	135282	11817
StdDev	3	7	27	11	176	41	329	287
RSD%	0.37%	3.11%	0.97%	1.38%	0.21%	0.58%	0.24%	2.43%
Max	758	242	2771	775	84841	7114	135653	12065
Min	752	229	2720	755	84534	7042	135023	11503
RPD %	0.70%	5.68%	1.84%	2.56%	0.36%	1.02%	0.47%	4.75%
STD SG7								
# Samples	14	14	14	14	14	14	13	13
Average	294	249	921	281	36498	2840	60262	3622
StdDev	4	5	10	9	622	162	872	127
RSD%	1.30%	1.93%	1.06%	3.04%	1.70%	5.69%	1.45%	3.50%
Max	301	260	935	301	37346	3034	61881	3927
Min	285	244	906	263	35484	2456	59175	3439
RPD %	5.48%	6.70%	3.07%	13.27%	5.10%	20.35%	4.49%	13.47%

Checks analyses were conducted at ASAMen on 7% of the primary brine samples consisting of 42 external duplicate samples. In addition, some blanks and standard control samples were inserted to monitor accuracy and potential laboratory bias. No bias was found in relation to the blanks and standard control samples. Table 11.7 summarizes the results of the duplicate analyses and lists the statistics, number of samples exceeding the acceptable failure criteria of a 5% bias between duplicates. An important bias for the ASAMen laboratory was found for medium to high potassium concentrations. Further QA/QC analyses are being carried out by the University of Antofagasta; results of these analyses were not received at the time of the preparation of this report.

Table 11.7 Results of duplicate analyses by ASAMen (2017/18)

	B		K		Li		Mg	
	Original	**Duplicate**	**Original**	**Duplicate**	**Original**	**Duplicate**	**Original**	**Duplicate**
# Samples	42	42	42	42	42	42	42	42
Average mg/l	688	686	3898	3901	433	434	1070	1072
Std Dev	373	370	2283	2276	249	250	562	563
Graph r^2	0.9977		0.9991		0.9996		0.9992	
RPD%	0.29%		0.07%		0.33%		0.18%	
	Na		**SO4**		**Cl**		**TDS**	
	Original	**Duplicate**	**Original**	**Original**	**Original**	**Duplicate**	**Original**	**Duplicate**
# Samples	42	42	32	32	32	32	26	26
Average mg/l	88245	88402	19355	19211	136025	135889	242194	241118
Std Dev	45205	45363	11252	11080	58920	58900	120174	120184
Graph r^2	0.9989		0.9911		0.9992		0.9964	
RPD%	0.18%		0.75%		0.10%		0.44%	

In addition to evaluation of standards, field duplicates and blanks, the ionic balances (the difference between the sum of the cations and the anions) were reviewed for to evaluate the quality of the laboratory analyses. Balances are generally considered to be acceptable if the difference is <5% and were generally <1%. No samples were rejected as having > 5% balances. The results of standard, duplicate and blank samples analyses are considered to be adequate and appropriate for use in the resource estimation described herein.

12 DATA VERIFICATION

The author, Frits Reidel reviewed the protocols for drilling, sampling and testing procedures at the initial planning stage as well as the execution of the 2017/18 drilling and testing programs in Salar de Cauchari. The author spent a significant amount of time in the field during the 2017 field campaign overlooking the implementation and execution of drilling, testing, and sampling protocols. The second author Peter Ehren has visited the site periodically since 2011.

The authors were responsible for the oversight and analysis of the QA/QC programs related to brine sampling and laboratory brine chemistry analysis as well as the laboratory porosity analysis. A significant amount of QA/QC protocols were implemented for the brine chemistry and drainable porosity analysis programs that allowed continuous verification of the accuracy and reliability of the results obtained. As described in Section 11 no significant issues were found with the results of the brine and porosity laboratory analysis. It is the opinion of the authors that the information developed and used for the brine resource estimate herein is adequate, accurate and reliable.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

The brines from Salar de Cauchari are solutions nearly saturated in sodium chloride with an average concentration of total dissolved solids (TDS) of 290 g/L. The average density is 1.18 g/cm3. Components present in the Cauchari brine are: K, Li, Mg, Ca, Cl, SO4, HCO3 and B. Table 7.3 shows a breakdown of the principal chemical constituents in the brine including maximum, average, and minimum values, based on the 442 brine samples that were collected and analyzed from the exploration boreholes during the 2011 and 2017 drilling programs.

The Cauchari brine chemistry is very similar to the brine of Salar de Olaroz that is being processed successfully by Orocobre in the Olaroz lithium carbonate facility, 20 km north of the Project area. It is the opinion of the authors that the Cauchari brine can be processed using a similar technology that is applied by Orocobre at the Olaroz plant as is further discussed in Section 17.

AAL is currently commissioning a PEA for the Project from which results will be made available during Q3 2018.

14 MINERAL RESOURCES ESTIMATE

14.1 Overview

The essential elements of a brine resource determination for a salar are:

- Definition of the aquifer geometry,
- Determination of the drainable porosity or specific yield (Sy), and
- Determination of the concentration of the elements of interest.

Resources may be defined as the product of the first three parameters. The use of specific yield allows the direct comparison of brine resources from the widest range of environments.

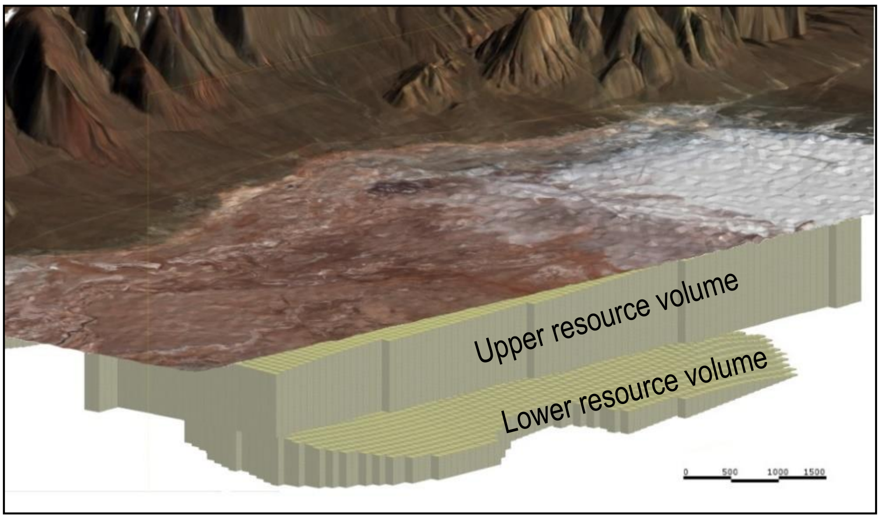
Aquifer geometry is a function of both the shape of the aquifer, the internal structure and the boundary conditions (brine / fresh water interface). Aquifer geometry and boundary conditions can be established by drilling and geophysical methods. Hydrogeological analyses are required to establish catchment characteristics such as surface- and groundwater inflows, evaporation rates, water chemistry and other factors potentially affecting the brine reservoir volume and composition in-situ. Drilling is required to obtain samples to estimate the salar lithology, specific yield and grade variations both laterally and vertically.

14.2 Resource model domain and geometry

The model resource estimate covers an area of 92.6 km^2 and is limited to the Cauchari Project area and further constrained by the following factors:

- The top of the model coincides with the brine level in the Salar as measured in a number of monitoring wells and further interpreted by TEM and SEV geophysical profiles.
- The lateral boundaries of the model domain are limited to the area of the Cauchari tenements where they flank the neighboring LAC concessions and by the brine / fresh water interface along the eastern and western limits of the Salar as interpreted from boreholes information and TEM and SEV profiles.
- The bottom of the model coincides with a total depth of 300 m. Locally, a deeper resource volume has been defined in the Lower sand unit between 400 m and 480 m depth as defined by boreholes CAU11R, CAU12D and CAU13D.

Figure 14.1 Block model representation of the resource geometry



14.3 Specific yield

Specific yield is defined as the volume of water released from storage by an unconfined aquifer per unit surface area of aquifer per unit decline of the water table.

The specific yield values used to develop the resources model are based on analyses of 242 undisturbed samples from diamond drill core by GSA, Core Laboratories, and DBSA. Figure 14.2 shows the normal distribution of the specific yield grouped by lithology and Figure 14.3 shows observed variations in Sy with depth.

Figure 14.2 Normal probability plot of Sy grouped by lithology

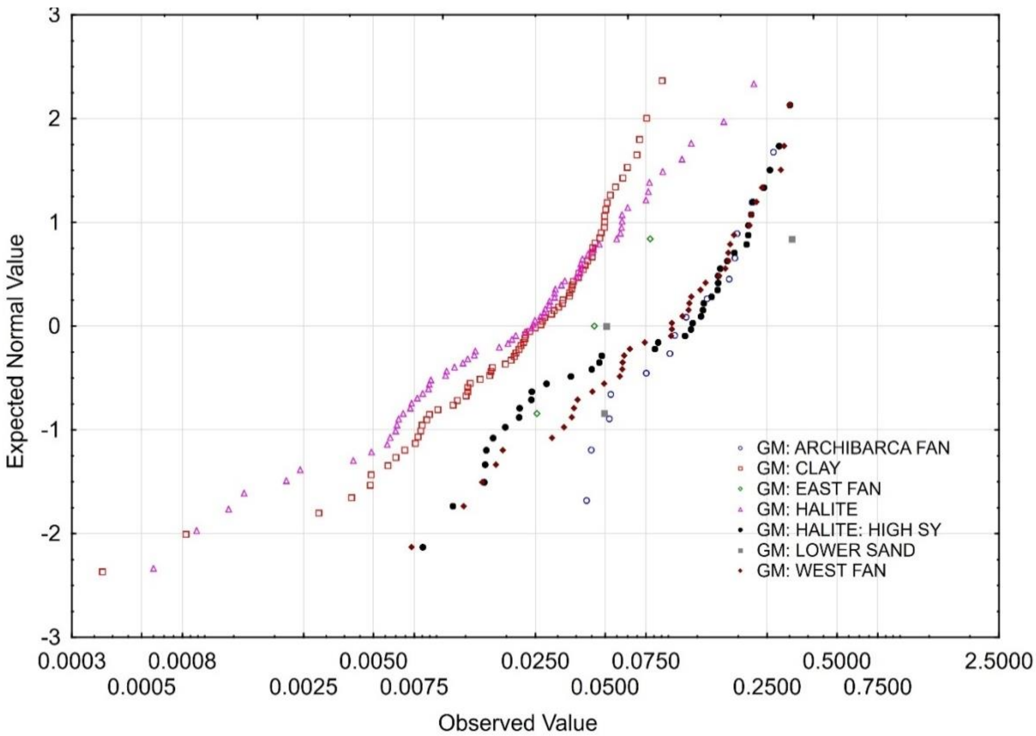


Figure 14.3 Sy vs depth in boreholes CAU01D, CAU02D, CAU13D and CAU14D

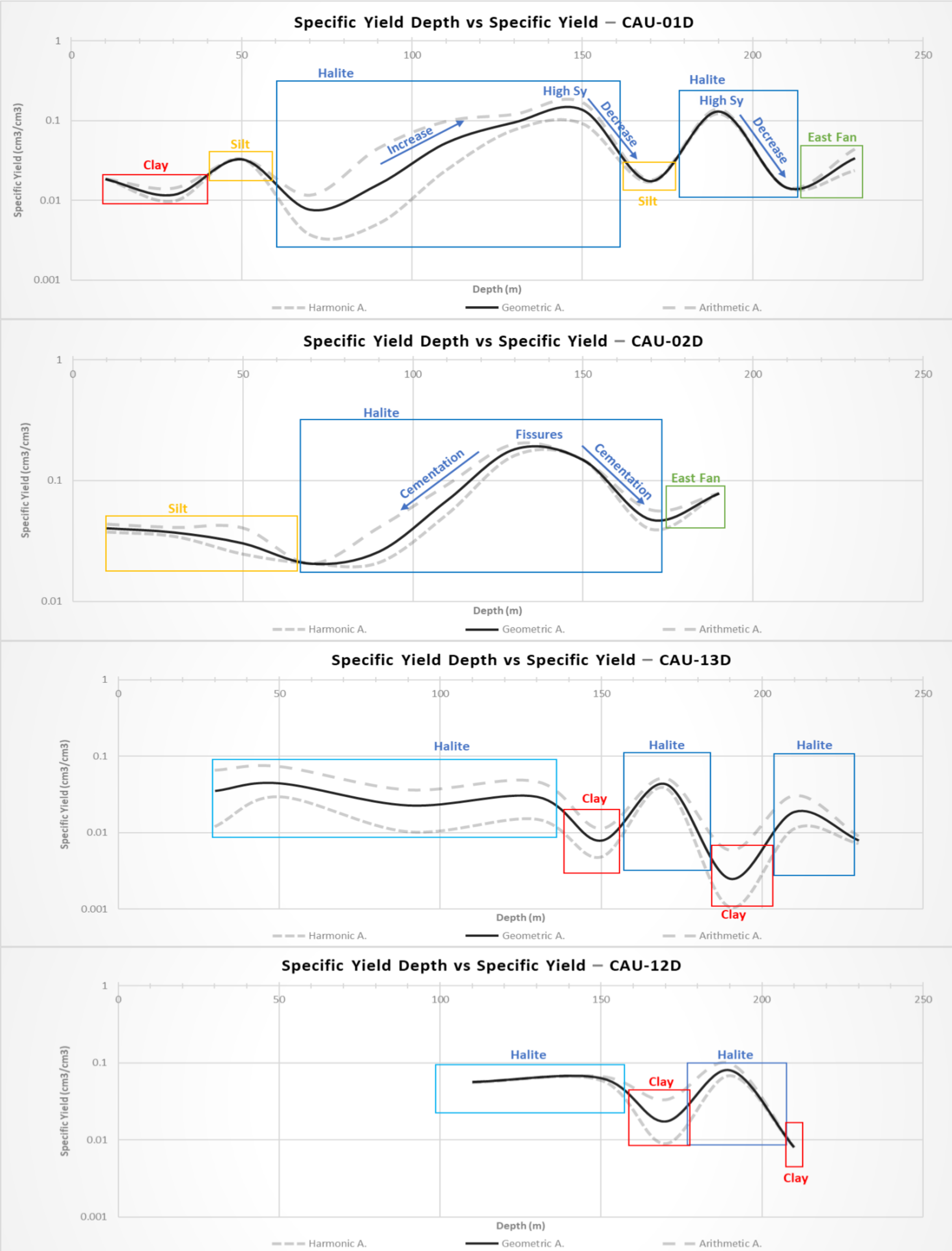


Table 14.1 shows the results of the drainable porosity analyses and the values assigned to the geological units in the resource model.

Table 14.1 Distribution of specific yield (Sy) in the resource model

Geological Unit	No. Samples	Average Sy	S. DEVIATION	C.V.
Clay	74	0.03	0.02	0.7
Halite: High Sy	40	0.11	0.03	0.2
Halite	68	0.03	0.04	1.1
Archibarca Fan	14	0.12	0.07	0.6
East Fan	3	0.05	0.03	0.5
West Fan	40	0.11	0.08	0.7
Lower Sand	3	0.14	0.15	1.1

14.4 Brine Concentration

The distributions of lithium and potassium concentrations in the model domain are based on a total of 449 brine analyses (not including QA/QC analyses). Table 7.3 shows a summary of the brine chemical composition.

14.5 Resource Category

The CIM Council (May 10, 2014) adopted the following definition standards for minerals resources:

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.

An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An Inferred Mineral Resource is based on limited information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and drill holes. Inferred Mineral Resources must not be included in the economic analysis, production schedules, or estimated mine life in publicly disclosed Pre-Feasibility or Feasibility Studies, or in the Life of Mine plans and cash flow models of developed mines. Inferred Mineral Resources can only be used in economic studies as provided under NI 43-101.

14.6 Resource modeling methodology and construction

14.6.1 Overview

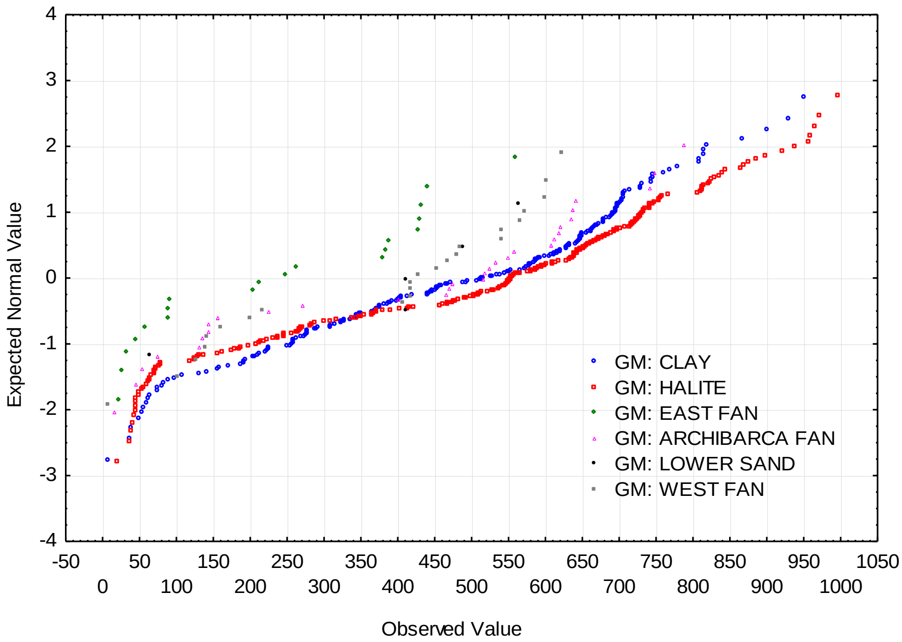
The Stanford Geostatistical Modeling Software (SGeMS) was used for the Cauchari Project brine resource estimate. SGeMS has been used in the past for the estimation of brine resources in other areas of the Central Andes. Geostatistics is a branch of statistics specifically developed to estimate ore grades for mining operations from spatiotemporal datasets. Geostatistics goes far beyond simple interpolation methods such as nearest neighbor or inverse distance as it accounts for the spatial correlation and continuity of geological properties typically observed in the field. Based on this, the following steps were carried out to estimate the lithium and potassium resources.

- The block model geometry was adapted to represent the geological model with an appropriate block size (x=100 m, y=100 m, z=1 m). The geometry of resource geometry is shown in Figure 14.1.
- Generation of histograms, probability plots and box plots was conducted for the Exploratory Data Analysis (EDA) for lithium and potassium.
- Definition of the random function model and selection of the kriging method.
- Calculation of the experimental variograms with their respective variogram models for lithium and potassium in three orthogonal directions.
- Interpolation of lithium and potassium for each block in mg/L using ordinary kriging with the variogram models shown in Figure 14.5 to Figure 14.6. The presence of brine is not necessarily followed by individual lithologies. Therefore, we are not considering any hard boundaries inside the geological units for the estimation.
- Validation using a series of checks including comparison of univariate statistics for global estimation bias, visual inspection against samples on plans and sections, swath plots in the north, south and vertical directions to detect any spatial bias.
- Calculation of total resources using the average porosity value for each geological unit, based on the boreholes data. Each geological unit will represent a particular porosity value as shown in Table 14.1. The total resources are shown in Table 14.3.

14.6.2 Exploratory data analysis

The EDA of Li and K concentrations consisted of a univariate statistical description using histograms, probability plots and box plots, and a spatial description based on data posting and trend analysis. This was then used to define the random function models and the type of kriging method. Figure 14.4 shows that the distribution of brine concentrations does not follow lithology and therefore hard boundaries do not exist inside the geological units for the estimation.

Figure 14.4 Normal probability plot of lithium concentration by lithology



14.6.3 Variography

The spatial correlation for lithium and potassium concentrations was estimated using experimental variograms with the parameters shown in Table 14.2. The spatial variability was modelled using three experimental directions adjusted to a three-dimensional ellipsoidal model using one spherical structure.

The spatial models were calculated for lithium and potassium. The experimental variograms for lithium and potassium with their respective variogram models are shown in Figures 14.5 and 14.6.

Table 14.2 Parameters for the calculation of the experimental variograms

Variogram Parameters				Tolerance	
Lag (m)	Max. No. Of Lags	Azimuth (°)	Dip (°)	Bandwidth (m)	Angular (°)
200	50	20	0	500	45
10	70	0	90	500	89

Figure 14.5 Lithium horizontal (Az:20; Dip: 0) and vertical (Az:0; Dip: 90) variogram

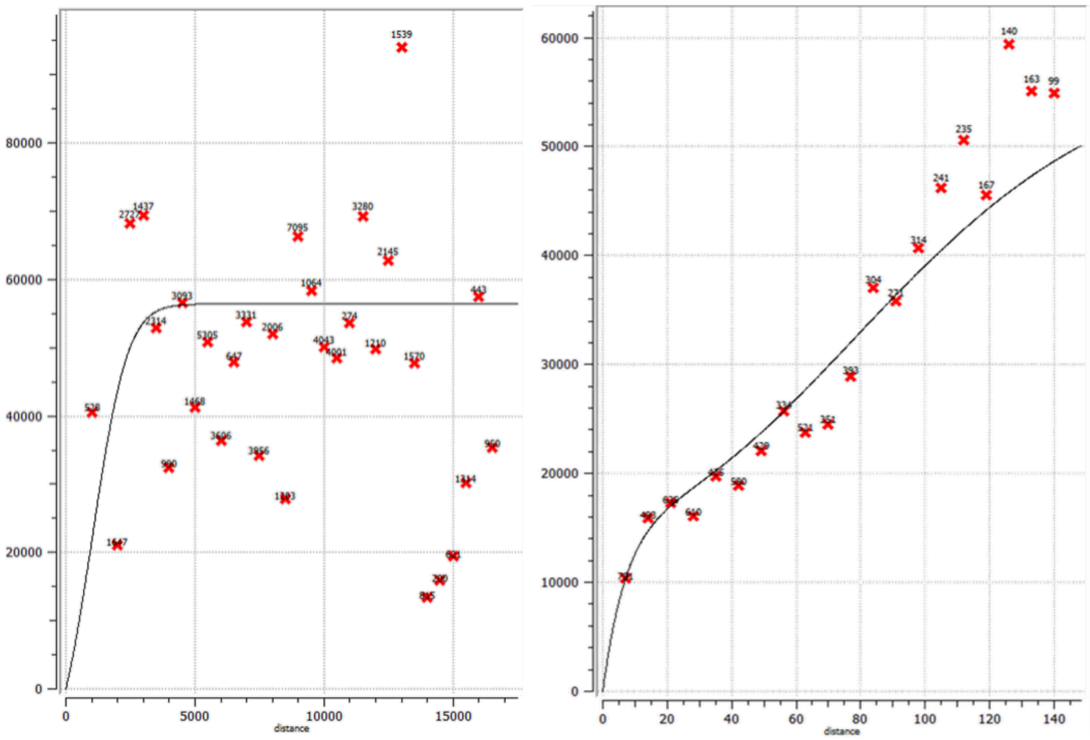
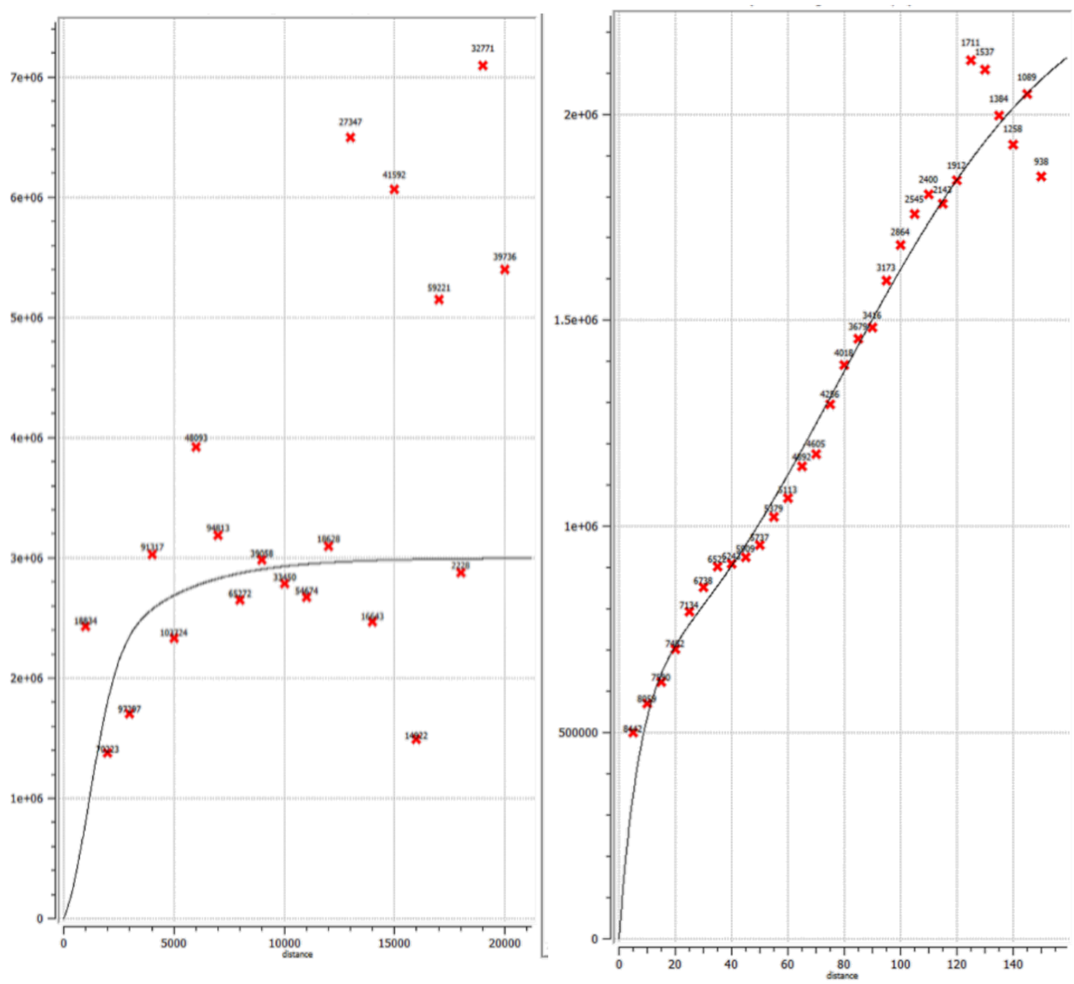


Figure 14.6 Potassium horizontal (Az:20; Dip: 0) and vertical (Az:0; Dip: 90) variograms



14.6.4 Kriging methods and random function models

The results of the EDA indicate that ordinary kringing is an appropriate technique for the lithium and potassium concentrations. Figure 14.7 and 14.8 show the distribution of the lithium and potassium concentrations in the resource domain.

Figure 14.7 Lithium concentration distribution

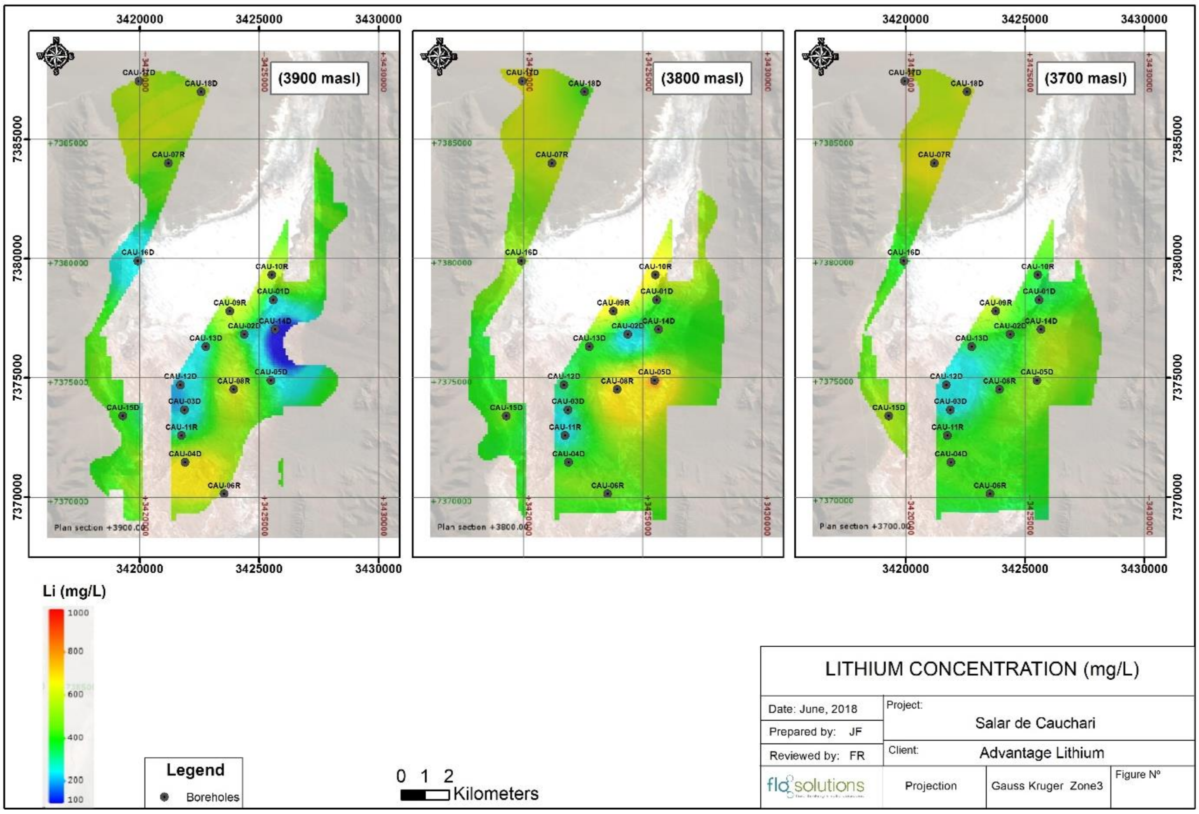
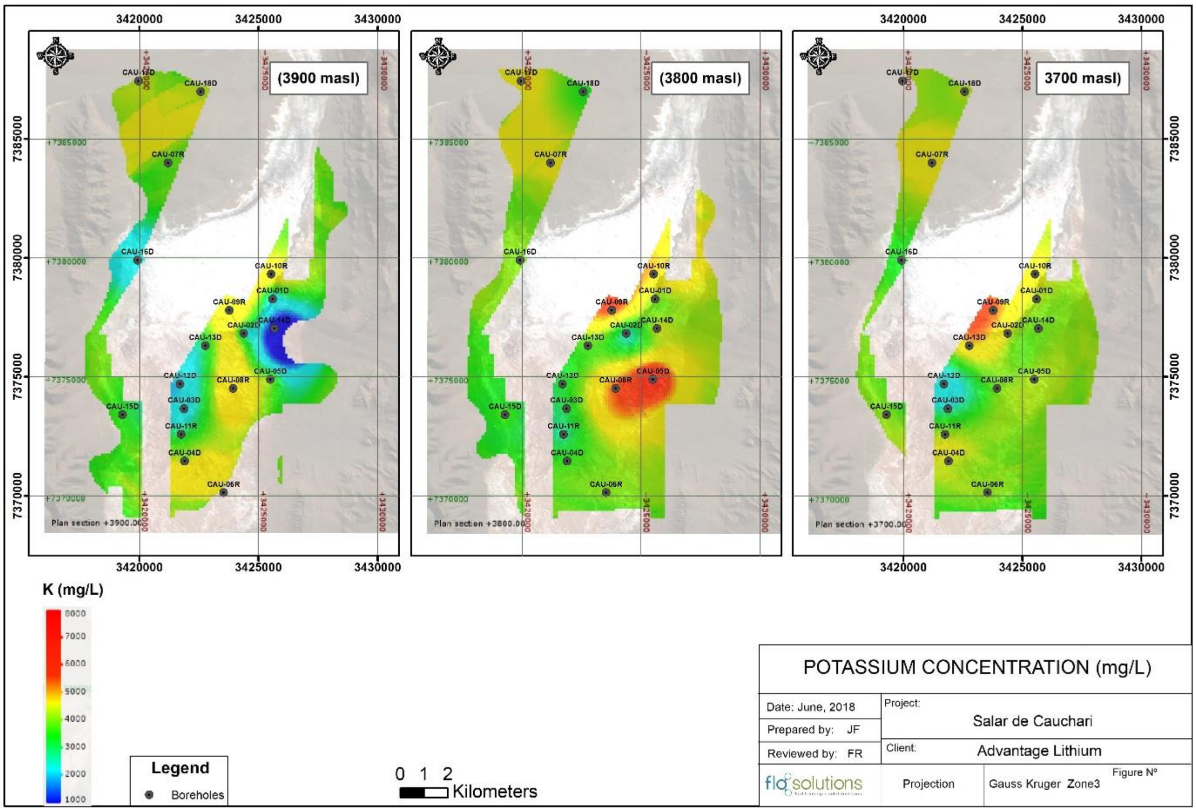


Figure 14.8 Potassium concentration distribution



14.7 Grade estimate

The grade of lithium and potassium in each model block was calculated applying the following operation:

$$R_i = C_i . S_{y_i} V_i$$

Where: i is the indice of the block, going from 1 to 2,038,047

R_i: Grade value to be assigned (g)

C_i: Concentration value assigned from the estimation (mg/L)

Sy_i: Porosity value assigned from the estimation (%)

V_i: Block volume (m^3)

The total resource in the reservoir is estimated as the sum of all blocks in the model,

$$R_T = \sum_i R_i$$

Figure 14.9 shows lithium grade distributions along a NW-SE section across the Salar.

Figure 14.9 NW-SE section looking NE through the resource model showing the lithium grade

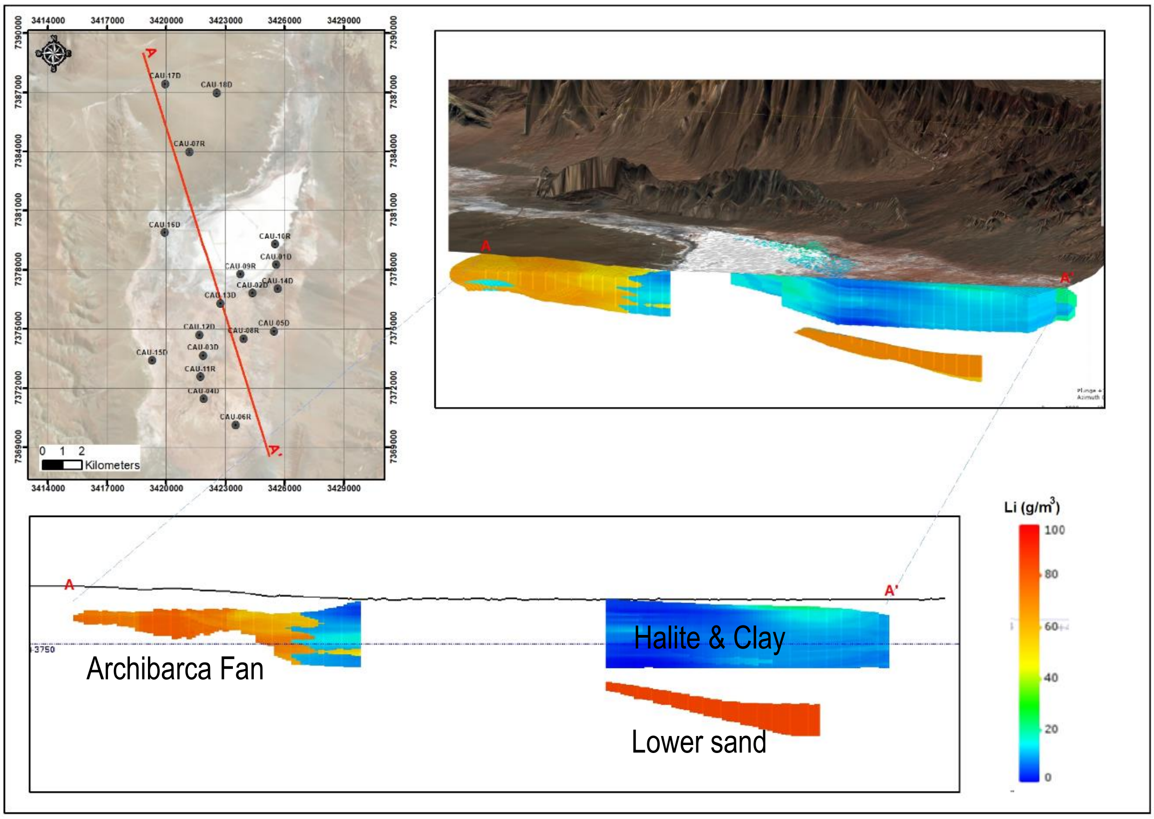
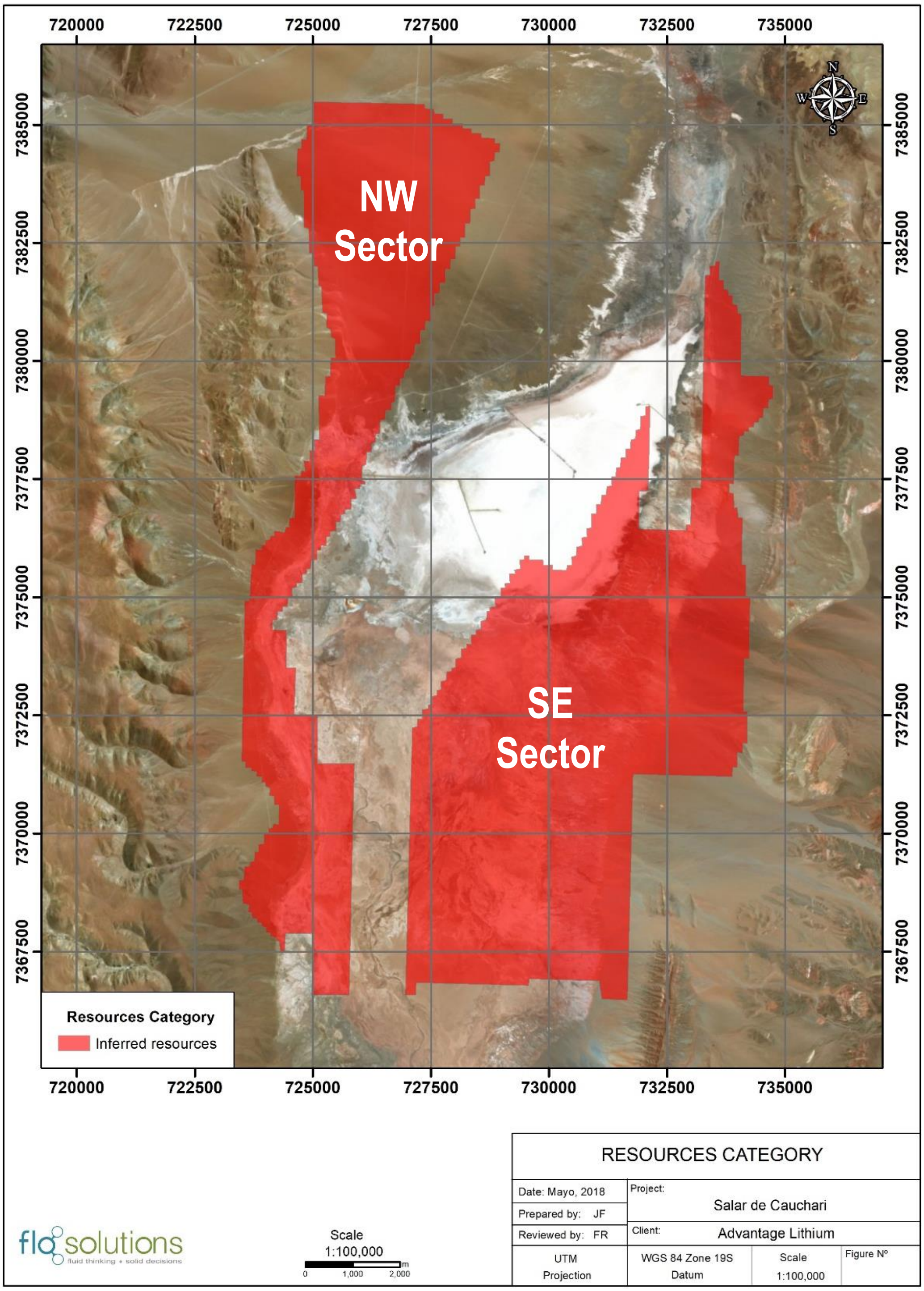


Figure 14.10 Inferred resource area



14.8 Resource estimate

The resource estimate was prepared in accordance with the guidelines of National Instrument 43-101 and uses best practice methods specific to brine resources, including a reliance on core drilling and sampling methods that yield depth-specific chemistry and drainable porosity measurements.

The lithium and potassium brine resources are summarized in Table 14.3.

Table 14.3 Cauchari Project Lithium and Potassium Resource estimate (June 27, 2018)

Inferred Resources (lithium cut-off concentration: 300 mg/l)						
Parameter	**NW Sector**		**SE Sector**		**Total**	
Resource area (km^2)	35.2		57.4		92.6	
Aquifer volume (km^3)	6.5		13.9		20.4	
Mean specific yield (Sy)	9%		4%		6%	
Element	**Li**	**K**	**Li**	**K**	**Li**	**K**
Mean concentration (mg/l)	465	3,920	443	4,078	450	4,028
Mean grade (g/m^3)	44	373	20	184	28	244
Total Resource (tonnes)	288,000	2,420,000	280,000	2,560,000	568,000	4,980,000

Notes to Table 14.3:

- CIM definitions were followed for mineral resources.
- The Qualified Person for this Mineral Resource estimate is Frits Reidel, CPG.
- A lithium cut-off concentration of 300 mg/L has been applied to the resources estimate.
- Numbers may not add due to rounding.

Table 14.4 shows the Mineral Resource of the Cauchari Project expressed as lithium carbonate equivalent (LCE) and potash (KCl).

Table 14.4 Cauchari Project Mineral Resources expressed as LCE and potash

Inferred Resources (t)	
Lithium Carbonate (LCE)	3,020,000
Potash (KCl)	9,500,000

Notes to Table 14.4:

- Lithium is converted to lithium carbonate (Li_2CO_3) with a conversion factor of 5.32.
- Potassium is converted to potash with a conversion factor of 1.91.
- Numbers may not add due to rounding.

It is the opinion of the authors that the Salar geometry, brine chemistry composition and the specific yield of the Salar sediments have been adequately characterized to support Inferred Resource estimates for the Project herein.

In addition to the Inferred Resource described herein, significant additional exploration potential exists below the currently defined Inferred Resources as further described in Section 24.

15 MINERAL RESERVE ESTIMATES

No reserve estimate has been prepared for the Project.

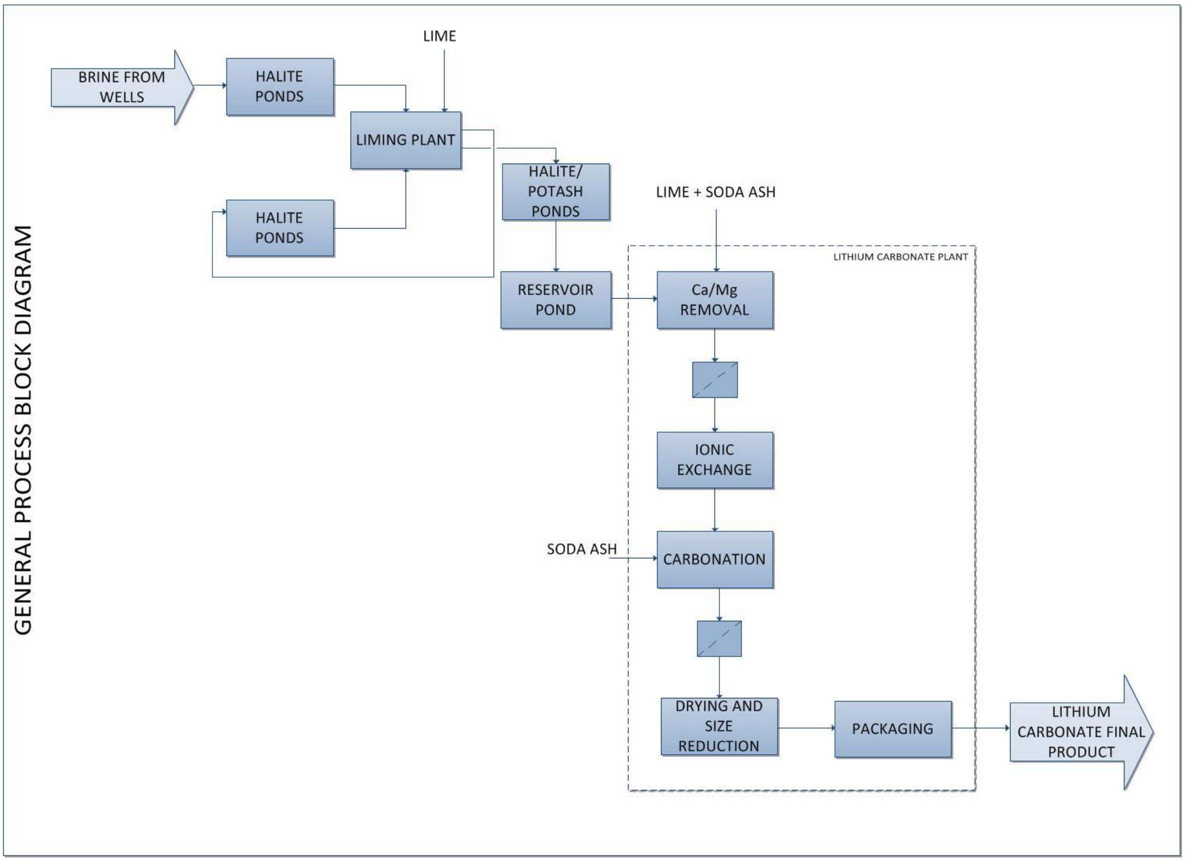
16 MINING METHODS

Based on the results of the pumping tests carried out on the project it is most likely that brine abstraction from the Salar will take place by installing and operating conventional production wellfields. Pumping rates of individual wells could be in the range between 10 l/s and 25 l/s. Well completion depths will depend on locations in the NW or SE Sectors.

17 RECOVERY METHODS

The Project considers the design of production wells, evaporation ponds and a processing plant to obtain 20.000 tpa of technical grade of Lithium Carbonate (Li_2CO_3). A general block diagram of the process is shown in Figure 17.1.

Figure 17.1 Schematic of the lithium process for the Cauchari Project



Two brine production wellfields are located in the NW and SE Sectors of the Project area. The brine from the wellfield areas is pumped to the first stage evaporation ponds. The evaporation ponds are designed to crystallize mainly halite and some glauber, glaserite, silvite and borate salts through the solar evaporation process. Slaked lime is added to the brine at several stages to remove a large part of magnesium as magnesium hydroxide and calcium as gypsum. The brine is circulated in stages until it reaches a Li concentration of approximately 6% before it is sent to the Lithium Carbonate Plant.

In the Li_2CO_3 plant, the remaining Mg and Ca in the brine is removed through precipitation, which involves recirculation of mother liquor (solution recovered from the belt filtration stage) and adding soda ash and lime. The impurities continue to precipitate in the form of calcium carbonate and magnesium hydroxide and are filtered and re-pulped with the mother liquor and deposited in the sludge ponds. The remaining brine with low levels of impurities is the pumped to an Ionic Exchange (IX) stage where final traces of di- and tri-valent metals are removed. Thereafter, in the carbonation stage, lithium carbonate precipitates from the purified brine through the addition of soda ash. The precipitated lithium carbonate is then separated from the solution through a belt filter and the solids are fed to the drying stage; the last stage of the plant. The final product is sized, packaged, and delivered to the clients according to individual requirements.

18 PROJECT INFRASTRUCTURE

AAL is preparing a Preliminary Economic Assessment (PEA) for the Project that will be completed during Q3, 2018. Infrastructure requirements will include two brine production wellfields and pipelines, evaporation ponds, power plant, water supply, accommodation facilities, sewage system, laboratory, office facilities, equipment storage and maintenance facilities, roads, waste salt storage facility, and chemical raw material storage facility.

19 MARKETING STUDIES AND CONTRACTS

19.1. Lithium supply

19.1.1. Major market participants

The largest lithium chemical producer is Tianqi Lithium Industries, a Chinese company that exploits spodumene deposits in China and shares in the Talison Greenbushes spodumene deposit in Western Australia. SQM (Chile) is the second largest producer followed by Albemarle. Both of these companies extract lithium from the Salar de Atacama in northern Chile. Other significant producers are FMC in Argentina, Talison in Australia (51% Tianqui, 49% Albermale), Jiangxi Ganfeng in China and Orocobre in Argentina. In addition, there are several smaller producers located in Portugal, Spain, Brazil and Zimbabwe.

Tianqi Lithium Industries Inc. (Tianqi)

Tianqi produces lithium chemicals from spodumene deposits in China and through the Talison Joint Venture with Albemarle in Australia for the Greenbushes spodumene deposit.

Estimates indicate that in 2017 Tianqi produced approximately 646,000 tons of spodumene, which is equivalent to 62,000 tons of lithium carbonate. The company is engaged in a strong drive to increase its production capacity both in China and through the Australian joint venture. Recently Tianqi has purchased a 24% participation in SQM from Nutrient.

SQM

SQM is a Chilean producer of specialty fertilizers, iodine and lithium chemicals. SQM exploits mining rights in the Salar de Atacama belonging to the Chilean Development Agency (CORFO). The company is currently substantially expanding its lithium carbonate and hydroxide capacity in this salar, as well as participating in advanced lithium production projects in Argentina (brine), and Australia (spodumene). SQM produced approximately 50,000 tons of lithium carbonate in 2017.

Albemarle

Albemarle (ALB) is a specialty chemical company with locations in Europe, Asia, Australia (through the Joint Venture agreement with Tianqi) and North and South America. It started to produce lithium carbonate in Chile in 198, in Salar de Atacama on CORFO properties under a parallel agreement to that of SQM. It is estimated that ALB produced 32,000 tons of lithium carbonate in 2017. ALB has reached agreement with CORFO to substantially increase LCE production from Salar de Atacama.

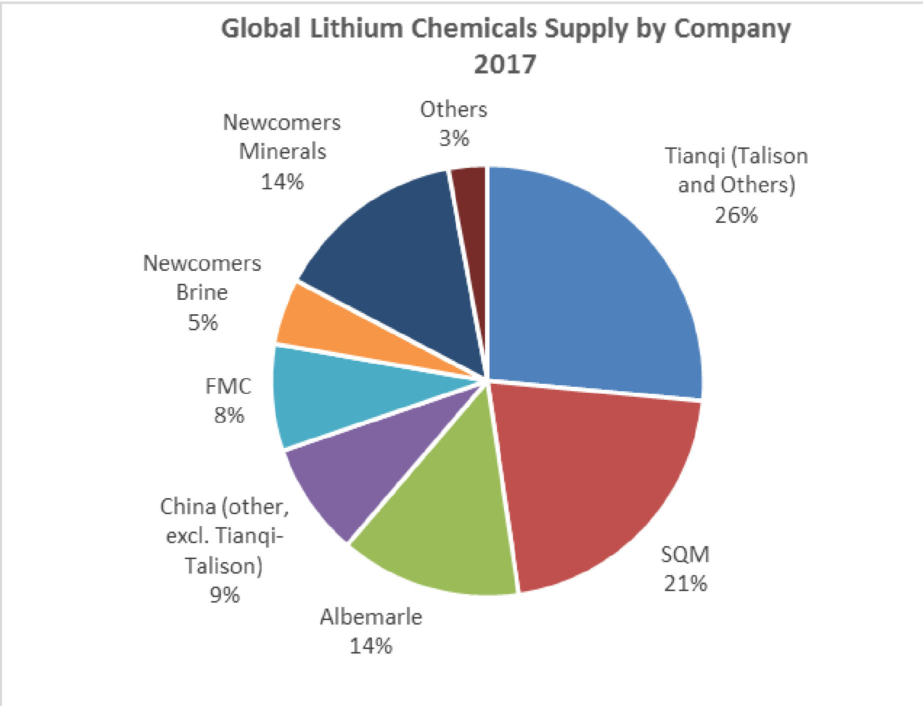
It must be mentioned that the Salar de Atacama is considered to be the world's lowest cost source for lithium chemicals. However, the above mentioned production expansion agreements include a considerable increases in royalties for CORFO, tempering somewhat this cost advantage.

FMC

FMC Lithium produces lithium carbonate from brine solutions extracted from the Salar de Hombre Muerto in Salta, Argentina. In Bessemer City, in the US, the company produces lithium compounds such as lithium hydroxide and other specialty inorganics. FMC's current production capacity in Argentina is estimated at about 20,000 tons of lithium compounds as LCE, including lithium carbonate and lithium chloride. Its production during 2017 was approximately 18,700 tons of these materials. FMC, in common with all established lithium producers, has advanced projects to substantially expand its production capacity.

Figure 19.1 present a summary of lithium production during 2017, identifying major producers. Total lithium chemicals production for this year is estimated as 234,300 tons.

Figure 19.1 Global lithium supply by company



Source: signumBOX estimates

19.2. Lithium demand

In this section, lithium demand is analyzed according to its different applications. Total lithium compounds demand for 2018 is expected to grow by 16% with respect to the previous year, reaching 228,200 Tons[1].

19.2.1. Lithium in enamels, glass and ceramics

Lithium is widely used in the manufacture of glass, ceramics and enamels. Lithium demand for these applications is expected to reach approximately 34,300 tons in 2018.

19.2.2. Lithium in batteries

Due to its high electrochemical potential and low atomic mass, lithium is widely used in batteries. There are two types of lithium batteries: primary which are non-rechargeable and secondary which are rechargeable.

19.2.3. Lithium batteries – primary

Primary lithium batteries are disposable batteries (non-rechargeable) where the anode contains lithium metal or lithium compounds. These types of batteries are mainly used in electronic goods and, due to their long-life, are also used in medical devices such as artificial pacemakers. Lithium usage in this type of batteries is expected to reach 4,200 Tons during 2018.

19.2.4. Lithium batteries – rechargeable

Lithium-ion batteries are non-disposable batteries (rechargeable or secondary). For many years nickel cadmium (NiCd) batteries were the most common battery used in portable equipment. Nickel metal hydride (NiMH) and lithium-ion (Li-ion) batteries emerged at the beginning of the 1990s, almost replacing nickel cadmium based batteries in less than ten years. Lithium usage in this type of batteries is expected to reach 26,500 Tons during 2018

19.2.5. Lithium in batteries for hybrid and electric cars

The use of lithium in batteries for hybrid and electric cars represent the most relevant and promising use for lithium. Estimates are that the electric car stock reached around 1.8 million in 2016, more than 100 times 2010's stock. It is expected that global industry will grow at a 40% annual rate during the 2016 – 2020 period. For 2018, it is expected that about 56,400 tones as LCE (including both lithium carbonate and lithium hydroxide) are going to be used in batteries for hybrid and electric cars; 63% higher than 2017 consumption.

19.2.6. Batteries for energy storage systems (ESS)

Non-battery solutions for ESS are still by far the current leader in terms of costs, but the cost of solutions based on lithium ion batteries have been decreasing over time, expanding their market penetration. Lithium consumption for this application is estimated to be about 8,100 tons in 2018.

[1] Difference between estimated production and demand is due in part to the fact that measured production is primary (at the source), but a very large percentage of primary production is shipped overseas, in many cases, for further processing into the required lithium compounds. Thus, there is a substantial time lag between primary production and final compound production. In addition, actual conversion factors between primary lithium and final products may vary and/or not be sufficiently accurate.

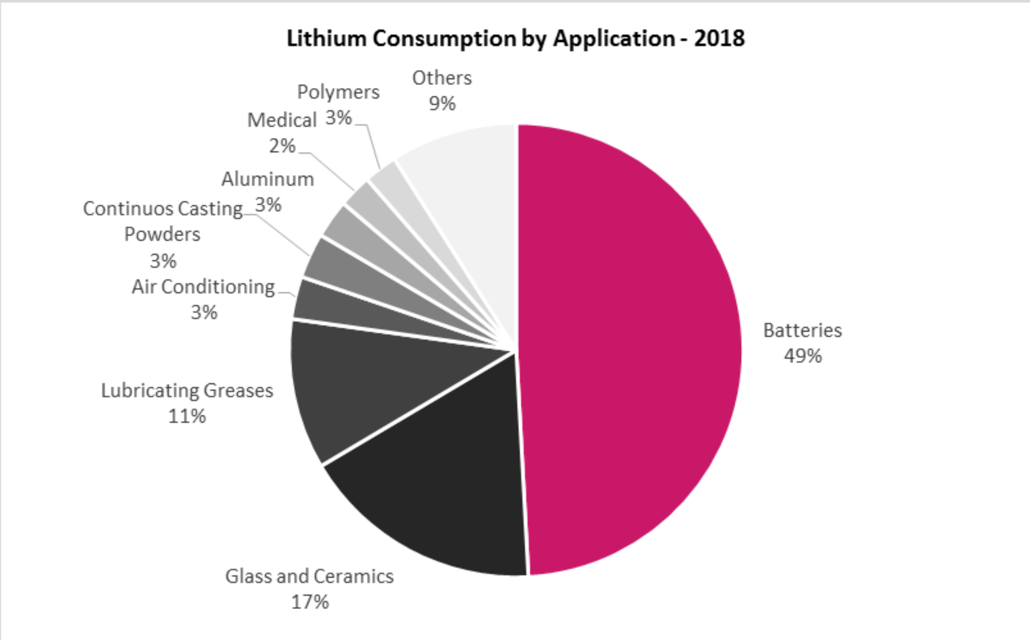
19.2.7. Lithium in lubricating greases

Lithium is widely used in production of greases used for many heavy-duty automotive, commercial, and industrial applications. About 65% of all greases produced contain lithium in the form of lithium hydroxide (LiOH). It is estimated that in 2018 the use of lithium hydroxide in lubricating greases would reach about 21,200 tons.

Lithium is also used in different metallurgical processes, air conditioners, medical applications, aluminum electrolysis and in polymers.

Figure 19.2 summarizes lithium consumption by application for 2018.

Figure 19.2 Lithium consumption by application



Source: signumBOX estimates

19.3. Lithium prices

During the nineties, lithium prices were driven by the marginal cost of producing lithium carbonate, which by that time came mainly from minerals. SQM entered into the market in late 1996, with a very aggressive commercial strategy, lowering prices to levels below mineral producers' marginal cost. Between 2000 and 2010 demand started to grow at rates between 8 to 10% a year, mainly driven by the battery industry, and prices increased steadily. However, in 2015 prices started to rise sharply, mainly due to expectations of a considerable growth in future demand and uncertainty about future supply. Lithium carbonate average prices during 2017 ranged between USD 9,500 – USD 13,500 per ton depending on the grade (contract basis) and lithium hydroxide prices ranged between USD 11,600 – USD 16,000 per ton.

At the beginning of this year, prices continued their upward trend, particularly for the battery grade carbonate. The gap between LiOH and Li_2CO_3 has increased due to the greater relative shortage of LiOH in relation to Li_2CO_3. Recently, lithium prices have remained relatively stable at this high level, and indications are that this situation may continue. However, there could see a slight decrease, if the first SQM and ALB expansions enter the market before year end.

20 ENVIRONMENTAL STUDIES, PERMITING, AND SOCIAL OR COMMUNITY IMPACT

20.1. Environmental studies

AAL has completed various environmental studies required to support its exploration programs between 2011 and the present. AAL has initiated baseline environmental, hydrogeological, hydrological and other studies in support of the Project EIA and the DFS planned for 2019.

The EIA will be required prior to approval for construction of any lithium brine extraction and processing plant. It is expected that the EIA for the future brine operation will be completed in parallel with the DFS.

20.2. Project permitting

Relevant permissions and permits for future construction and operation activities will be obtained once the EIA approval is obtained and before construction is initiated.

20.3. Social and community requirements

The company has been very actively involved in community relations since the properties were acquired by SAS. Although there is minimal habitation in the area of the Salar, AAL has consulted extensively with the local aboriginal communities and employs members of these communities in the current exploration activities. The EIA permitting process will address community and socio-economic issues; it is expected the project will have a positive impact through the creation of new employment opportunities and investment in the region.

21 CAPITAL AND OPERATING COSTS

No capital and operating costs have been prepared as part of this mineral resource estimate. AAL is currently undertaking a PEA that will be completed during Q3 2018.

22 ECONOMIC ANALYSIS

No economic analysis has been carried out as part of this mineral resource estimate. AAL is currently undertaking a PEA that will be completed during Q3 2018.

23 ADJACENT PROPERTIES

23.1. General comments

The Cauchari Project is located directly adjacent to two other lithium projects, the producing Olaroz lithium project (Sales de Jujuy, owned by Orocobre) and the development project owned by Lithium Americas Corp, in joint venture with major Chilean lithium producer SQM.

23.2. Salas de Jujuy – Olaroz lithium project

The Sales de Jujuy project to the north in the Olaroz salar has a reported resource of 6.4 million tonnes of lithium carbonate equivalent and 19.3 million tonnes of potash (KCL) (Houston and Gunn, 2011). Further exploration by Sales de Jujuy (announced on 23 October 2014) also defined a significant exploration target of between 1.6 and 7.5 mt LCE underlying the resource that was defined to a depth of 200 m. That exploration target requires additional drilling to determine what can be converted into project resources and subsequently reserves. The Cauchari NW Sector discussed in this report is immediately adjacent to, and continues south from the Olaroz properties.

23.3. LAC exploration and development work in Salar de Cauchari

Lithium Americas Corp (LAC) owns mineral properties immediately adjacent to the AAL mineral properties in Salar de Cauchari. LAC announced (in 2016) a strategic investment by SQM to advance its Cauchari-Olaroz Project in Jujuy. SQM and LAC created a Joint Venture with equal shareholder interests. Development work commenced immediately after the announcement to advance the Cauchari-Olaroz Project with a target production of 50,000 tpa of LCE. The LAC website reports that M+I Resources amount to 2.23 million t of lithium metal equivalent (LME) and Probable and Proven Reserves are estimated at approximately 282,000 t of LME.

24 GEOLOGICAL EXPLORATION TARGET

A geological exploration target is estimated to range between 1,430,000 and 3,000,000 t LCE, primarily in the SE Sector beneath the current inferred resource area in the Lower Sand unit to a depth of 600 m. Table 24.1 provides the details of the geological exploration potential. The upper and lower ranges of the geological potential were bounded by two times the standard deviation around the calculated average lithium concentration of the overlying inferred resources. The Lower sand unit in the SE Sector was intersected below 360 m in boreholes CAU11, CAU12 and CAU13. A preliminary 48 hr pumping test in CAU11 at a pumping rate of 19 l/s indicated that the Lower sand unit has excellent hydraulic characteristics. The geology of the Cauchari basin suggests there is good potential to convert brine within the exploration target to resources.

Table 24.1: Cauchari Project – Geological Exploration Potential

Geological Potential - Lower range (X-2SD)						
Parameter	**NW Sector**		**SE Sector**		**Total**	
Resource area (km²)	35.2		57.4		92.6	
Aquifer volume (km³)	2.6		12.8		15.4	
Mean specific yield (Sy)	11%		5%		6%	
Brine volume (km³)	0.3		0.6		0.9	
Element	**Li**	**K**	**Li**	**K**	**Li**	**K**
Mean concentration (mg/l)	281	2,320	281	2,320	281	2,320
Mean grade (g/m³)	31	258	15	122	23	190
Total Resource (tonnes)	80,000	670,000	190,000	1,550,000	270,000	2,220,000
Lithium Carbonate (tonnes)	**430,000**		**1,000,000**		**1,430,000**	
Potash (tonnes)	**1,300,000**		**2,900,000**		**4,200,000**	

Geological Potential – Upper range (X+2SD)						
Parameter	**NW Sector**		**SE Sector**		**Total**	
Resource area (km²)	35.2		57.4		92.6	
Aquifer volume (km³)	2.6		12.8		15.4	
Mean specific yield (Sy)	11%		5%		6%	
Brine volume (km³)	0.3		0.6		0.9	
Element	**Li**	**K**	**Li**	**K**	**Li**	**K**
Mean concentration (mg/l)	594	5,735	594	5,735	594	5,735
Mean grade (g/m³)	66	638	31	301	49	473
Total Resource (tonnes)	170,000	1,650,000	400,000	3,840,000	570,000	5,490,000
Lithium Carbonate (tonnes)	**900,000**		**2,100,000**		**3,000,000**	
Potash (tonnes)	**3,100,000**		**7,300,000**		**10,400,000**	

It must be stressed that an exploration target is not a mineral resource. The potential quantity and grade of the exploration target is conceptual in nature, and there has been insufficient exploration to define a Mineral Resource in the volume where the Exploration Target is outlined. It is uncertain if further exploration drilling will result in the determination of a Mineral Resource in this volume. The exploration target is where, based on the available geological evidence, there is the possibility of defining a mineral resource. Importantly the exploration target is not to be considered a resource or reserve. It must be stressed the exploration target is based on a series of assumptions and future drilling is required to determine the brine grade and formation drainable porosity values to establish whether a resource can be defined.

25 INTERPRETATION AND CONCLUSIONS

Based on the analyses and interpretation of the results of the exploration work carried out on the Cauchari Project between 2011 and May 2018, the following concluding statements are prepared:

- The entire Cauchari Project area has been covered by exploratory drilling between 2011 and May 2018 at an approximate borehole density of one exploration borehole per 5 km^2; it is the opinion of the authors that such borehole density is appropriate for the mineral resource estimate described herein.

- The results of the drilling (12 diamond core holes and 6 rotary boreholes) and the analysis of 285 primary brine samples identified distinct brine composition and grade at specific depth intervals, showing a relatively uniform distribution of lithium bearing brines throughout the Project area to a depth of 480 m. Table 25.1 provides and overview of the Cauchari brine composition.

Table 25.1 Average values of key components of the Cauchari brine composition (g/L)

K	Li	Mg	Ca	SO_4	B	Mg/Li	K/Li	$(SO_4+2B)/(Ca+Mg)^*$
4.54	0.49	1.18	0.45	22.24	0.79	2.54	9.67	14.63

*$(SO_4+2B)/(Ca+Mg)$ is a molar ratio

- The lithium bearing brine contains sufficient levels of lithium and potassium to be potentially economic for development.

- The geology of the Cauchari Project consists of permeable alluvial fan material in the NW Sector of the Project and along the eastern and western external property boundaries. This fan material grades into finer grained materials towards the center of the Salar. In the center of the Salar a clay unit has been identified near surface that overlies a thick halite unit. Deep drilling intersections in the SE Sector of the Project have identified a relatively permeable Lower sand unit between 400 m and 480 m depth that underlies the central halite.

- The positive results of laboratory analyses suggest specific yield (or drainable porosity) values as follows: the halite unit: 0.03 - 0.10; fan sediments: 0.05 – 0.12; the clay unit: 0.03; and the lower sand: 0.14.

- It is the opinion of the authors that the Salar geometry, brine chemistry composition and the specific yield of the Salar sediments have been adequately defined to support the Inferred Resource estimate described in Table 25.2 and summarized in terms of mineral products in Table 25.3.

- An Inferred Resource from the combined NW Sector and SE Sector contains an estimated 1,200 million cubic metres of brine at ~450 mg/l Li and 4,028 mg/l K. This is equivalent to 3,020,000 tonnes of lithium carbonate (~568,000 tonnes lithium metal) and 9,500,000 tonnes of potash (~4,980.000 tonnes of potassium) using conversion factors of 5.32 and 1.91 for lithium and potassium, respectively.

Table 25.2: Cauchari Project Lithium and Potassium Resource Estimate (June 27, 2018)

Inferred Resources (lithium cut-off of 300 mg/l)						
Parameter	**NW Sector**		**SE Sector**		**Total**	
Resource area (km²)	35.2		57.4		92.6	
Aquifer volume (km³)	6.5		13.9		20.4	
Mean specific yield (Sy)	9%		4%		6%	
Brine volume (km³)	0.6		0.6		1.2	
Element	**Li**	**K**	**Li**	**K**	**Li**	**K**
Mean concentration (mg/l)	465	3,920	443	4,078	450	4,028
Mean grade (g/m³)	44	373	20	184	28	244
Total Resource (tonnes)	288,000	2,420,000	280,000	2,560,000	568,000	4,980,000

Notes:
1. CIM definitions were followed for mineral resources.
2. The Qualified Person for this Mineral Resource estimate is Frits Reidel, CPG.
3. A lithium cut-off concentration of 300 mg/L has been applied to the resource estimate.
4. Numbers may not add due to rounding.

Table 25.3 Cauchari Project Resources expressed as LCE and potash

Inferred Resources (t)	
Lithium Carbonate LCE)	**3,020,000**
Potash	**9,500,000**

Notes:
1. Lithium is converted to lithium carbonate (Li_2CO_3) with a conversion factor of 5.32.
2. Potassium is converted to potash with a conversion factor of 1.91
3. Numbers may not add due to rounding.

- Based on results of deep exploration boreholes and the geophysical information, it is the opinion of the authors that a significant exploration target with up to 3 million tonnes of LCE exists below the current resource defined to 300 m depth as described in Section 24.
- It is recommended that further exploration and development work is carried out on the Cauchari Project as outlined in Section 26.

26 RECOMMENDATIONS

- It is recommended that the resource infill drilling program (Phase III) is completed during 2018 so that the current inferred resources can be converted to Indicated and/or Measured Resources in support of the DFS. This infill drilling will consist of some 10 additional core holes to depths of up to 600 m.

- It is recommended by the authors that the PEA and DFS for the Cauchari Project are completed as is planned during 2018 and 2019, respectively. Baseline monitoring and studies in support of the EIA should be completed during 2018 and 2019.

- Long–term pumping tests should be completed in CAU07 (NW Sector) and CAU11 (SE Sector) to further define aquifer parameters and evaluate brine concentrations during the duration of these tests.

- The estimated cost for the Phase III program is approximately USD 9.7 million and is summarized in Table 26.1.

Table 26.1 Estimated costs of the Phase III program

Item	Cost (USD)
Drilling, testing, and field support	5,500,000
Pumping tests	600,000
Geophysics	300,000
Laboratory analyses	350,000
Engineering and process evaluation	500,000
Hydrogeology and reserve model	950,000
EIA	300,000
Definitive Feasibility Study	1,200,000
Total costs (excl contingency)	**9,700,000**

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28 DATE AND SIGNATURE PAGE - CERTIFICATE of AUTHOR

Qualified person Frederik Reidel

I, Frederik Reidel, CPG, as author of this report entitled “NI 43-101 Technical Report: Lithium and Potassium Resources Cauchari Project, prepared for Advantage Lithium, dated June 27, 2018 do hereby certify that:

1. I am employed as Principal Hydrogeologist and General Manager by FloSolutions-Chile, residing at: Roger de Flor 2950, Piso 5, Las Condes, Santiago, Chile.
2. I am a graduate of New Mexico Institute of Mining and Technology with a Bachelors of Science Degree in Geophysics, 1986
3. I am registered a Certified Professional Geologist (#11454) with the American Institute of Professional Geologists.
4. I have worked as hydrogeologist for a total of 29 years since my graduation. My relevant experience for the purpose of the Technical Report is:
   - Qualified Person for the Sal de los Angeles Project, Salta, Argentina for LiX Energy Corp) 2016 – to date).
   - Qualified Person and Member of the technical committees of Li3 Energy Ltd and Minera Salar Blanco for the development of the Maricunga Lithium Project in Chile (2011 – to date).
   - Co-author of the NI 43-101 Technical Reports on the lithium and potash resources in Salar de Maricunga for Li3 Energy Ltd (2012 and 2017).
   - Evaluation of lithium and potash resources in Salar de Olaroz for Orocobre Ltd. in support of the project’s DFS and NI 43-101 Technical Report (2010-2011).
   - Evaluation of lithium and potash resources in Salar de Cauchari for Lithium Americas Corporation; NI 43-101 Technical Report preparation; member of the company’s Technical Advisory Panel (2009-2010).
   - Evaluation of brine resources in Salar de Hombre Muerto for FMC (1992-1993)
   - Consulting hydrogeologist in the evaluation and development of groundwater resources for international mining companies in North- and South America (1989-2012).
5. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I have visited the Cauchari Project and the project area numerous times between August 2011 and to date. I was present on site on a regular basis during the 2017 drilling and testing programs.
7. I have been involved as a QP with the property since 2017, but have no previous involvement with Advantage Lithium Corp.
8. I am responsible for the overall preparation of this report.
9. I am independent of the Issuer applying the test set out in Section 1.4 of NI 43-101.
10. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.
11. To the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Dated this 27th day of June, 2018

Frederik Reidel, CPG

I, Peter Ehren, MSc., AusIMM (CP = Chartered Professional), do hereby certify that:

1. I am an independent consultant and owner of Ehren-González Limitada at Alberto Arenas 4005 112, La Serena, Chile
2. I graduated with a Master of Science Degree in Mining and Petroleum Engineering, with a specialization in Raw Materials Technology and Processing Variant at the Technical University of Delft, The Netherlands in the year 1997
3. I am an independent consultant, a Member of the Australasian Institute of Mining (AusIMM) and metallurgy and a Chartered Professional of the AusIMM.
4. I have practiced my profession for 19 years.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101. This report is based on my personal review of information provided by the Issuer and on discussions with the Issuer's representatives. My relevant experience for the purpose of this report is:
   - 1997 — Final Thesis of MSc.degree: "Recovery of Lithium from Geothermal Brine, Salton Sea", BHP Minerals, Reno Nevada.
   - 1998-2001 — Process Engineer, Salar de Atacama, SQM
   - 2001-2006 — R&D Manager, Lithium and Brine Technology, SQM.
   - 2006 — Process Project Manager, SQM
   - 2007 till date — Independent Lithium and Salt Processing Consultant, Ehren-González Limitada

I have previously been involved in the several brine resource projects, where under:

- Salar de Olaroz for Orocobre, Argentina (2009-2016)
- Salar de Cauchari for Orocobre, Argentina (2010)
- Salar Salinas Grandes for Orocobre, Argentina (2010-2013)
- Salar de Maricunga for Li3 Energy and Minera Salar Blanco, Chile (2011-2016)
- Salar de Atacama and Silver Peak for Albermarle, Chile (2014 - 2016)
- Rann of Kutch, Archean Group, India (2015)
- Lake Mackay, Agrimin, Australia (2014-2016)

6. I am responsible for Sections 13 and 17 of the Technical report entitled "Technical Report, Lithium and Potassium Resource, Cauchari Project, Jujuy Province, Argentina" (the "Technical Report") prepared for Advantage Lithium Corp. and dated June 27, 2018
7. The latest site visit was for the duration of one day on the 25th of October, 2017.
8. I am independent of Orocobre Limited and Advantage Lithium Corp.
9. I have not had prior involvement with the properties that are the subject of the Technical Report.
10. As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
11. I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.
12. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
13. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated 27th of June 2018

Signature of Peter Ehren, AusIMM.

Peter Ehren
Printed name of Peter Ehren, AusIMM (CP)