HAINS TECHNOLOGY ASSOCIATES

TECHNICAL REPORT ON SALAR DE MARICUNGA LITHIUM PROJECT, NORTHERN CHILE PREPARED FOR LI3 INC.

Report for NI 43-101

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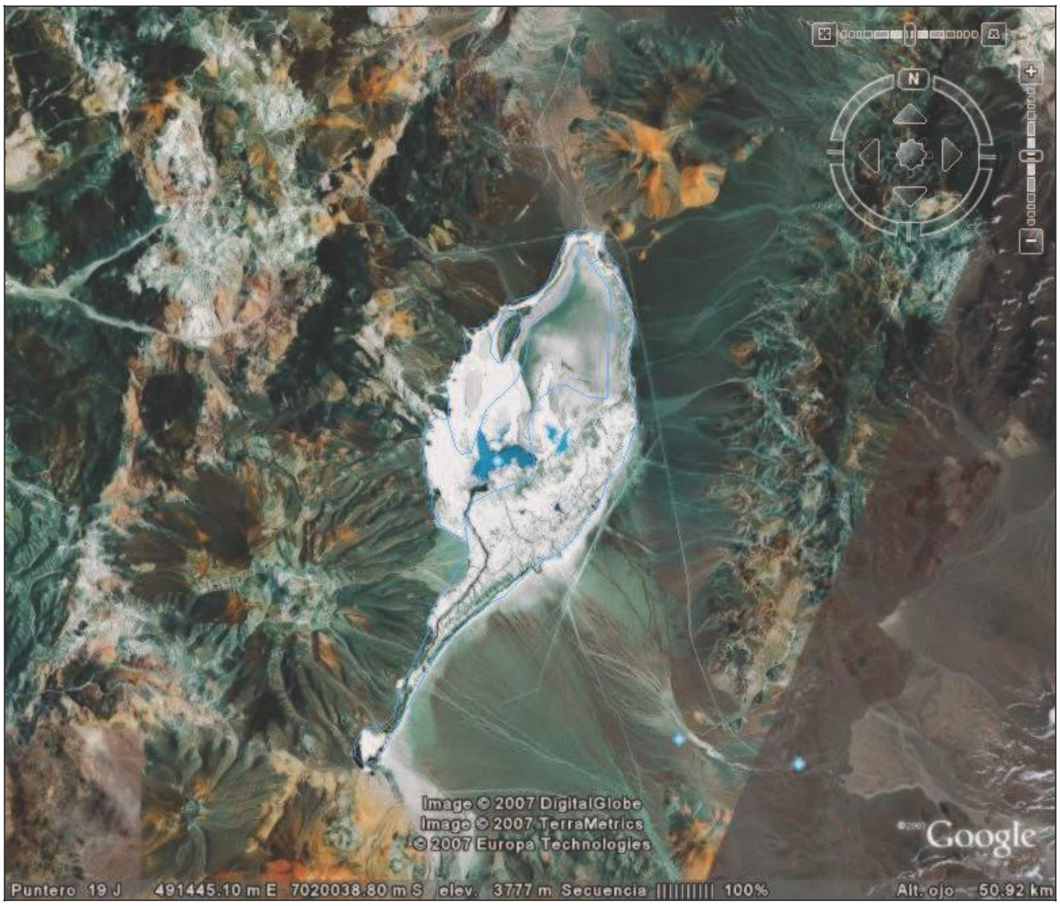

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1 SUMMARY

EXECUTIVE SUMMARY

Hains Technology Associates (“HTA”) was retained by Li3 Inc. (“Li3”) to prepare an independent Technical Report on the Salar de Maricunga lithium brine project in northern Chile. The purpose of this report is to provide preliminary information on the resource potential for the project and to qualify the property as a “Property of Merit” for the purposes of enabling a listing of Li3 on the Toronto Stock Exchange Venture Index (TSX-V).

Li3 has acquired a 60% interest in a property package totalling 1,438 ha in the northeast of the salar de Maricunga currently owned by Sociedades Legales Mineras (“SLM Litio” or the”Sellers”) LITIO 1 de la Sierra Hoyada de Maricunga through SLM Litio 6 under the following terms and conditions:

Payment of $6,375,000 in cash and an aggregate of 127,500,000 shares paid to the Sellers and their agents. This includes restrictive trading/hedging covenants providing for a 9 month lock on 50% of the shares, with the remaining 50% locked up for 18 months;

The appointment of 3 nominees named by the Sellers to the Board of Directors of Li3.

The transaction closed on May 20, 2011.

The Maricunga project is being explored by Li3 as a source of lithium carbonate and potassium chloride, with co-product boric acid. Lithium carbonate would be sold in open market as battery grade material. Potassium chloride production is planned to be used in the production of potassium nitrate from Li3’s Alfredo sodium nitrate/iodine project, also located in northern Chile. A portion of the by-product sodium sulphate production from the Alfredo iodine operation will be returned to Maricunga to adjust the sulphate balance for calcium removal.

This Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects.

It is the conclusion of this Technical Report that the Maricunga property holds significant exploration potential for development as a source of lithium, potassium and boron. The Maricunga property can be considered as a Property of Merit.

The Salar de Maricunga was originally sampled by CORFO in the early 1980s. CORFO undertook systematic hydrogeological and geological studies and sampling of the various salars. Exploration work at Salar de Maricunga included sampling of shallow pits (50 cm deep) and drilling and sampling of several shallow wells down to approximately 20 m. This work indicated high grades of lithium and potassium with reasonable magnesium levels and low sulphate content. Based on the sampling results, CORFO estimated resources at salar de Maricunga as (Table 1-1):

TABLE 1-1: CORFO HISTORIC RESOURCE ESTIMATE[1] SALAR DE MARICUNGA

Lithium				
Lithium Grade (g/L)	**0.5 to 1.0**	**1.0 to 1.5**	**1.5 to 2.0**	**0.5 to 2.0**
Average grade (g/L)	0.75	1.25	1.75	1.06
Surface Area (km^2)	31.70	33.78	4.97	70.53
Volume to 30 m depth (m^3)	953.4×10^6	1.013×10^6	149.1×10^6	2.116×10^9
Effective Vol. to 30 m (m^3)	95.3×10^6	101.3×10^6	14.9×10^6	211.6×10^6
Contained Li to 30 m depth (tonnes)	71.53×10^3	136.7×10^3	26.09×10^3	224.3×10^3
Potassium				
Potassium Grade (g/L)	**5 to 10**	**10 to 15**	**> 15**	**> 5**
Average grade (g/L)	7.5	12.5	17.5	9.627
Surface Area (km^2)	38.17	17.27	4.01	59.45
Volume to 30 m depth (m^3)	1.145×10^9	518.1×10^6	120.3×10^6	1.784×10^9
Effective Vol. to 30 m (m^3)	114.5×10^6	51.0×10^6	12.0×10^6	178.4×10^6
Contained K to 30 m depth (tonnes)	858.8×10^3	647.6×10^3	210.5×10^3	1.717×10^6
Contained KCl to 30 m depth (tonnes)	1.638×10^6	1.235×10^6	401.4×10^3	3.274×10^6

1: not NI 43-101 compliant. Provided for illustration purposes only.
Source: CORFO

Hydrology and hydrogeological evaluation of the salar de Maricunga was undertaken in 1995-1998 by a consortium involving the Directorate General of Water of the Ministry of Public Works (DGA), Catholic University of the North (UCN) and the Institute de Recherche de Développment of France (IRD) (Risacher et al, 1999). This work indicated the salar de Maricunga basin had a highly productive aquifer system within the extensive colluvial/alluvial sediments surrounding the salar. Geophysical work indicated the salar was deep, with a major aquifer system down to approximately 100 m depth and a second underlying aquifer lying below an impermeable 20 m thick clay layer extending to a depth of as much as 800 m. Assay results indicated the lithium and potassium content in the salar increased in a northerly direction, with the best assays in the northeast portion of the salar.

Work in 2007 by SLM Litio 1-6 involved surface sampling and drilling of 58 shallow RC wells to 20 m depth on the property. The wells were sampled in the upper 1-2 m horizon, 1 – 10 m horizon and 10 – 20 m depth horizon. Sample assays returned the following average values for the full 0 m – 20 m intersection (Table 1-2):

TABLE 1-2: SLM LITIO ASSAY RESULTS SUMMARY – 2007 DRILLING
(0 – 20 m depth profile)

Item	Average value (%)	Unit	Assay (g/L)
Lithium	0.0834	% w/w Li	1.100
Potassium	0.6565	% w/w k	7.930
Boron	0.1499	% w/w as B_2O_3	1.810
Magnesium	0.5498	% w/w as Mg	6.60
Density	1.2078	g/cc	

Source: SLM Litio

Based on the assay results and assuming reasonable but not verified estimated porosity values, SLM Litio 1-6 estimated resources for the Maricunga property as (Table 1-3):

TABLE 1-3: SLM LITIO HISTORIC RESOURCE ESTIMATES – 2007[1]
(not NI 43-101 compliant and not to be relied upon)

Resources to 20 m Depth

Element	Surface Area (ha)	Depth (m)	Porosity (%)	Contained Tonnes
Li	1,450	20	10	29,000
K				229,970
B (as B_2O_3)				52,000

Resources between 20 m and 100 m depth

Element	Surface Area (ha)	Depth (m)	Porosity (%)	Contained Tonnes
Li	1,450	80	6	70,000
K				550,000
B (as B_2O_3)				120,000

1) not NI 43-101 compliant and not to be relied upon.

Source: SLM Litio

Due diligence exploration work by Li3 in December, 2010 involved digging and sampling of shallow (<0.5 m) test pits at the locations of the 2007 drill holes, and sampling of the upper 1 – 2 m of the 2007 drill holes. The results of the analysis of surface and near surface samples from the property are summarized below (Table 1-4):

TABLE 1-4: SUMMARY CHEMICAL ANALYSIS – LI3 SAMPLING

Sample Type	Li g/l	K g/l	Mg g/l	B g/l	SO_4 g/l	Ca g/l	Density g/cm^3
Pit	0.901	6.516	6.36	<0.100	0.457	8.90	1.201
1 to 2 m depth	1.036	7.370	7.04	<0.100	0.463	10.04	1.206
Ratios	**K/Li**	**Mg/Li**	**Ca/Li**	**SO_4/Li**	**B/Li**		
Pit	7.232	7.06	9.88	0.507	0.111		
1 to 2 m depth	7.114	7.79	9.69	0.447	0.097		

Source: Li3

These results are comparable to those obtained by SLM Litio in 2007 and by CORFO in 1982. The higher K and Li concentrations in the 1-2 m depth samples versus the pit samples are believed due to evaporation between the 2007 drill program and the time of the Li3 due diligence sampling.

While no mineral resources conforming to NI 43-101 requirements are reported, it is the conclusion of the author, based on review of the available information, that resources meeting the classification of Inferred Resources could have been estimated if porosity and specific yield data had been available.

CONCLUSIONS AND RECOMMENDATIONS

The Salar de Maricunga represents a potentially significant source of lithium and potassium. The salar is located in Region III of northern Chile at an elevation of approximately 3,750 m. It is classified as a mixed type of salar of the Na-Cl-Ca/SO_4 system. Exploration work by others indicates the brines in the salar are enriched in lithium and potassium and that the brine has an Mg/Li ratio permitting lithium recovery. The relatively high boron concentration in the brine should permit high extraction rates for recovery as boric acid, a valuable co-product. The sulphate in the brine is unusually low for a Chilean salar, reducing the need for additional reagents for sulphate removal.

The due diligence exploration work by Li3 in 2011 has confirmed the exploration results obtained by the Litio 1-6 consortium in 2007 and prior work by CORFO and others in the 1980s. Historical hydrology and hydrogeological work undertaken by the Chilean government in 1985-1988 indicates the aquifers feeding the salar are highly productive.

Based on the results of the Li3 2011 exploration program, it is anticipated that it will be possible to develop an NI 43-101 compliant resource estimate approximately equivalent to the historical estimate.

The Salar de Maricunga property is judged to be a Property of Merit holding sufficient exploration potential to warrant exploration expenditure to advance the project to the prefeasibility stage.

The following recommendations are made:

Undertake a phased program of geological, geophysical, and hydrogeological exploration work to better define the geometry of the salar, brine chemistry, salar hydrology, salar hydrogeology and salar porosity and specific yield.
Undertake a program of exploration drilling and sampling to develop data on pumping rates, brine chemistry and other factors governing brine production.
Undertake a program of solar evaporation tests and other metallurgical test work to confirm a suitable process for recovery of lithium, potassium and boron and develop engineering data sufficient for preparation of capital and operating cost estimates.
Prepare an NI 43-101 report to support estimation of Indicated and Measured Resources on the property.
Prepare a Scoping/Prefeasibility Report for the property.
Acquire as available additional concession areas in the northern part of the Salar de Maricunga to expand the resource base.

The recommended budget to achieve the objectives outlined above is as follows:

Geophysical survey (TEM)	$ 200,000
Hydrology and hydrogeological modeling	$ 125,000
Meteorological data development	$ 25,000
Surface Brine sampling and analysis	$ 250,000
Laboratory Process Simulation & Phase Chemistry test work	$ 750,000
Drilling Program:	
DD core drilling and core analysis (2,000 m)	$1,000,000
RC drilling (large diameter, 500 m)	$ 500,000
Large diameter pumping and monitoring tests	$ 75,000
Pilot scale evaporation tests and metallurgical tests	$ 175,000
NI 43-101 report	$ 50,000
Scoping/Prefeasibility Study (±30%):	
Logistics, transport and energy studies	$ 200,000
Evaporation tests and metallurgical test work	$ 200,000
Conceptual engineering work & reporting	$ 250,000
TOTAL BUDGET	$3,800,000

TECHNICAL SUMMARY

Property Description and Location

The Maricunga property is located approximately 160 km northeast of Copiapo in Region III, northern Chile (Figure 4-1) and approximately 85 km southeast of El Salvador. The property is more particularly described as being centered at approximately UTM Zone 22 493000 E, 7025000 N (PSAD '56 datum). The property comprises 1,483 ha as six mineral claims known as Litio 1 through Litio 6 located in the northeast section of the Salar de Maricunga (Figure 4-2).

Land Tenure

The property consists of six claims blocks totaling 1,438 ha labeled Litio 1-6 registered in the names of Sociedades Legales Mineras ("SLM Litio") LITIO 1 de la Sierra Hoyada de Maricunga through Litio 6 de la Sierra Hoyada de Maricunga. All claims are reported to be in good standing.

Site Infrastructure

Infrastructure at the site includes the national highway bordering on the north and east sides of the salar and a power line running parallel to the highway.

History

The property has been subject to exploration by CORFO, the DGA-UCN-IRN consortium and Litio 6. This work has included surface sampling and drilling, and a detailed hydrology/hydrogeology study. The results of the work indicate a salar with relatively high levels of lithium, potassium and boron in the brine, and depressed levels of sulphate. Lithium and potassium levels are preferentially elevated in the northeast corner of the salar, which is the location of the subject property.

The hydrology and hydrogeology studies indicate the salar basin has two major aquifers. The upper aquifer is predominately found in clastic sediments and is approximately 80 m to 100 m deep and is highly productive. A second aquifer appears to be located beneath an approximate 10 m – 20 m thick impermeable clay layer and may extend as deep as 800 m.

Geology

The salar is classified as a mixed halite-clastic salar of the Na-Cl-Ca/SO_4 system. It lies within a large basin and is surrounded by Miocene, Cenozoic and Paleozoic intrusive and extrusive rocks and bordered by thick sequences of Quaternary and Pliocene-Miocene sediments. The salar occupies a surface area of approximately 145 km^2. It is asymmetrically shaped with a drainage system moving from south to north.

Mineral Resources and Mineral Reserves

No mineral resources conforming to NI 43-101 are reported. Historical resources estimates as prepared by SLM Litio, not in conformance with NI 43-101, indicate the following:

Resources to 20 m depth[1]:

Element	Surface Area (ha)	Depth (m)	Porosity (%)	Contained Tonnes
Li	1,450	20	10	29,000
K				229,970
B (as B_2O_3)				52,000

1) not NI 43-101 compliant and not to be relied upon.

Source: SLM Litio

Resources between 20 m and 100 m depth[1]:

Element	Surface Area (ha)	Depth (m)	Porosity (%)	Contained Tonnes
Li	1,450	80	6	70,000
K				550,000
B (as B_2O_3)				120,000

1) not NI 43-101 compliant and not to be relied upon.

Source: SLM Litio

Conclusions and Recommendations

The Salar de Maricunga represents a potentially significant source of lithium and potassium. The salar is located in Region III of northern Chile at an elevation of approximately 3,750 m. It is classified as a mixed type of salar of the Na-Cl-Ca/SO_4 system. Due diligence work by LI3 indicates surface brine assay values as detailed in Table 1-5:

TABLE 1-5: LI3 DUE DILIGENCE SUMMARY ASSAY RESULTS

	K [g/l]	Li [g/l]	Mg [g/l]	SO_4 [g/l]
Average for "Litio" Property	6.551	0.903	6.408	0.457
Ratios "n"/Li			7.10	0.51

These results are comparable to prior exploration work by others which indicates the brines in the salar are enriched in lithium and potassium and that the brine has an Mg/Li ratio permitting lithium recovery. The relatively high boron concentration in the brine should permit extraction as boric acid, a valuable co-product. The sulphate in the brine is unusually low for a Chilean salar, reducing the need for additional reagents for sulphate removal.

The due diligence exploration work by Li3 in 2011 has confirmed the exploration results obtained by the Litio 1-6 consortium in 2007 and prior work by CORFO and others in the 1980s. Historical hydrology and hydrogeological work undertaken by the Chilean government in 1985-1988 indicates the aquifers feeding the salar are highly productive.

Historical resource estimates, which are not NI 43-101 com pliant, indicate the following:

SLM LITIO INDICATED RESOURCE ESTIMATE[1]

Element	Surface Area (ha)	Depth to (m)	Porosity (%)	Contained Tonnes
Li	1,450	20	10	29,000
K				229,970
B (as B_2O_3)				52,000

1) not NI 43-101 compliant and not to be relied upon.

Source: SLM Litio

SLM LITIO INFERRED RESOURCE ESTIMATE[1]

Element	Surface Area (ha)	Depth[2] (m)	Porosity (%)	Contained Tonnes
Li	1,450	80	6	70,000
K				550,000
B (as B_2O_3)				120,000

1) not NI 43-101 compliant and not to be relied upon. 2) from 20 m

Source: SLM Litio

Based on the results of the Li3 2011 exploration program, it is anticipated that it will be possible to develop an NI 43-101 compliant resource approximately equivalent to the historical estimate.

The Salar de Maricunga property is judged to be a Property of Merit holding sufficient exploration potential to warrant exploration expenditure to advance the project to the prefeasibility stage.

This report recommends an exploration and development program consisting of additional surface sampling, diamond and RC drilling and sampling, hydrogeological investigations, geophysical work, logistics analysis, and metallurgical test work leading to completion of an NI 43-101 report detailing Measured and Indicated Resources and a prefeasibility study. The estimated cost for the work program is $3.80 million.

2 INTRODUCTION AND TERMS OF REFERENCE

Hains Technology Associates ("HTA") was retained by Li3 Inc. ("Li3") to prepare an independent Technical Report on the Salar de Maricunga lithium brine project in northern Chile. The purpose of this report is to provide preliminary information on the resource potential for the project. The Maricunga project is being explored by Li3 as a source of lithium carbonate and potassium chloride. Potassium chloride production is planned to be used in the production of potassium nitrate from Li3's Alfredo sodium nitrate/iodine project, also located in northern Chile. This Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects.

HTA visited the property December 7, 2010.

Li3 is an early stage mineral exploration and development company. The company is currently developing two projects in northern Chile – the Maricunga lithium salar project located approximately 160 km northeast of Copiapo in Region III of northern Chile, and the Alfredo caliche project, located approximately 65 km south of Iquique in Region II of northern Chile. Li3 proposes to develop the Alfredo project for recovery of sodium nitrate and iodine. The sodium nitrate would be converted to potassium nitrate using potassium chloride produced at the Maricunga project. Lithium carbonate would be produced from the lithium recovered at the Maricunga project.

Currently, the major assets and facilities associated with the Maricunga Project are the claims and other associated mineral rights totaling 1,483 ha.

Existing infrastructure at the project includes public access roads and a low voltage electrical distribution line.

This report is considered by HTA to meet the requirements to classify the Maricunga project as a Property of Merit for the purposes of obtaining a listing for Li3 on the Toronto Stock Exchange Venture index (TSX-V). No resources meeting the requirements of NI 43-101 have been estimated for the property as no data are available on the porosity and specific yield of the salar. However, historical estimates, not in conformance with NI 43-101, are reported for information purposes.

Porosity and specific yield data are required to estimate resources for brine deposits. These data will be developed in the next stage of exploration and it is anticipated this work will enable resources to be estimated in conformance with the requirements of NI 43-101.

SOURCES OF INFORMATION

Site visits were carried out by Don Hains, P. Geo. Mr. Hains is Principal of HTA and has experience in evaluation of lithium brine deposits.

Discussions were held with personnel from Li3

Mr. Tom Currin, Chief Operating Officer
Mr. Luis Saenz, President and Chief Executive Officer
Mr. Carlos Theune, Consulting geologist to Li3

Mr. Hains is solely responsible for this report. The documentation reviewed, and other sources of information, are listed at the end of this report in Section 22 References.

LIST OF ABBREVIATIONS

Units of measurement used in this report conform to the SI (metric) system. All currency in this report is US dollars (US$) unless otherwise noted.

	micron	kPa	kilopascal
°C	degree Celsius	kVA	kilovolt-amperes
°F	degree Fahrenheit	kW	kilowatt
g	microgram	kWh	kilowatt-hour
A	ampere	L	litre
a	annum	L/s	litres per second
bbl	barrels	m	metre
Btu	British thermal units	M	mega (million)
C$	Canadian dollars	m^2	square metre
cal	calorie	m^3	cubic metre
cfm	cubic metres per minute	min	minute
cm	centimeter	MASL	metres above sea level
cm^2	square centimeter	mm	millimetre
d	day	mph	miles per hour
dia.	diameter	MVA	megavolt-amperes
dmt	dry metric tonne	MW	megawatt
dwt	dead-weight ton	MWh	megawatt-hour
ft	foot	m^3/h	cubic metres per hour
ft/s	foot per second	opt, oz/st	ounce per short ton
ft^2	square foot	oz	Troy ounce (31.1035g)
ft^3	cubic foot	oz/dmt	ounce per dry metric tonne
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
km^2	square kilometre		

3 RELIANCE ON OTHER EXPERTS

This report has been prepared by Hains Technology Associates (HTA) for Li3 Inc. The information, conclusions, opinions, and estimates contained herein are based on:

Information available to HTA at the time of preparation of this report,
Assumptions, conditions, and qualifications as set forth in this report, and
Data, reports, and other information supplied by Li3 and other third party sources.

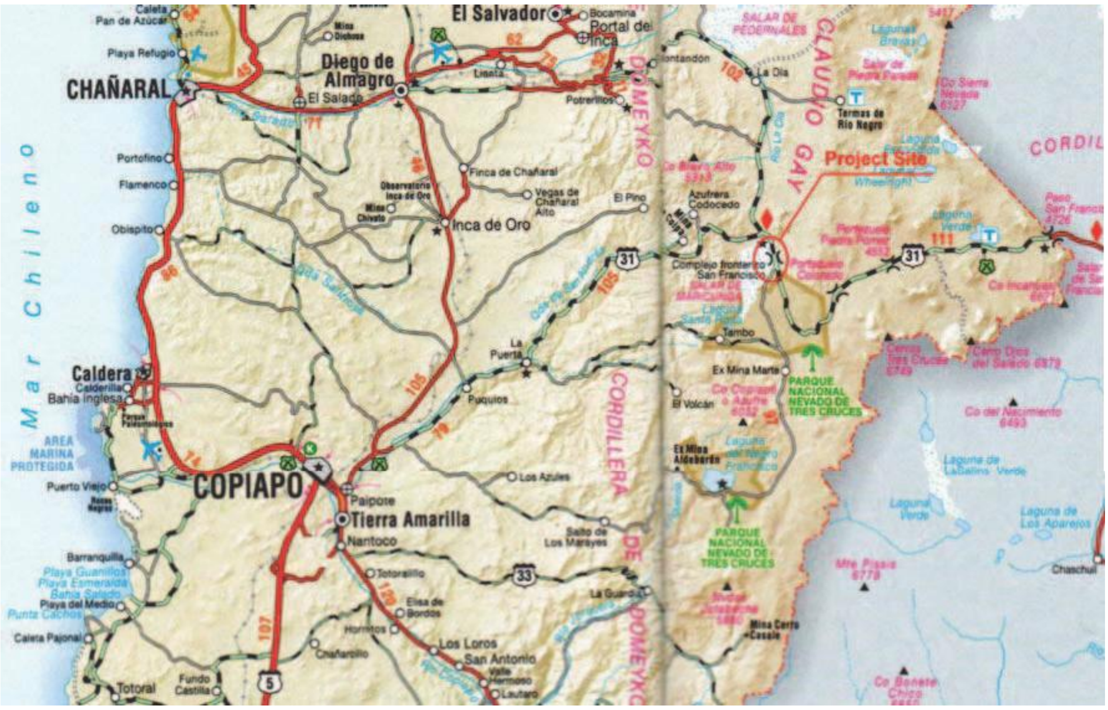
For the purpose of this report, HTA has relied on ownership information provided by Li3. HTA has not researched property title or mineral rights for the Maricunga project and expresses no legal opinion as to the ownership status of the property.

4 PROPERTY DESCRIPTION AND LOCATION

LOCATION, PROPERTY DIMENSIONS

The Maricunga property is located approximately 160 km northeast of Copiapo in Region III, northern Chile (Figure 4-1) and approximately 85 southeast of El Salvador. The property is more particularly described as being centered at approximately UTM Zone 22 493000 E, 7025000 N (PSAD '56 datum). The property comprises 1,483 ha as six mineral claims known as Litio 1 through Litio 6 located in the northeast section of the Salar de Maricunga (Figure 4-2)

FIGURE 4-1: PROPERTY LOCATION



LAND TENURE

The property is held as six mineral concessions registered under the names Sociedades Legales Mineras ("SLM Litio" or the "Sellers") LITIO 1 de la Sierra Hoyada de Maricunga, LITIO 2 de la Sierra Hoyada de Maricunga, LITIO 3 de la Sierra Hoyada de Maricunga, LITIO 4 de la Sierra Hoyada de Maricunga, LITIO 5 de la Sierra Hoyada de Maricunga y LITIO 6 de la Sierra Hoyada Maricunga. Each of the claims is subdivided into *minas* of varying size (Table 4-1).

FIGURE 4-2   PROPERTY MAP

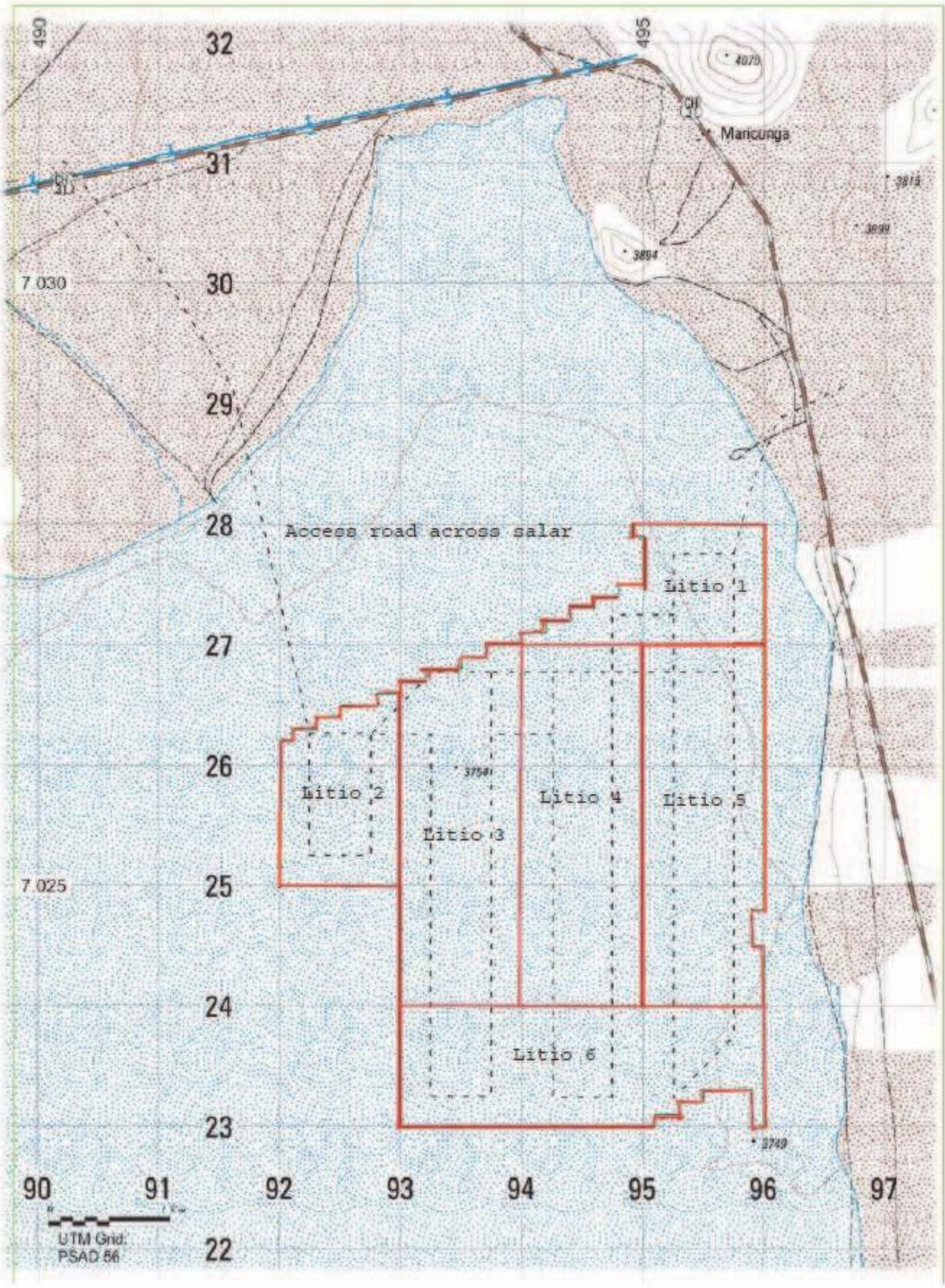


TABLE 4-1: PROPERTY STATUS

PROPERTY	MINING ROLE NUMBER	SURFACE (hectares)	REGISTERED OWNER
Litio 1, 1 al 29	03201-6516-4	130	SLM Litio 1 de la S. Hoyada de Maricunga
Litio 2, 1 al 30	03201-6517-2	143	SLM Litio 2 de la S. Hoyada de Maricunga
Litio 3, 1 al 58	03201-6518-0	286	SLM Litio 3 de la S. Hoyada de Maricunga
Litio 4, 1 al 60	03201-6519-9	300	SLM Litio 4 de la S. Hoyada de Maricunga
Litio 5, 1 al 60	03201-6520-2	297	SLM Litio 5 de la S. Hoyada de Maricunga
Litio 6, 1 al 60	03201-6521-0	282	SLM Litio 6 de la S. Hoyada de Maricunga
Total		**1.438**	

Source: Li3

The property boundaries are recorded as UTM coordinates (PSAD '56 datum) based on digital GPS measurement. National geodetic survey markers have been used as base reference points for the GPS measurements.

The claims are legally incorporated and registered, with the claims being published in the national register effective September 1, 2004. HTA has been advised by Li3 that all required annual payments in respect to maintenance of the claims are current and that the claims are in good standing.

The property consists of an area in the northeast of the nucleus of the salar and thus all of the property can be considered to be mineralized. The property is bordered on the north and east by a national highway which provides access to Argentina. An electrical power line runs parallel to the highway. There are no known environmental liabilities associated with the property. Li3 is in the process of acquiring the necessary permits to permit advanced exploration, including drilling, on the property and on areas outside of the current claim limits for hydrological studies. These permits are issued in the normal course of exploration upon submission of the required forms and payments. No problems are anticipated in obtaining the required permits.

Li3 acquired a 60% interest in the property effective May 20, 2011 by paying the Sellers $6,375,000 in cash and an aggregate of 127,500,000 shares paid to the Sellers and their agents. This includes restrictive trading/hedging covenants which include a 9 month lock on 50% of the shares, with the remaining 50% locked up for 18 months. In addition, the Sellers received the right to the appointment of 3 nominees to the Board of Directors of Li3.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

ACCESSIBILITY

The Maricunga property is accessed from the city of Copiapo via National Highway 31. Highway 31 is paved for approximately one-half of the distance and is a well maintained gravel surface road thereafter. National Highway 31 extends through to Argentina. Access to Maricunga from the city of El Salvador is via a well maintained gravel surface highway. Occasional high snowfalls in the mountains may close the highways for brief periods during the winter.

CLIMATE

The climate at the property is a dry, high altitude desert with cold, dry winters and warm, dry summers. Summer temperatures range from 10^{0}C – 20^{0}C, with winter daytime temperatures averaging approximately 4^{0}C - 0^{0}C. The average annual temperature at the salar is reported as 4^{0}C. Annual precipitation averages approximately 120 mm at the salar and 200 mm in the larger Maricunga basin area. The reported annual evaporation rate is 1,200 mm/year.

LOCAL RESOURCES

Local resources are absent at the salar. Copiapo is a major regional mining centre and exploration tools and equipment and heavy mining equipment and machinery are available.

INFRASTRUCTURE

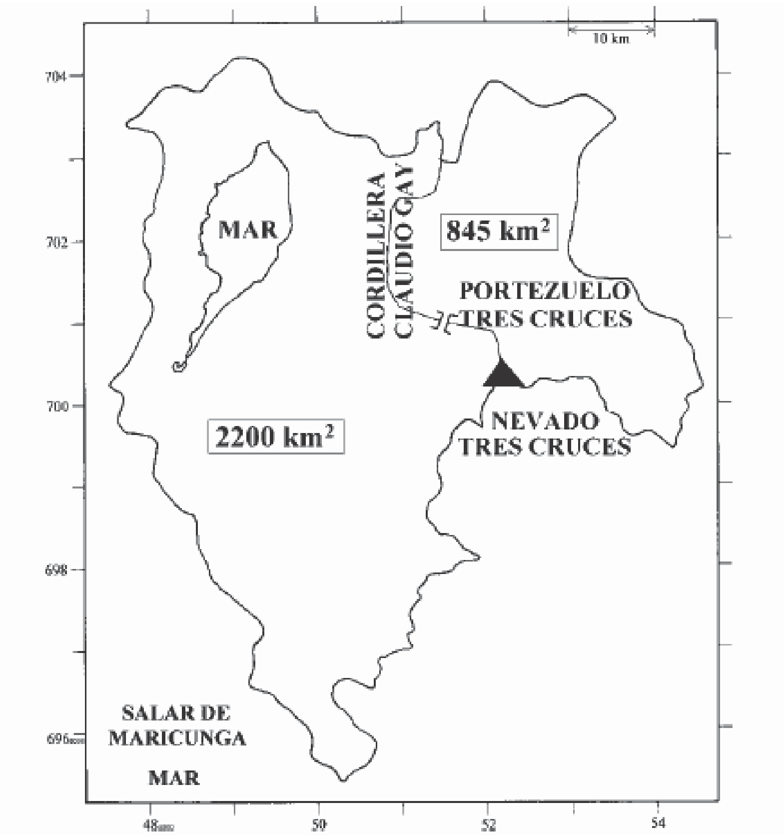
Local resources at the salar include National Highway 31 and an electrical power line running parallel to the highway. There is a customs post at the north end of the salar which is staffed on a 24 hour basis.

Copiapo is a major city and provides a full range of services. Copiapo is serviced by daily scheduled air service with connections to Santiago and other major cities in Chile, as well as service to Argentina and Bolivia. The port of Caldera is located approximately 80 km west of Copiapo. The port has excellent dock facilities for general cargo, liquid fuel unloading and bulk cargo. The port of Chañaral is located approximately 250 km from the salar.

PHYSIOGRAPHY

The Salar de Maricunga lies within a larger basin area termed the Maricunga Basin. The basin is divided into two parts, an eastern portion of approximately 845 km^2 and a western portion measuring 2,200 km^2 containing the salar itself, which is 145 km^2 in size. The Maricunga Basin is divided by the Cordillera Claudio Gay, the highest point of which is the Nevada Tres Cruces. The pass at Portezuelo Tres Cruces has an elevation of 4,386 m. (Figure 5-1). There is conflicting information as to a possible hydrogeological interconnection between the eastern and western portions of the Basin. However, based on review of the available data, such a connection is unlikely.

FIGURE 5-1: MARICUNGA BASIN



Source: (Risacher et al, 1999)

The surface of the salar itself is a rough halite crust (Figure 5-2) with salt pinnacles and hexagonal re-solution salt formations. These latter features are more common in the more southerly portion of the salar, with salt pinnacles being more prevalent in the north end of the salar. Vehicle passage across the salt pan requires prior construction of roads using a bulldozer. Extensive alluvial fans surround the salar. The general drainage in the salar is from south to north. The Laguna Santa Rosa is located at the south end of the salar. This is a fresh to brackish water source and drains into the salar proper via a large alluvial area. A national park is located immediately to the south of Laguna de Santa Rosa.

FIGURE 5-2: TYPICAL SALAR SURFACE

6 HISTORY

PRIOR OWNERSHIP AND OWNERSHIP CHANGES.

Prior to a change in legislation and acquisition of the Litio 1 – 6 concessions by the vendors, ownership of the salar was vested in CORFO, the Chilean state mineral development agency. The vendors acquired the Litio 1 – 6 concessions in 2004. Numerous other claim holders, including CORFO and SQM, have extensive holdings on the salar to the south of the Litio 1-6 claims.

PRIOR EXPLORATION

CORFO, under the aegis of the Comite de Sales Mixtas, (CORFO, 1982) conducted a major study of the northern Chilean salars in the 1980s with the objective of determining the economic potential of the salars for production of potassium lithium and boron. CORFO undertook systematic hydrogeological and geological studies and sampling of the various salars. Exploration work at Salar de Maricunga included sampling of shallow pits (50 cm deep) and drilling and sampling of several shallow wells down to approximately 20 m. It was determined that the phreatic level of the brine was at 15 cm below the salar surface. Estimates of contained mineral resources were developed based on the assay results and assuming a constant porosity of 10% down to a 30 m depth. CORFO's estimate of the contained resources at Salar de Maricunga are detailed in Table 6-1.

TABLE 6-1: CORFO HISTORIC RESOURCE ESTIMATE[1] SALAR DE MARICUNGA

Lithium				
Lithium Grade (g/L)	**0.5 to 1.0**	**1.0 to 1.5**	**1.5 to 2.0**	**0.5 to 2.0**
Average grade (g/L)	0.75	1.25	1.75	1.06
Surface Area (km^2)	31.70	33.78	4.97	70.53
Volume to 30 m depth (m^3)	953.4×10^6	1.013×10^6	149.1×10^6	2.116×10^9
Effective Vol. to 30 m (m^3)	95.3×10^6	101.3×10^6	14.9×10^6	211.6×10^6
Contained Li to 30 m depth (tonnes)	71.53×10^3	136.7×10^3	26.09×10^3	224.3×10^3
Potassium				
Potassium Grade (g/L)	**5 to 10**	**10 to 15**	**> 15**	**> 5**
Average grade (g/L)	7.5	12.5	17.5	9.627
Surface Area (km^2)	38.17	17.27	4.01	59.45
Volume to 30 m depth (m^3)	1.145×10^9	518.1×10^6	120.3×10^6	1.784×10^9
Effective Vol. to 30 m (m^3)	114.5×10^6	51.0×10^6	12.0×10^6	178.4×10^6
Contained K to 30 m depth (tonnes)	858.8×10^3	647.6×10^3	210.5×10^3	1.717×10^6
Contained KCl to 30 m depth (tonnes)	1.638×10^6	1.235×10^6	401.4×10^3	3.274×10^6

1: not NI 43-101 compliant. Provided for illustration purposes only.
Source: CORFO, 1982

The CORFO estimates were based on very widely spaced sample intervals, with the samples primarily taken from the edges of the salar. Assays were by atomic absorption (AA). No details on the standards employed or sample handling procedures are available. The CORFO results must be considered as illustrative only and are not to be relied upon.

In 1995-98, the Chilean Ministry of Public Works, Directorate General of Water division; in cooperation with the Catholic University of the North in Antofagasta and the Institute de Recherche pour le Développment (ex ORSTOM) of France, (commonly known as the DGW-UCN-IRD consortium) undertook a major study of the hydrology and hydrogeology of the endorheic basins in Regions I, II and III of northern Chile (Risacher et al, 1999). The work was coordinated by the Chilean national geological survey, Sernageomin Chile. The report is the most complete available on the hydrology and hydrogeology of the salar de Maricunga. The work included hydrologic and hydrogeologeological analysis and mapping of the Salar de Maricunga. Included in the work program were drilling and sampling of wells both in the Maricunga Basin at large and the salar itself and the production of a detailed hydrogeological map for the Maricunga Basin and salar. This is reproduced as Appendix 1.

The results of the hydrology and hydrogeological studies showed a trend to increasing chloride and sodium content in the north end of the salar itself. This was accompanied by increasing lithium content. Chemical analysis indicated the saline development path was in the Na-Cl-Ca system in the nucleus of the salar and in the Na-Cl-SO_4 system within the Quaternary and Cenozoic alluvial deposits surrounding the nucleus of the salar. Drill log data for holes drilled in the alluvial deposits surrounding the salar showed stratified layers of coarse and fine grained sands with some clay layers. In general, the water level in the wells corresponded with the surface elevation of the salar. Relatively thick aquifer layers were observed, ranging from 10 m to more than 60 m, with several holes showing multiple aquifer levels. Observed flow rates in the wells ranged from 1.24 l/sec to a high of 22.9 l/sec.

Samples taken from various areas around the salar showed the following (Table 6-2):

TABLE 6-2: SAMPLE ASSAYS – 1995-98 HYDROLOGY STUDY
Salar de Maricunga

Sample No.	Location	pH	TDS mg/l	B mg/l	Cl mg/l	Li mg/l	Mg mg/l	Na %	SO_4 mg/l
HCC-32	S end of salar near exit of Laguna Sta Rosa	8.68	13134	32.0	7233	31.0	210.0	78.3	700
HCC-31	S end of salar, 5 km N of HCC-31	8.34	11866	34.0	6591	28.0	170.0	76.5	586
HCC-30	SW side of salar	7.52	53941	80.0	32750	140.0	1100.0	76.0	507
HCC-56	NE corner of salar	6.55	307349	730.0	189100	1240.0	8800.0	66.7	806
H-28	Well MDO-9, SE end of salar on Upper Miocene & Pliocene alluvial gravels	8.00	2225	11.0	1050	5.6	1.56	70.0	171
HCC-65	Well MDO-10, SE end of salar, 6 km N of H-28	7.53	1880	13.0	1080	5.3	26.0	70.5	n.a.
HCC-64	Well, MDO-8, 2.2 km NE of HCC-65	7.47	3240	16.0	2046	9.5	55.0	77.8	n.a.
HCC-60	Well, MDO-14, NNW corner of salar on Upper Miocene & Pliocene gravels alluvial gravels	8.8	3863	3.9	3140	10.0	45.0	86.4	119

Source: Risacher et al, 1999

These data are illustrative of the general trend at Maricunga to increasing salt concentrations in a northward direction. The high lithium levels in the northeast corner of the salar are noticeable. These results are in accord with the sampling results obtained by CORFO in 1981 and the results obtained by SLM Litio in 2007, described below. The low levels of sulphate in all samples are notable and are in contradistinction to the sulphate concentrations in most of the other salars in Chile and Argentina.

Tassara (1997) completed a geological study of the Maricunga basin and prepared a geological map of the area. This work included sampling of the salar and analysis for the hydrology of the basin. Tassara reported the following assays for selected surface samples (Table 6-3, see also Figure 7-2 for sample locations):

TABLE 6-3: SURFACE SAMPLE ASSAYS – TASSARA, 1997

Sample No.	Location	Ca	Mg	Na	K	Li	SO_4	Cl	B	Calc. Mineralogy (%)		
		%	%	%	%	ppm	%	%	ppm	Ulexite	Halite	Gypsum
SM-6.7	W. side, mid-section	0.59	0.30	37.60	0.33	5	1.26	58.87	260	0.00	97.14	2.26
SM-6.6		0.45	0.08	36.53	0.09	38	1.37	58.59	198	0.00	96.67	2.45
SM-6.5		0.20	0.07	38.85	0.07	20	1.07	59.28	160	0.00	97.81	1.92
SM-6.4	South end	0.41	0.17	38.20	0.22	33	1.73	59.50	250	0.00	98.18	3.10
SM-6.1		0.76	0.35	37.53	0.43	60	1.93	57.67	554	0.00	95.18	3.45
SM-1.1		0.86	0.23	36.02	0.23	90	2.78	58.05	278	0.00	95.78	4.98
SM-1.3	NW corner	0.18	0.02	39.03	0.02	25	1.35	59.38	89	0.00	97.98	2.42
SM-1.4		0.38	0.06	39.00	0.05	80	1.56	59.21	136	0.00	97.70	2.77
SM-8.1	North end	0.35	0.13	38.65	0.17	93	2.01	58.10	243	0.00	95.87	3.60
SM-8.2		0.43	0.18	37.95	0.32	43	1.78	59.38	407	0.00	97.98	3.19
SM-8.3	NE side	0.16	0.05	38.00	0.05	75	1.95	59.89	126	0.00	98.82	3.49
SM-8.4		0.22	0.09	38.28	0.16	33	1.38	58.44	150	0.00	96.43	2.47
SM-8.5	E. side, mid-section	0.24	0.13	37.88	0.19	3	1.06	58.09	231	0.00	95.85	1.90
SM-8.6		16.40	0.19	13.50	0.32	35	38.77	22.31	927	0.01	36.81	69.40
SM-7.4	SE corner	0.46	0.23	37.63	0.15	58	0.93	58.86	309	0.00	97.12	1.66

Source: Tassara, 1997

SLM Litio drilled 58 vertical holes on a 500 m x 500 m grid in February, 2007. Each hole was 20 m deep. The drilling covered all of the Litio 1 – 6 property holdings. Holes were 3.5" diameter and cased with either 40 mm PVC or 70 mm HDPE pipe inserted by hand to resistance. Samples were recovered at 2 m to 10 m depth and 10 m to 20 m depth by blowing the drill hole with compressed air and allowing recharge of the hole. Subsequently, samples were taken from each drill hole from the top 2 m of brine. In total, 232 samples were collected and sent to Cesmec in Antofagasta for analysis. The 232 samples corresponded to the following samples intervals for each drill hole:

0 m – 1 m
1 m – 2 m
2 m – 10 m
10 m - 20 m

Samples were analysed for lithium potassium, boron and magnesium. The results of the sample analyses are summarized in Table 6-4.

TABLE 6-4: SLM LITIO ASSAY RESULTS SUMMARY – 2007 DRILLING

Item	Average value (%)	Unit	Assay (g/L)
Lithium	0.0834	% w/w Li	1.100
Potassium	0.6565	% w/w k	7.930
Boron	0.1499	% w/w as B_2O_3	1.810
Magnesium	0.5498	% w/w as Mg	6.60
Density	1.2078	g/cc	

Source: SLM Litio

The assay values are comparable to those obtained by CORFO in the 1981 exploration program at Salar de Maricunga. Based on the assay results, SLM Litio 1-6 estimated contained resources to a depth of 20 m. The surface area assumed for the resource estimate was 1,450 ha and the assumed salar porosity was 10%. SLM Litio classified these resources as “Indicated Resources”. The estimated resources are detailed in Table 6-5.

TABLE 6-5: SLM LITIO INDICATED RESOURCE ESTIMATE[1]

Element	Surface Area (ha)	Depth (m)	Porosity (%)	Contained Tonnes
Li	1,450	20	10	29,000
K				229,970
B (as B_2O_3)				52,000

1) not NI 43-101 compliant and not to be relied upon.

Source: SLM Litio

SLM assumed grade continuity to a depth of 100 m and a reduction in porosity from 10% to 6% for salar depths between 20 m and 100 m. Resources from 20 m to 100 m depth were classified by SLM Litio as ‘Inferred Resources”. Based on these assumptions, SLM Litio estimated resources as follows (Table 6-6)

TABLE 6-6: SLM LITIO INFERRED RESOURCE ESTIMATE[1]

Element	Surface Area (ha)	Depth (m)	Porosity (%)	Contained Tonnes
Li	1,450	80	6	70,000
K				550,000
B (as B_2O_3)				120,000

1) not NI 43-101 compliant and not to be relied upon.

Source: SLM Litio

There has been no brine production from the Salar de Maricunga.

7 GEOLOGICAL SETTING

REGIONAL GEOLOGY

The extensive evaporite deposits of the Altiplano-Puna area of the Central Andes are of Neogene origin. These deposits have formed in over many years (10^4 – 10^5 yr). Their formation is closely linked with the morphostructural evolution of the Andean system and interaction with climatic evolution.

The Altiplano-Puna is the second largest high altitude plateau in the world and is the focus of numerous brine bodies containing high concentrations of lithium amongst several other species of economic interest. The Andes of western South America are the result of subduction processes as the Nazca plate dived beneath the South American plate, and volcanic zones are associated with the steeply dipping portions of the subduction zone. The central volcanic zone, located between 14^oS and 28^oS is underlain by one of the largest magma bodies in existence on earth, known as the Altiplano-Puna Magma Body (APMB) (de Silva et al, 2006). Whilst the origin of the high lithium concentrations in the brines of the Altiplano-Puna is not known, their distribution around the margins of the APMB is suggestive of an ultimate source.

In the central Andes and Altiplano-Puna plateau, salt pans, known locally as *salares* form in topographic depressions with no outlets (endorheic basins). Salars occur at all elevations from 1000 m to more than 4000 m above sea level. They generally represent the end product of a basin infill process that starts with the erosion of the surrounding relief, initially depositing colluvial talus and fan gravels, grading upwards into sheet sands, and playa silts and clays as the basin fills. There are many variants to this model and the tectonic and sedimentary processes that lead to the formation of such basins have been widely addressed in the litreature both generally (Hardie et al, 1978; Reading, 1996; Warren, 1999; Einsele, 2000), and specifically with regard to the Altiplano-Puna (Ericksen and Salas, 1989; Alonso et al, 1991; Chong et al, 1999; Bobst et al, 2001; Risacher et al, 2003; Vinante and Alonso, 2006).

Structure plays a significant part in the compartmentalization of the Andean basins. North-south aligned thrust faults, grabens and half grabens frequently create accommodation space, whilst transverse strike-slip faulting may assist with basin closure, offsetting basins against impermeable bedrock (Salfity, 1985; Marrett et al, 1994; Reijs and McClay, 2003). In the Andes, volcanism also plays a significant role, both in basin infill (eg. tuffs and ignimbrites), and in basin closure (eg. volcanoes and lava flows). The latitude of the central Andes and their position under the subtropical high pressure belt for at least the last 55 million years (Hartley et al, 2005) has influenced both the type of sedimentary infill, and its architecture within the basins. Basin closure is thought to have occurred frequently around 14 Ma (Vandevoort et al, 1995), although the majority of evaporitic deposits appear to be less than 8 Ma (Alonso et al, 1991).

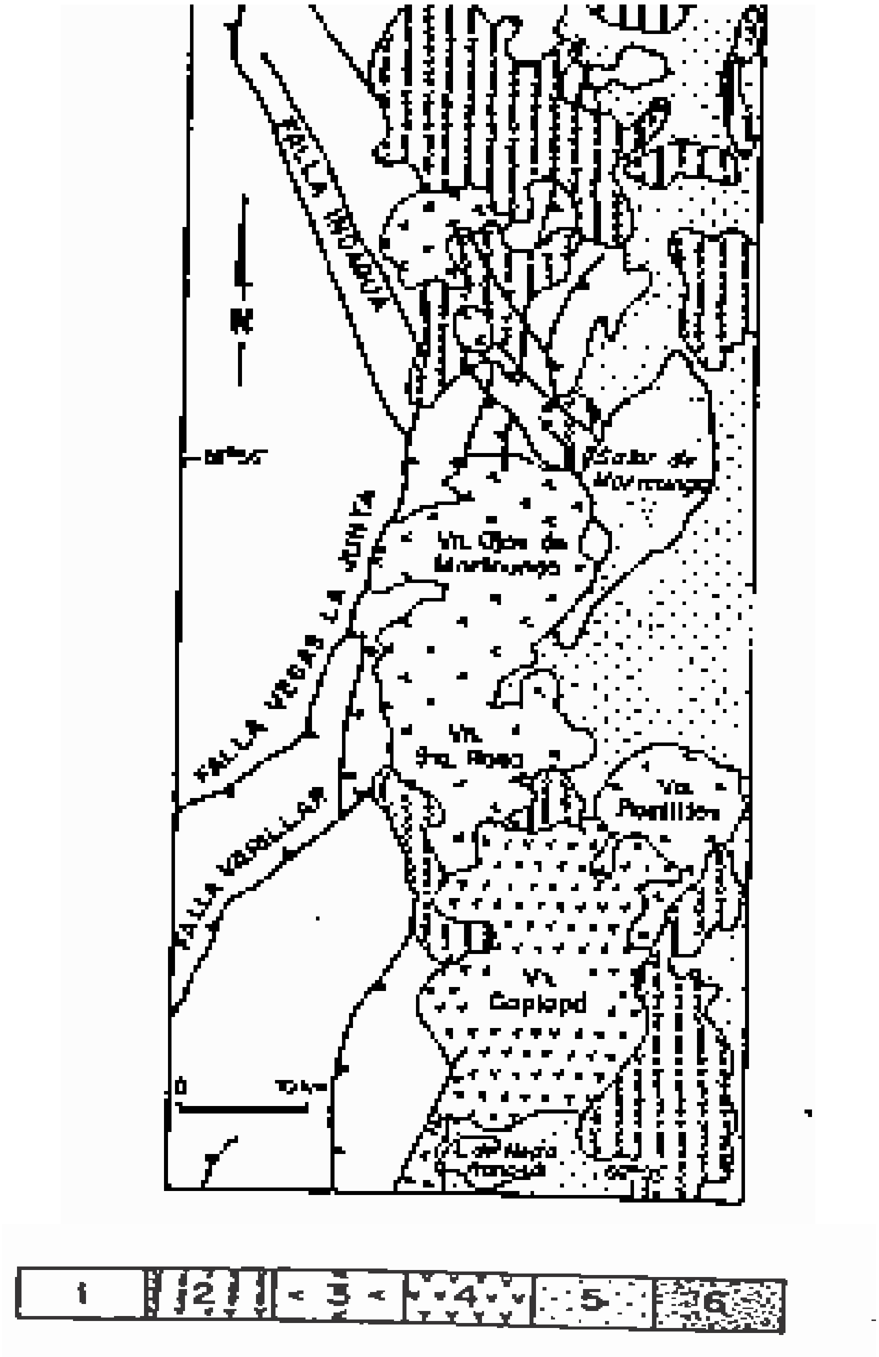
Recent evidence suggests that the Andes reached their current elevation around 6 Ma ago (Ghosh et al, 2006), and since that time the climate has been dominated by arid to semiarid conditions (Hartley and Chong, 2001) allowing ample opportunity for evaporation of the influent water. There have also been excursions into wet periods (Fritz et al, 2004: Placzek et al, 2006; Rech et al, 2010). During the course of the aquifer formation, influent ground and surface waters have not always had the opportunity to escape from the basin, often leading to the formation of temporary lakes or wetlands. Since the influent waters contained dissolved solutes as well as sediment load, evaporation results in the precipitation of salts, leading to the deposition of a wide range of evaporite deposits. Depending on the paleohydrological history of the basin, the deposition of evaporites may have taken place on more than one occasion, generating repeat sequences. There is a typical precipitation sequence starting with carbonate (typically calcite) as the first mineral precipitated, through sulphate (typically gypsum), to chloride (halite). Of course, natural salars rarely conform to this ideal. Asymmetry, gradational, and changing boundary positions due to climate change, tectonism, and sediment supply are normal.

The Maricunga Basin comprises a large drainage basin approximating 2,200 km^2. The Maricunga basin is located west of the western cordillera, in a topographical intermediate step, consisting of a closed system that hosts the large Salares Preandinos of Atacama, Punta Negra and Pedernales, with the Maricunga salar occupying the southernmost position in the system.

Within the regional framework, the Maricunga Basin is limited to the west by mountains which have been raised by inverse faults (Falla Vegas la Junta, Falla Varillar, Falla Indaqua, amongst others) that expose a basement sequence ranging in age from Upper Paleozoic to Lower Tertiary. The mountains and volcanoes exhibit a diverse range of preservation and elevation from 4,463 m (Cerro los Corrolos) to 4,729 m (Cerro La Coipa) to 6,052 m (Cerro Copiapo). To the southeast, the basin limit coincides with the Chilean-Argentine frontier, which is defined by a line of modern volcanoes with elevations ranging from 5,250 m (Cerro de Los Patos) and 6,749 m (Nevada Tres Cruces).

The volcanic complexes (extinct volcanoes, domes, etc.) exhibit a range of ages between 26 and 6 Ma. Some of them are associated with the characteristically auriferous mineralisation of the Maricunga Belt. The eastern limit of the Basin is marked by the Cordillero Claudio Gay, with a maximum elevation of 5,181 m (Cerro Colorado). This is a North-South trending mountain chain resting on a basement of Middle to Upper Paleozoic rocks and exposing deformed volcanoclastic sequences of Upper Oligocene to Lower Miocene rocks which represent remnants of the volcanic arc preserved on the margins of the Maricunga basin (Figure 7-1).

FIGURE 7-1 REGIONAL GEOLOGY OF MARICUNGA BASIN



Legend: 1 - Upper Paleozoic basement rocks to Lower Tertiary rocks
2 - Upper Oligocene to Lower Miocene lavs, dome complexes, ignimbrites & tuffs
3 - Middle Miocene lavas, domes & ignimbrites
4 - lavas and pyroclastics associated with Copiapo volcano
5 – Upper Miocene to recent alluvial & colluvial deposits
6 - Salar de Maricunga
Source: Tassara, 1997

The valley of the Rio Lamas cuts this mountain range and exhibits deformed syndepositional and interstratified congolmerates and sandstones with ignimbrites, indicating an age range of 15.9 ± 1.1 to 15.4 ± 0.7 Ma (Tassara, 1997). This fact indicates a Middle Miocene age for the mountain range and, therefore, for the restoration of the endorheic conditions of the Maricunga basin.

Deformed terraces and subhorizontal gravels, ranging in age from 12 to 4 Ma based on the observed stratigraphic relations in the environs of the salar, are deposited on this sequence and they extend towards the west to form the alluvial plain that underlies the units of the salar. This is cut, in part by the modern fluvial channels.

The primary contributors to the basin hydrology are surface precipitation and the regional streams draining into the salar from the eastern and southern sides of the basin (Rio Lamos and Cienga Redonda). The Quebrada Cienga Redonda, which extends for 55 km and is approximately 400 m wide, provides a subterranean water supply that arises intermittently to form fertile valleys. Subsurface waters emerge intermittently at the margin of the salar to form open water lagoons. Within the salar itself, several brackish solution pipes are present. These arise from the upwelling of fresh water from subsurface inflows arising from outside the salar.

LOCAL GEOLOGY

The Salar de Maricunga itself is located in the northern sector of the Maricunga Basin. It has an ellipsoidal, shape with the major axis approximately 23 km long oriented NNE-SSW and the minor axis about 10 km long and covers a total area of approximately 140 km. square. The salar proper is surrounded on the northwest, north, northeast, east and south by Quaternary and Miocene-Cenozoic alluvial deposits and on the west and southwest by volcanic rocks of Upper Miocene age. There is a small island composed of Upper Miocene volcanics in the northwest corner of the salar (Figure 7-2).

The asymmetric structure of the salar is evidence of faulting and tilting of the basin downward to the northwest, with movement along faults trending north to northeast during Quaternary time. There is a presumed fault extending northeastward across the basin of the salar, as indicated by the pronounced elongation of the southern part of the salar and the straight southeastern edge.

The clastic sediments bordering the salar on the north, northwest and west sides are composed of fluvial Quaternary sands and gravels of mixed size and composition. They are generally stratified, with the finer sands being more so. The deposits range in thickness up to approximately 20 m and exhibit significant transmissivity (10 – 10^4 m^2/day and total porosities of 10% to 15% (Risacher et al, 1999).

The older Pliocene-Miocene sediments are alluvial in origin. They exhibit widely varying sizes from approximately 0.5 mm to up to 10 cm in diameter. The primary sources of origin of these sediments are the discharges from the Rio Lamas and the quebradas Cienga Redonda, La Coipa, Mantaniales and Caballo Muerto. These sediments exhibit transmissivities ranging from 15,000 to 43,000 m^2/day on the southwest side of the salar, based on drill hole test results and from 500 to 3,000 m^2/day on the northwest side of the salar, again based on drill hole test results (Risacher et al, 1999).

The alluvial Upper Miocene and Pliocene sediments exhibit poor stratification on a selective basis. They are composed of sub-rounded to sub-angular heteroconglomerates from 1 – 3 cm up to 20 cm in diameter. Depositional trails largely follow the primary drainage channels. They are largely derived from the Upper Miocene lavas and are primarily distributed on the western flanks of the Cordillero Clauido Gay. The thickness of these sediments can be up to 900 m. The reported transmissivity of the sediments ranges from 4,000 to 27,000 m^2/day, but can be as low as 800 m^2/day, based on results from test wells on the west and northwest side of the salar. Total porosity ranges are reported as 5% to 15% (Risacher et al, 1999).

The Salar de Maricunga exhibits two main evapofacies, comprising an asymmetric zoning, which are (Tassara, 1997):

Chloride facies. This facie is primarily distributed in the North and Norhwest sectors Salar and presents three types of main textures: sheets, crust flat and very pure halite blocks. This facies covers approximately 75% of the surface of the salar. This facies presents a well developed compositional homogeneity between the three types of units, with very high contents of Cl and Na, compared with other cations and anions and relatively low content (as to Cl and Na) of B and Li. The chloride facies is up to 50 m thick. The estimated net evaporation rate from the salar is reported to be 1,500 l/sec.

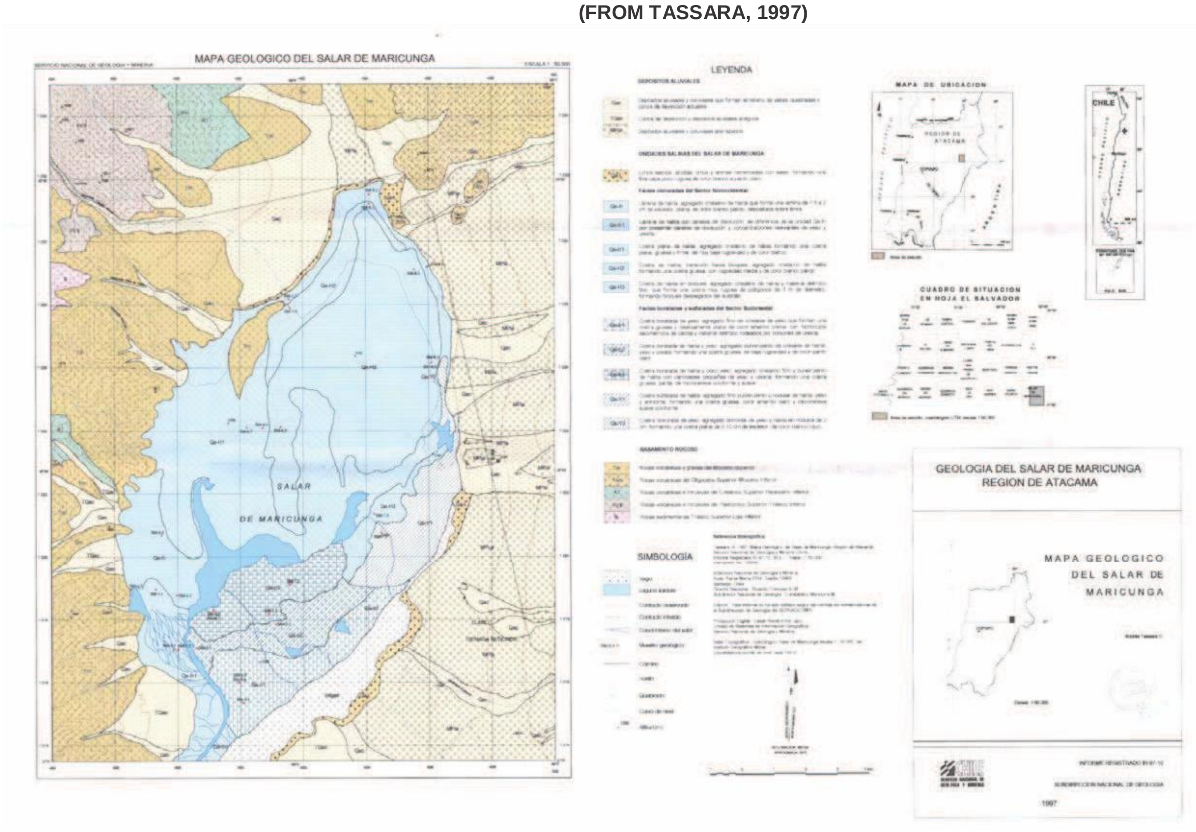
Boric and Sulphate facies. This facie is distributed in the southeast of the Salar, and represents the less soluble facies. It sits between 1 and 2 meters above the level of the brackish lagoons and the chlorides facies. The flat borate facies units are less exposed to seasonal influx of water compared to the chlorides facies, with a much greater dispersion for all elements and a noticeable trend towards greater quantities of Ca, K, Mg, and SO_4, with decreased levels of Cl and Na, and high concentrations of B and As, while the Li is maintained in the same proportions as the chlorides of northern salar facies**.** This facie presents gypsiferous borates and thenardite with ulexite including mound crust textures.

Both areas are separated by a NE trending fault which controls the phreatic level, with brackish lagoons facing in the SW-NE direction. This fault belongs to the Eastern Domeyko fault system, which is an extension of an ancient fault trace structure. The current unbalanced distribution of the facies in the salar is probably tectonically controlled by tilting the basin towards the WNW, following the old NE structures.

The necessary conditions for the generation of evaporite consolidation apparently took place in the late Miocene (12-11 Ma), being restricted to the age of the substrate of the salt, and therefore the maximum age of the saline deposits is in the range of 12 to 4 Ma. The boric (and sulphate facies) of the Salar were deposited simultaneously with volcanic activity in the upper Miocene Maricunga Strip. Therefore, they would represent an earlier depositional cycle unlike the currently produced halite deposits in the Northwest sector of the salar where the evaporation process results in the reduction of relic crusts.

The boric facies deposits are associated with a hydrothermal sequence, probably linked to the Copiapó volcanic complex between 11 and 7 Ma, which is correlated chronologically with the similar sequence that characterized the deposition of evaporitic borates in the Puna in Argentina.

FIGURE 7-2 LOCAL GEOLOGY
(FROM TASSARA, 1997)



8 DEPOSIT TYPE

There are two major types of salars: mature halite salars and immature clastic salars. The Salar de Maricunga is classified as a mixed type salar of the Na-Cl-Ca/SO_4 system.

Immature salars tend to be relatively small, and are more frequent at higher elevations and towards the wetter northern part of the region. They are characterized by an alternating sequence of relatively fine-grained sediments with evaporitic beds of halite or ulexite nodules, representing the waxing and waning of sediment supply under a variable tectonic and climatic history. The contained brines barely reach halite saturation, although normally fully saturated with respect to gypsum, leading to the widespread occurrence of selenite throughout the sequence. The presence of intercalated or underlying beds of higher permeability sometimes allows the transmission of fresher waters from outside the salar margins through to the centre where there is a tendency for the density differential with the nucleus brines to allow upward flow providing that the confining bed has sufficient permeability to allow such leakage.

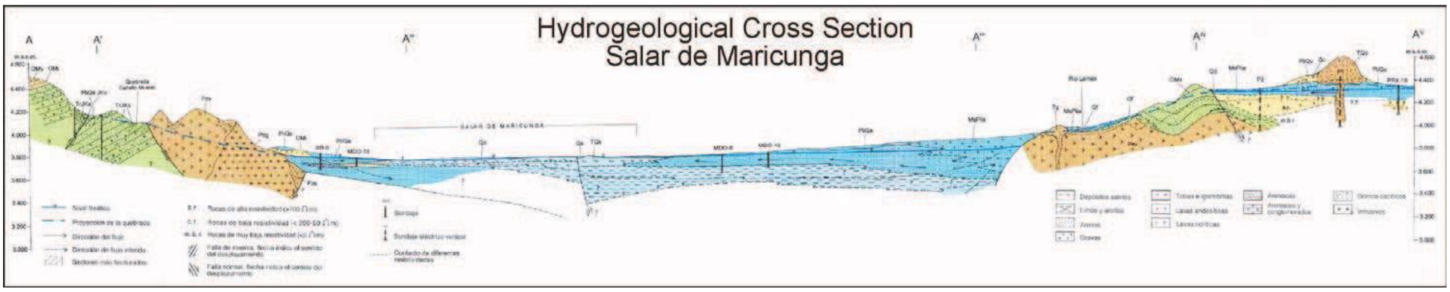
Mature salars tend to be larger and more common in the lower and drier parts of the region. They are characterized by a relatively uniform, and thick sequence of halite deposited under varying subaqueous to subaerial conditions (Bobst et al, 2001). Nevertheless, ancient floods leading to widespread silty-clay deposits and volcanic fallout lead to relatively thin intercalated beds that can be recognized both in cores and geophysical logs. Such layers of varying permeability may lead to the transmission of fresher water from outside the salar margins to the edge of the nucleus where, once unconfined, float to the surface, dissolving halite in their ascent and leading to pipes and salt dolines at the surface. The contained brines are invariably halite saturated throughout the brine body, although the presence of multiple brine types, especially in the larger salars attests to the hydrochemical variation of the contributing sub-basins.

The general flow of subterranean water in the Maricunga basin is from the edge toward the centre and from the south to the north. Gravity surveys indicate the basin is at least 100 m deep, and possibly much deeper. Seismic data made available to the author[1] indicate the nucleus of the salar is approximately 100 m deep to a thick, impermeable sediment layer, with another aquifer potentially lying beneath the first.

Figure 8-1 provides a cross section through the salar from the southeast to the northwest (A^{111} to A^{11}, see also see Appendix 2, Hydrogeological Map).

[1] Private communication from Alfredo Eisenberg of Geoexploraciones, Santiago, Chile

FIGURE 8-1



Source: Risacher et al, 1999

9 MINERALIZATION

Mineralization in the context of a brine deposit refers to a description of the brine grade and brine body geometry and their relation to the surrounding hydrogeology.

BRINE GRADE AND CHEMISTRY

Surface and near surface sampling of brine in the northeast and eastern sides of the salar, the area of the Litio 1-6 claims, indicates the brine falls within the Na-Cl-SO_4 in the northeast and the Na-Cl-Ca system towards the west. The depositional evolution leads to production of gypsum as the primary solid phase and magnesium-containing brines leading to Na-Cl-CO_3 and Na-Cl-SO_4 salts as secondary evolutionary pathways (Figure 9-1).

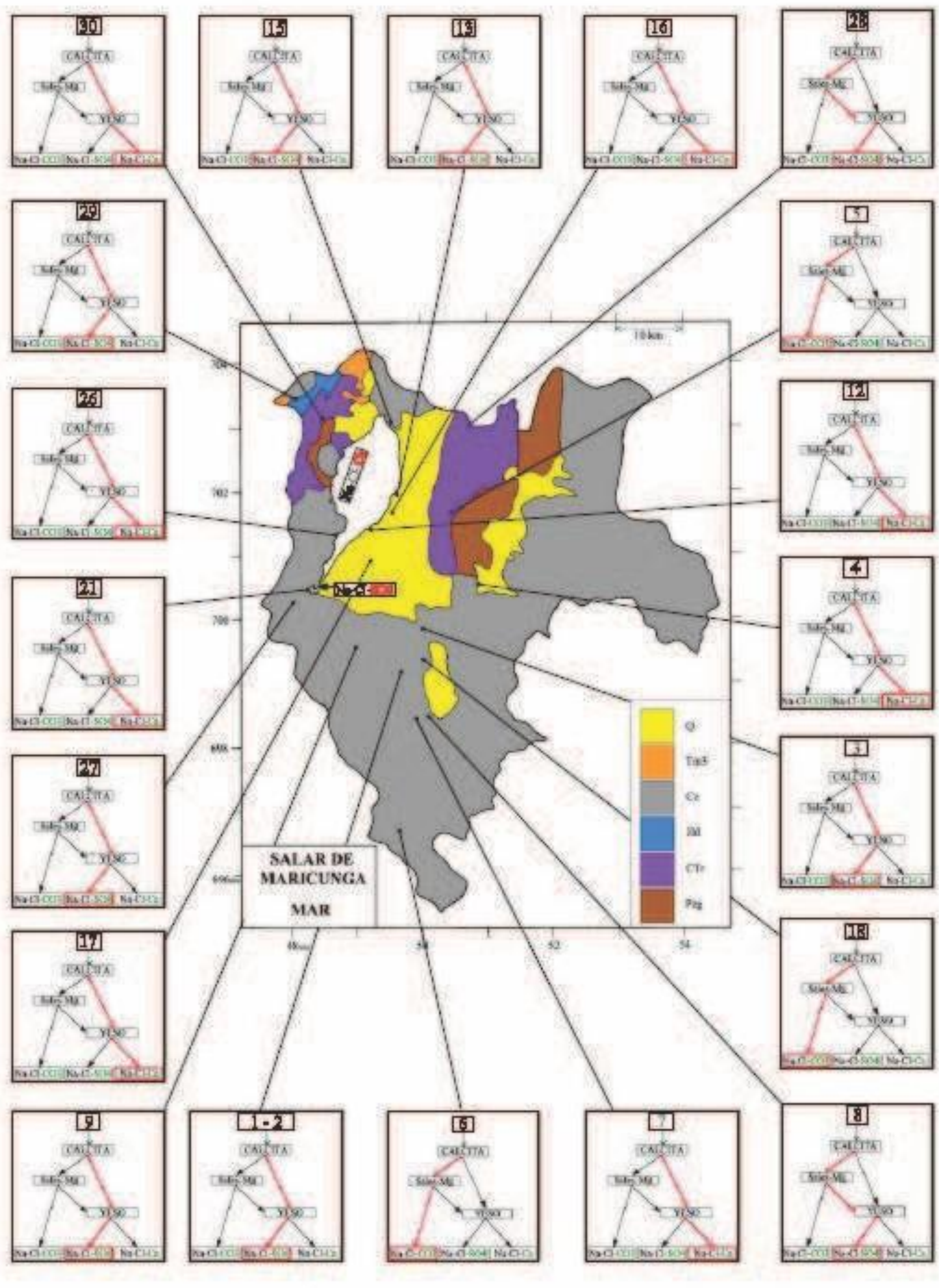
The general movement of brine within the salar is from south to north as indicated by an increase in salinity of the brine. The increased salinity is believed due to displacement of the brine to the north subterranean flows. Concentrated brine formation in the salar is the result of ingress of relatively fresh aquifer water from the surrounding region followed by evaporation and re-dissolution of salts within the salar due to action of the the old residual brines in the salar. The cation-anion balance in the salar indicates a relatively constant Mg level throughout the salar.

BASIN GEOMETRY

The main physiographic features of the basin correspond to a volcano-tectonic depression with sedimentary in-fill that houses the salar. This depression is limited to the east by the Cordillero Claudio Gay; to the southwest by the Miocene volcanoes Santa Rosa and Maricunga and to the northwest by a block of Mesozoic and Palaeozoic rocks. The north end of the depression is limited by outcrops of Oligocene volcanic rocks, while the southern end of the basin is limited by the Copiapó and Pastillos volcanoes of Miocene age.

The salar geometry is interpreted as an elongated basin controlled by a NE-SE trending fault. The basin is believed to have been relatively deep that has been filled by successive layers of sediments. The available data suggest two major aquifers, one occupying the first 100 m below the current salar surface and separated in part by thin impermeable clay horizons; and a second, deeper lying aquifer system separated form the overlying aquifer by a thick impermeable zone.

FIGURE 9-1: BRINE EVOLUTIONARY PATHWAYS – SALAR DE MARICUNGA



Source: Risacher et al, 1999

HYDROLOGY

The basic hydrologic parameters for the salar de Maricunga are as follows:

Basin Size: 2,200 km^2 (excluding the Eastern sub-basin)
Altitude of the Salar: 3,760 meters
Surface Salar: 145 km^2
Surface gaps: 6 km^2 (0.15 km^2 to the lagoon Santa Rosa)
Rainfall: 120 mm/year (salar)
Potential evaporation: 1,200 mm/year (salt)
Average temperature: 4° C

The major surface water contributions to the salar are provided by seven streams located between 4,500 m and 4,000 m elevation. These streams infiltrate and feed groundwater to the salar. At the south end of the salar there is an independent lagoon, the Laguna Santa Rosa, which is connected to the main salar through a network of surface and subsurface channels.

The waters entering the salar have a variety of chemical compositions, but two main evolutionary pathways are evident (Risacher et al, 1999):

Diluted waters (TDS)<1 g/l)) following the sulphated evolutionary path, with a carbonate component feeding dissolved minerals to the salar. These diluted waters are formed from alteration and dissolution of the rocks in the drainage basin, and the chemistry of the water reflects alteration of the plutonic or volcanic country rock. (sulphated carbonated and alkaline route) or volcano-sedimentary rock (sulphated neutral route). No diluted water belongs to the calcium route, which characterizes sedimentary terrain.

Brackish waters (1<TDS<4 g/l) follow the calcium evolutionary path that have re-dissolved the old residual Na-Ca/Cl brine types. The brackish components belong to the calcium route; however, there is no clear relationship between the superficial lithology and evolutionary paths. This confirms the change in saline evolutionary development towards the calcium route due to an addition of calcium from old Na-Ca type brine mixing with chloride diluted water derived from the carbonated or sulphation evolutionary pathway.

The salar brine itself, which is of Na-(Ca)-(Mg)/Cl chemistry is derived from the calcium pathway, indicating the predominance of brackish inputs in feeding salts to the Salar. The primary brine contributions to the salar come from evaporation and water inflows from the south and east of the basin.

The Laguna Santa Rosa, south of the Salar contains two types of waters, sulphates and calcium, reflecting the hydrological complexities. The channel between Santa Rosa Lagoon and the Salar receives most of its water from the diffuse slopes and wetlands along the length of its course. The general movement of water, both surface and underground, is from South to North suggesting a slight inclination of salt in this direction. Recharge from the Santa Rosa Lagoon contributes only minor amounts to its flow.

HYDROGEOLOGY

The main hydrogeological resources are housed in the sediments of the salar aquifers (Cienaga Redonda, Pampa Salar de Maricunga and Llano Quebrada Caballo Muerto), which are mainly reloaded through shallow channels (Rio Lamas, Quebrada Cienaga Redonda, Quebrada Pastillos, Quebrada La Coipa, Quebrada Caballo Muerto and Quebrada Manantiales), rainfall, and to a lesser extent, by snowfall cover. Precipitation contributing to recharge of the salar is almost exclusively in the winter and is approximately 150 mm/year (Risacher et al, 1999). The proportion of snow melt contributing to the recharge is only about 1/3, as most sublimates, so only the equivalent of 50 mm/year could, eventually, enter as underground and surface runoff.

There are two areas of hydrogeological importance: the first is the Cienga Redonda inter-granular aquifer. The Ciénaga Redonda in made up of sedimentary deposits, consisting of Quaternary fluvial and Pliocene and Upper Miocene alluvials. Test wells drilled in the 1995/1998 DGA study showed transmissivities estimated from pumping tests ranging from 15,000 and 43,000 m^2/day for wells located to the South (MDO-9, MDO-23 and MDO-24) to 4,000 to 27,000 m^2/day (MDO-8, and MDO-10) for wells located somewhat more northward. The calculated specific flow rates reached values between 12 and 68 l/s/m, with wells MDO-23 and MDO-24 having respective flow rates of 55 and 68 l/s/m.

The stratigraphic data from the wells indicates that the sedimentary fill is made up of gravel and sand with collations of fine sand and mud to an approximate elevation of 3,675 masl (depths from 105 to 150 m). Below this level an impermeable layer of clay and argillite defines the base of the aquifer. The static level ranges from the 7.5 to 47 m, allowing an estimated thickness for the aquifer of 95 m to 110 m. Another clastic sedimentary aquifer is believed to lie below the impermeable zone. Gravimetric measurements indicate this aquifer may extend to depths up to 800 m.

The second area of hydrogeological importance is located in the northwest corner of the salar. It consists of an inter-granular aquifer consisting mainly of Quaternary and Pliocene alluvial deposits. The aquifer has been tested by wells (MDO-15, MDO-12, MDO-13, SR-5, CM-1 and MDO-14) ranging between 70 and 150 m deep. Transmissivities range from 150 to 3,000 m^2/day and calculated specific flow rates range between 0.13 and 5.9 l/sec/m thickness (Risacher et al, 1999). Calculated specific flow rates have values between 0.13 and 5.9 l/s/m. The stratigraphic information for the wells indicates great lithological variability (sand, gravel, sledges, ash and volcanic rocks), although the sand and gravel predominate. Wells MDO-14 and MDO-12 intercepted fractured volcanic rock at 47 m and fresh rock at 55 m depth.

An unknown but potentially important hydrogeological potential area is located at the northeast end of the basin (Pampa Salar de Maricunga) and would correspond to a sedimentary hosted aquifer recharged from the northern part of the Cordillera Claudio Gay. One of its main sources of recharge is Quebrada Manantiales where CODELCO has surface water rights that exceed the 30 l/s. Data from well CAN-6, located in the southernmost part of this aquifer, close to the border between Pampa Salar de Maricunga and the vegetated edge of the salar, shows relatively low transmisivity (600 m2/day) and a low specific flow rate of 1 l/sec/m. The stratigraphy is sand and gravel with a high percentage of clay to 110 m depth, which coincides with the occurrence of deposits identified in the wells of further south. This level of fine sediment hydraulically disconnects this aquifer from others located at greater depth.

Minor aquifers are present in the rock formations, except those associated with the Miocene and some of the Oligocene rocks. Oligocene rocks associated with overlying sedimentary sequences, especially in the vicinity of the Rio Lamas, show good hydrogeological productivity. Another likely aquifer is related to the volcanic and sedimentary rocks comprising the Jurassic-Cretaceous sequences located on the northwest edge of the basin. Finally, the limestone sediments located in the sub-basin are locally strongly fractured, with emergent karstification sectors that could be good fissured aquifers.

HYDRAULIC BALANCE

The hydraulic balance in the basin lagoons is estimated as follows (Risacher, 1999):

	Laguna Santa Rosa	**Salar**
H_e =	1.1 m/yr	1 m/yr
H_p =	0.12 m/yr	0.12 m/yr
S =	0.15 km^2	5.85 km^2
C_{ap} =	1.3 g/l	
C_l =	5.3 g/l	

Where:

H_e = evaporation rate per year

H_p = precipitation per year

S = surface area

C_{ap} = density of brine

C_l = density of inflow water

Thus, for Laguna Santa Rosa:

Inflows: $V_{ap} = S (H_e-H_p)/(1-C_{ap}/C_l) = 165\ 000\ m^3/yr = 5\ l/s$

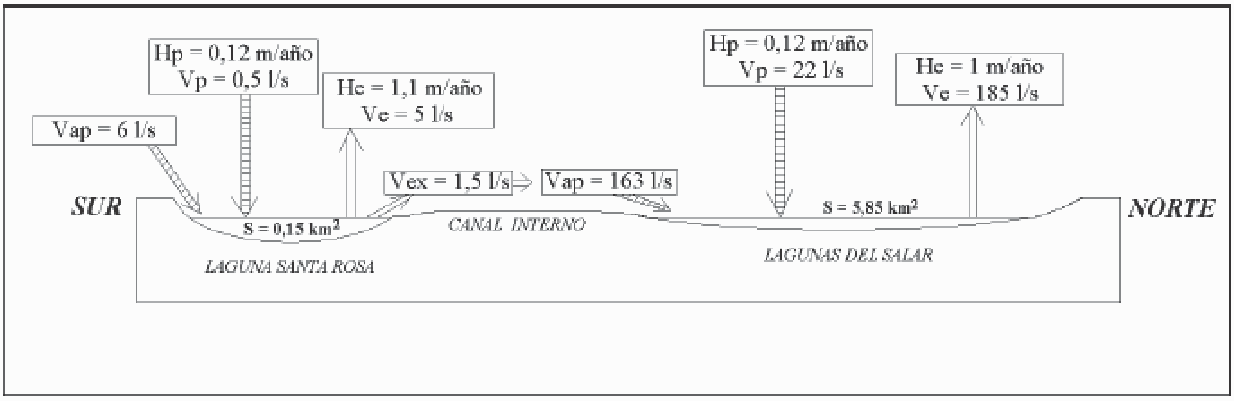
Outflows: $V_{ex} = S (H_e-H_p)/(1-C_l/C_{ap}) = 18\ 000\ m^3/yr = 0.5\ l/s$

and for the salar itself:

Inflows: $V_{ap} = S (163\ H_e-H_p) = 5\ 150\ 000\ m^3/yr = 163\ l/s$

Thus the net inflow to the salar is estimated at 1.5 l/sec from Laguna Santa Rosa, 22 l/sec from annual precipitation and 139.5 l/sec from groundwater, with an evaporation rate of 185 l/sec, resulting in a net water balance of negative 22 l/sec. These factors are illustrated in Figure 9-2.

FIGURE 9-2: WATER BALANCE AT SALAR DE MARICUNGA



Source: Risacher et al, 1999

10 EXPLORATION

Li3 conducted a program of due diligence sampling on the Litio 1-6 properties in December, 2010. The exploration program consisted for sampling and analysis of the drill holes originally drilled by SLM Litio. In addition, surface sampling was completed. The exploration program consisted of the following:

Sampling of brine from the upper ±2 m of the brine using the 40 mm PVC pipe from the SLM Litio drilling program for access. All drill holes except Hole 41 were sampled in this manner,

Pit sampling at the drill hole location at depths < 40 cm,

Analysis of the samples using AA (main and duplicate samples) and ICP-MS (check samples)

The results of the exploration program are summarized in Table 10-1.

TABLE 10-1: LI3 DUE DILIGENCE EXPOLORATION RESULTS

	SO_4	Cl	B	K	Na	Li	Ca	Mg	CO_3	$CaCO_3$	TDS	pH	SG
	g/l	g/l	g/l	g/l	g/l	g/l	g/l	g/l	g/l	ppm	g/l		g/cc
Average of pit samples (/1)	0.457	198.4	<0.100	6.55	108.13	0.90	8.95	6.41	0.24	392	327	6.50	1.201
Std. dev of pit samples (/1)	0.079	3.2	0.00	1.59	3.91	0.23	2.24	2.00	0.05	81	40	0.19	0.019
Average of pipe samples (/2)	0.463	198.75	<0.100	7.36	106.48	1.03	10.03	7.05	0.26	426.49	332.78	6.44	1.206
St. dev. of pipe sample (/2)	0.077	2.6	0.00	1.82	5.17	0.28	2.65	2.67	0.05	83	6	0.23	0.007
Average ratios "n"/Li (/1)	0.506	219.8	0.00	7.26	119.79	1.00	9.92	7.10	0.26	434			
Average ratios "n"/Li (/2)	0.447	191.9	0.00	7.11	102.79	1.00	9.69	6.80	0.25	412			

Source: Li3

Summary Assay Results

	K	Li	Mg	SO_4
	[g/l]	[g/l]	[g/l]	[g/l]
Average for "Litio" Property	6.551	0.903	6.408	0.457
Ratios "n"/Li			7.10	0.51

The pit sample results are comparable to the results obtained by CORFO in the 1981 sampling program and the SLM Litio 1-6 sampling program in 2007. It is believed the higher average assay values for the pipe samples than the corresponding pit samples are due to evaporation and concentration of the brine.

Assays for Li and K were kriged using ordinary kriging methodology. The resulting data showed increasing Li concentration in the north and northeast portions of the concession and a similar trend for potassium (Figures 10-1 and 10-2). Statistics for the potassium kriging analysis are provided in Appendix 3.

FIGURE 10-1: KRIGED LI ASSAYS

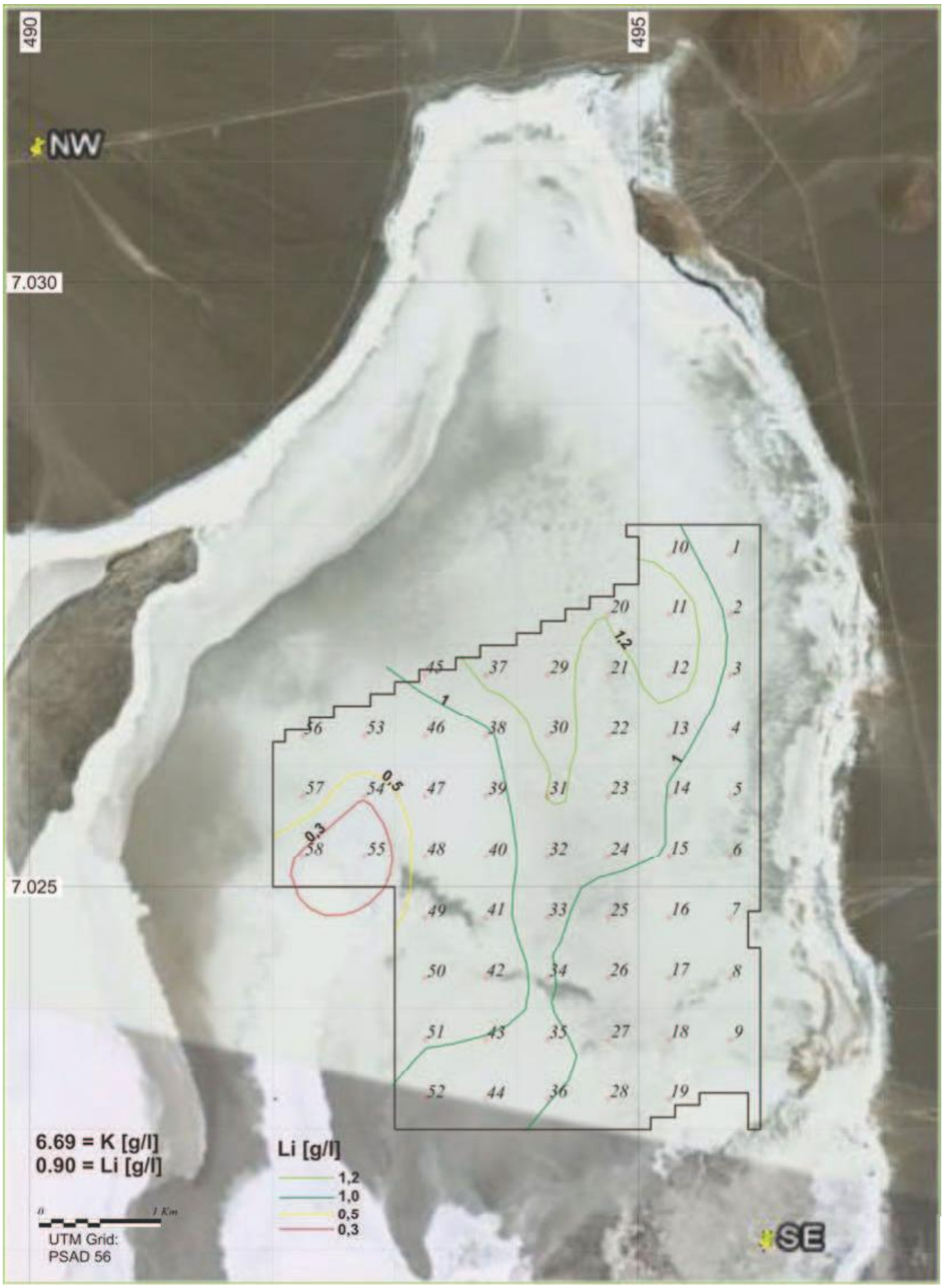
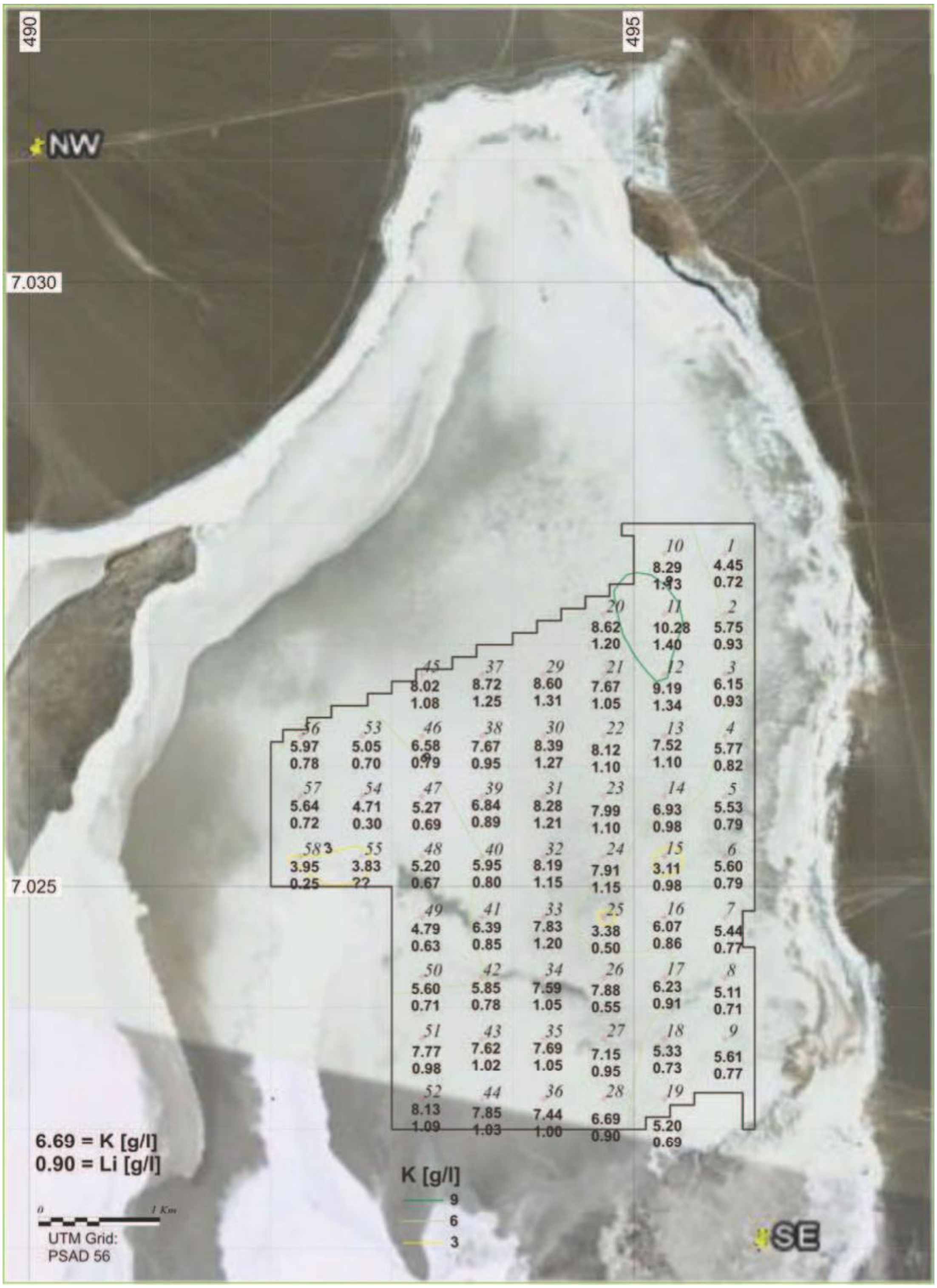


FIGURE 10-2: KRIGED K ASSAYS



11 DRILLING

Li3 has not undertaken any drilling on the property. Section 6, History, describes the historical drilling on the property.

12 SAMPLING METHOD AND APPROACH

Sampling was conducted at the locations of the holes drilled by SLM Litio during their 2007 exploration program. At the drill holes the old wells were fitted with a 70 mm diameter PVC hose down 10 to 15 m. The majority of them were found stuck with a salt crust, which did not allow the access to the brine. Parallel to this “wide” hose, a 40 mm PVC pipe was driven down +/- 2 m for the sampling of the upper part, which was cased during drilling. Except in one case (location # 41) all of these pipes allowed for brine sampling. In total, 58 sample points, representing the 58 SLM Litio drill hole locations, were sampled (Figure 12-1):

FIGURE 12-1: TYPICAL SAMPLE SITE

In each location, two samples were taken and labeled as:

No. 1 = Hand dug pit < 40 cm. deep
No. 2 = Siphoned brine from the 40 mm pipe

The site procedure for the No. 1 type of sample was to dig a +/- 50 cm round pit into the salt crust to reach the upper water table (1 in Figure 12-2), normally not deeper than 40 cm. After waiting some 15 min for the sediments to settle down, a brine sample was taken with a pitcher (2 in Figure 12-2). The first pitcher was poured into a 3 l plastic bottle for rinsing purposes. The rinse brine was discarded and the balance used to fill the sample bottle, which was labeled with the sample number. Clear tape was then placed over the marking and the top of the bottle.

FIGURE 12-2: SAMPLE PROCEDURES - PITS

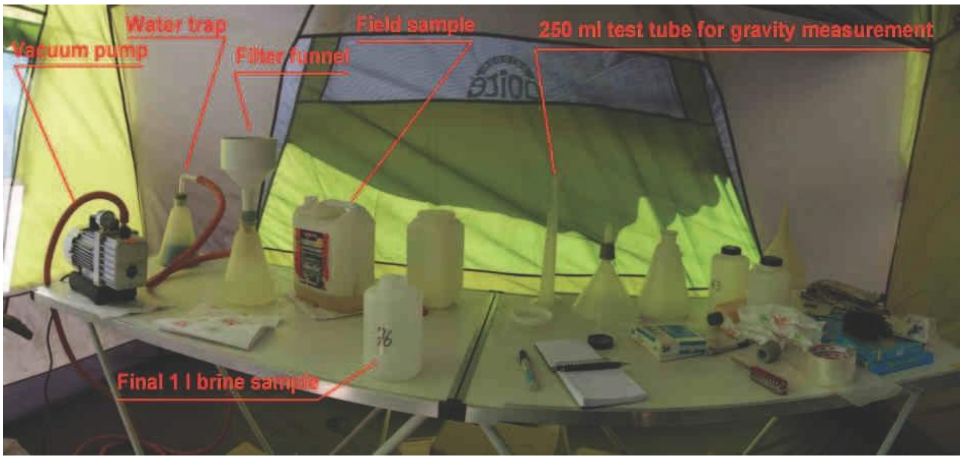
Finally, the pitcher and other used "instruments" were carefully washed with commercially available distilled water (car battery water) and dried with kitchen absorbent paper.

The procedure for the No. 2 type samples was to obtain the sample by siphoning through a garden hose until this was full and then pouring the material into a previously rinsed plastic bottle (Figure 12-3).

FIGURE 12-3: SAMPLE PROCEDURE – DRILL HOLES

To avoid dissolution or recrystallization phenomena from the sample site to the final lab that could affect the brine chemistry, all samples were filtered on site. This work was completed in a field lab, as illustrated in Figure 12-4:

FIGURE 12-4: FIELD LABORATORY SET-UP



The filtering procedure employed involved the following:

The first ¼ litre of the filtered sample is used for rinsing all the equipment that comes in contact with a given sample. The funnel is fitted with a 125 mm diameter filter paper of medium sized pore (approx. 10   m),

Filtering time for each sample varied from 15 to 90 min, depending on turbidity and quantity. In the case of duplicate and check samples, a total of 3 litre was filtered and poured into a 3 litre bottle. This was shaken to mix the brine and then split into 3 one litre sample bottles.

Samples collected in the morning could be filtered afternoon. The afternoon samples were processed the following morning.

Field bottles were rinsed and washed out with commercially available distilled water for reuse during the next shift.

The sample number on each bottle was protected with a transparent scotch tape strip to avoid erasure of sample numbers, etc. during transport.

All sample collection and preparation was conducted under the supervision of Carlos Thuene, LI3's site geologist.

In the opinion of the author, the sampling method and procedures employed were suitable for the type of sample and the stage of the exploration project.

13 SAMPLE PREPARATION, ANALYSES AND SECURITY

Aside from the measures described in the previous section, there were no pre-lab sample preparation procedures. Samples for quality assurance/quality control consisted of the following:

117 standard samples representing Type 1 and Type 2, as described in Section 12
21 duplicate samples (18% of main samples)) for Type 1 and Type 2 samples
11 check samples (9.4% of main samples) representing Type 1 and Type 2
5 blank samples (4.3% of main samples) comprising commercial distilled water
7 standards (6% of main samples) of a synthetic brine solution (1 used with check samples)

All sample bottles were well packed in carton boxes and brought by the responsible field geologist (C. Theune) personally by truck directly to Santiago.

Standards
A synthetic brine solution was prepared by CESMEC, a recognized Chilean laboratory. (http://www.cesmec.cl).

The accepted assayed concentration of the standard solution as submitted by CESMEC was based on assays of 20 aliquots of the synthetic brine solution. These results of the assays are detailed in Table 13-1.

TABLE 13-1: ACCEPTED STANDARD SOLUTION ASSAY

	SO_4	Li	K	Mg	Ca	Cl	B	CO_3
	g/L	g/L	g/L	g/L	g/L	g/L	g/l	g/L
Mean	0.58	0.230	16.5	1.79	2.14	17.7	<0.01	0.934
Std. Dev.	0.013	0.006	4.479	0.058	0.069	0.497	-	0.024

N= 20
Source: CESMEC

The assay certificate for the standard solution is provided as Appendix 3.

This standard solution was poured into the same type of plastic bottles, labeled with a correlative number and stated as “insert”.

CESMEC Santiago was selected as the primary laboratory for analysis of the main and duplicate samples. CESMEC is an ISO 9001 certified laboratory and has significant experience in analysis of brine samples.

Samples were analyzed according to the following procedures:

SO_4: *gravimetric method with drying of residues*
Cl: *argent metric method*
B: *volumetric acid-base method*

K: *atomic absoprtion spectrophotometric(AAS)*
Na: *AAS*
Li: *AAS*
Ca: *AAS*
Mg: *AAS*
HCO_3: *titration*
Alkalnity *(as $CaCO_3$) titration*
TDS*:* *gravimetric measurement of total dissolved solids after drying at 180^{0}C*
pH
Density*: pyncnometer*

ALS Environmental in Santiago was selected as the secondary laboratory for assays of the check samples. ALS is an ISO 9001 certified laboratory (www.alsglobal.com).

ALS employed the same analytical procedures for sample analysis, but used ICP-MS in place of AAS for reporting assays for Na, Li, Ca, and Mg.

Initial assay results received from CESMEC showed considerable differences between the main and duplicate samples. This was believed due to potential problems associated with crystallization of some of the samples due to insufficient filtration in the field. CESMEC was requested to redo the assays using a procedure to heat the samples, cool to room temperature and filter the solution prior to assay. The results from this re-assay procedure showed significantly improved correlation between the main and duplicate samples and these re-assay values have been accepted by the author as correct.

Except as noted in this Technical report, no Li3 management or staff or associates thereof have been responsible for sample preparation or analysis.

In the opinion of the author the sample preparation, sample security and sample analysis methods are suitable for the type of samples described in this report.

14 DATA VERIFICATION

Data verification by the author included review of the assay certificates against the Excel spreadsheets prepared by Li3. No discrepancies were found. The author has also conducted statistical analysis of the samples results, details of which are provided in the following section and has verified the results.

Quality control procedures employed included the insertion of an appropriate number of duplicates, check samples and blanks to monitor field sampling procedures and laboratory precision and accuracy.

STANDARDS

Analysis of standard solution samples versus the accepted standard assay values by CESMEC show acceptable agreement between the assays and the standard solution assay. All assay values are typically within ±2 standard deviations of the accepted values (Figures 14-1 through 14-6):

Figure 14-1

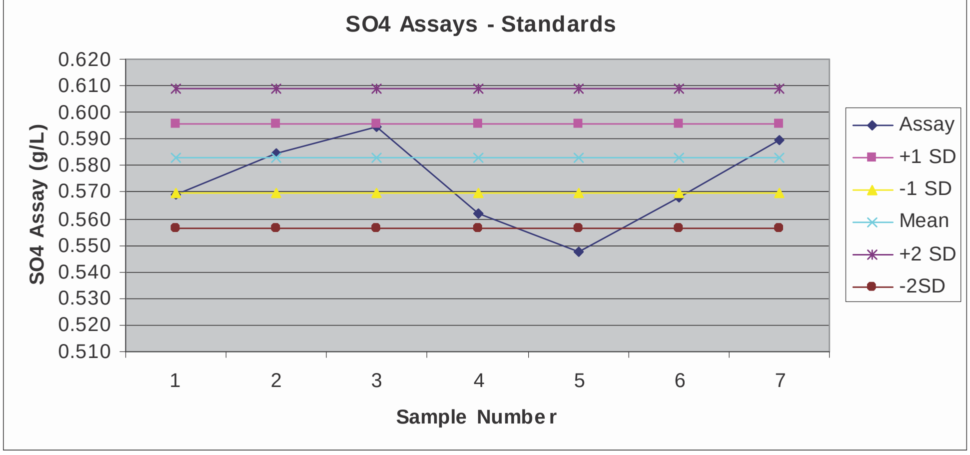


Figure 14-2

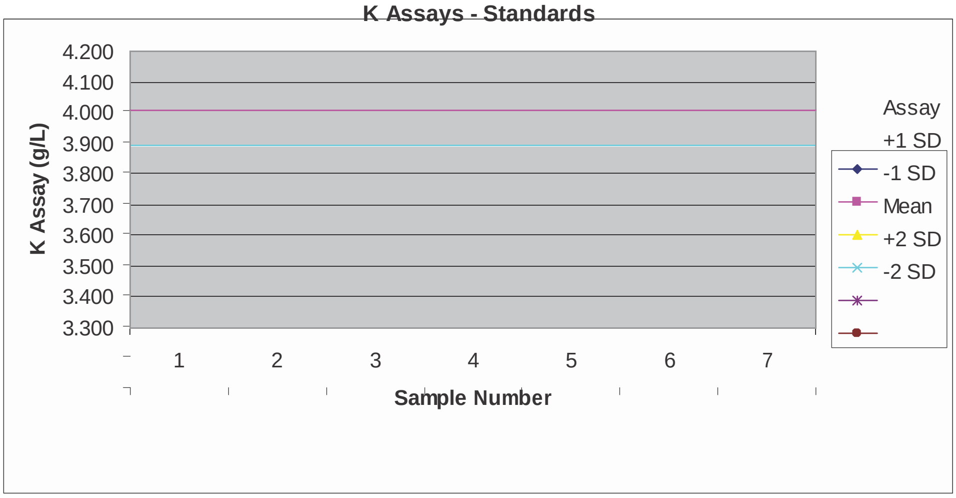


Figure 14-3

Li Assays - Standards

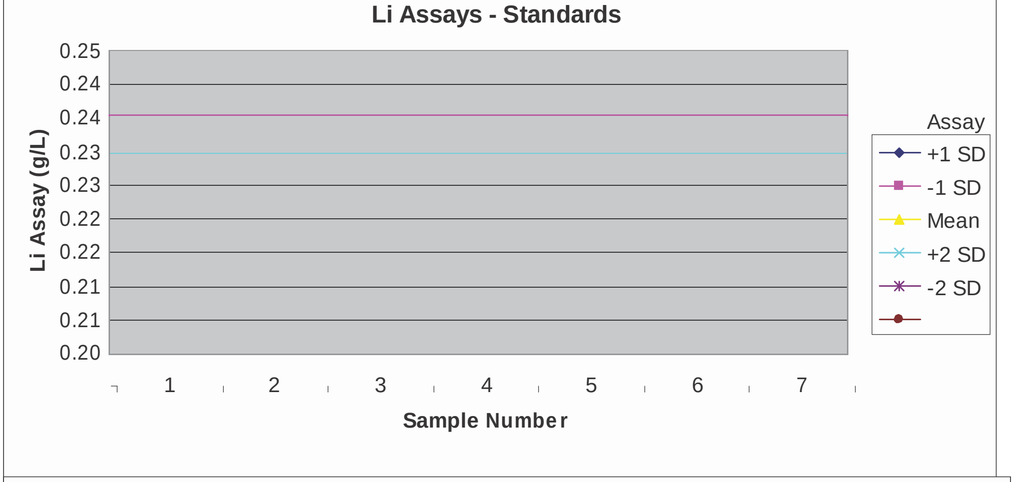


Figure 14-4

Mg Assays - Standards

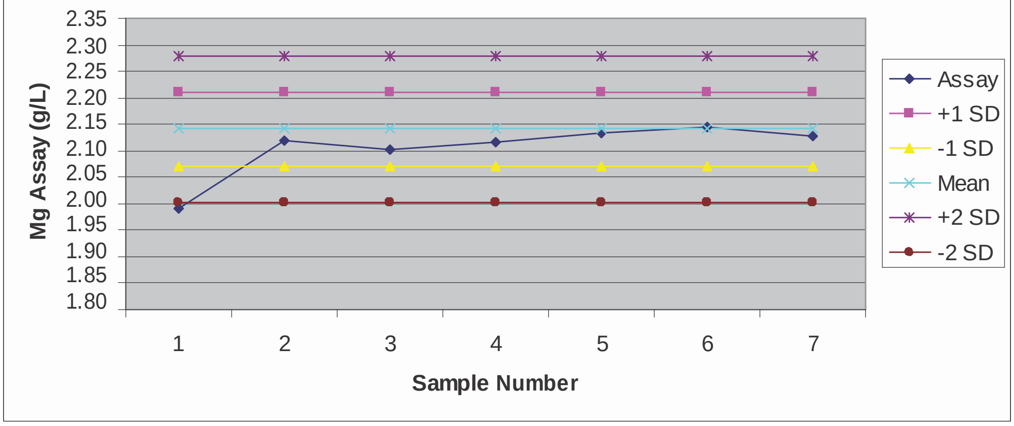


Figure 14-5

Na Assays - Standards

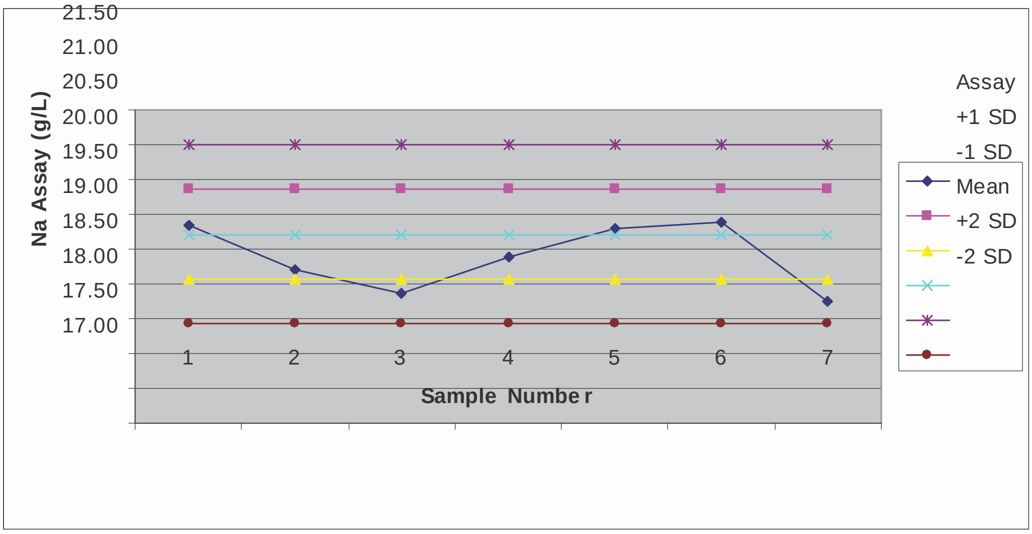
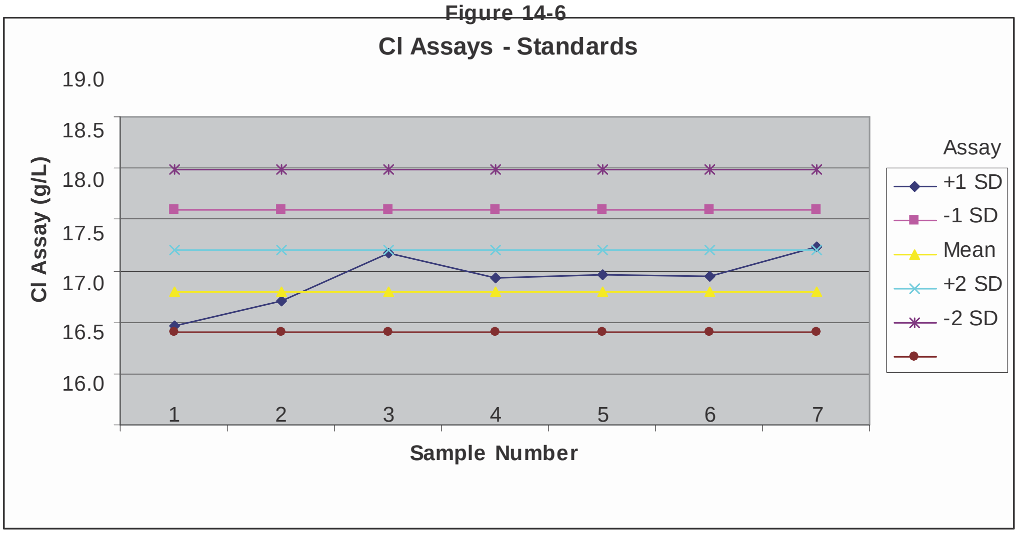


Figure 14-6



DUPLICATES

Comparison of duplicate sample assays shows good correlation for K, Li, Ca and SO_4. Good correlation is also exhibited for the Ca assay results after removal of one outlier value (Figure 14-7 to Figure 14-11):

Figure 14-7

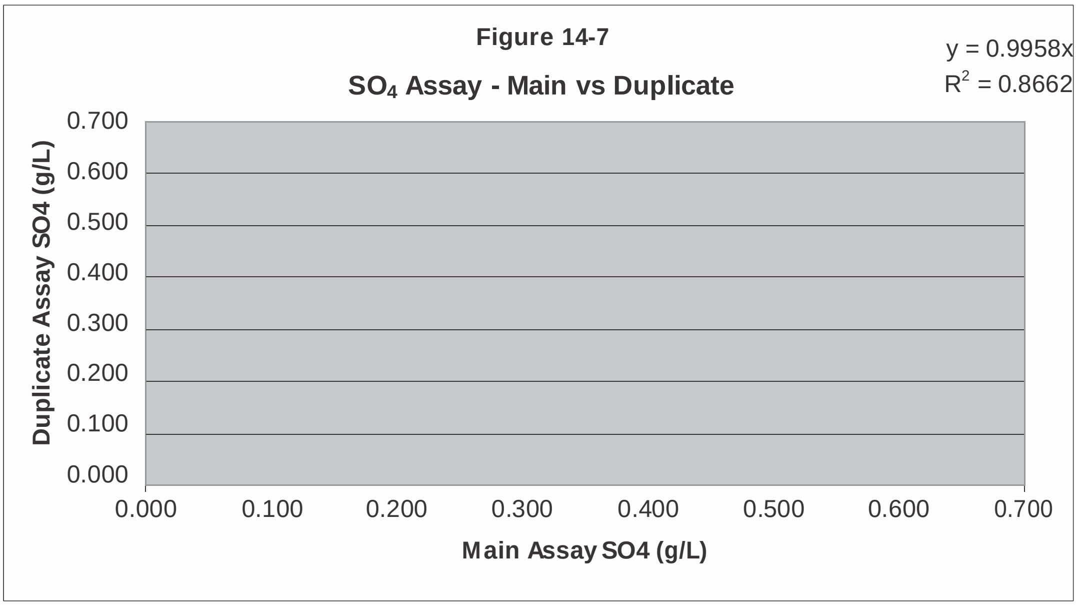


Figure 14-8

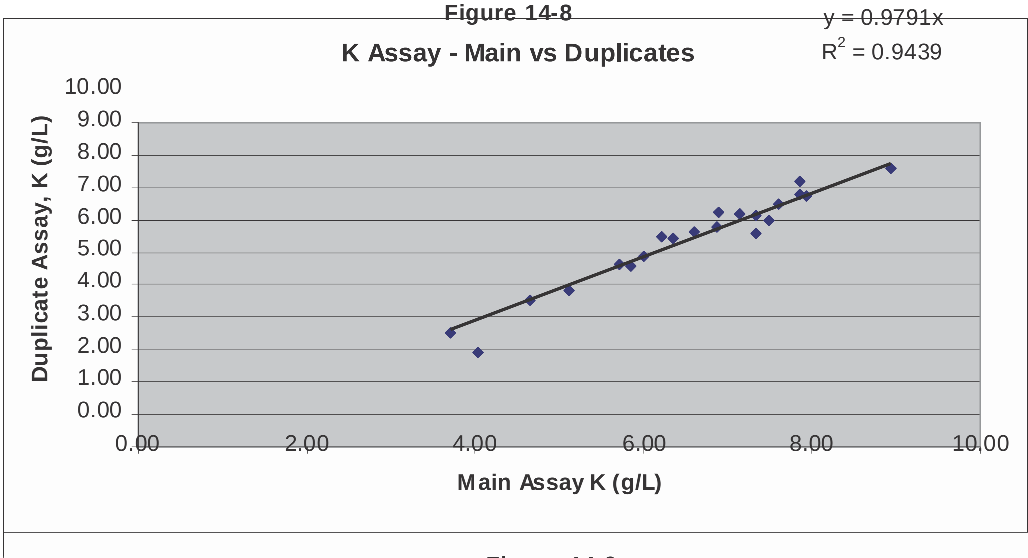


Figure 14-9

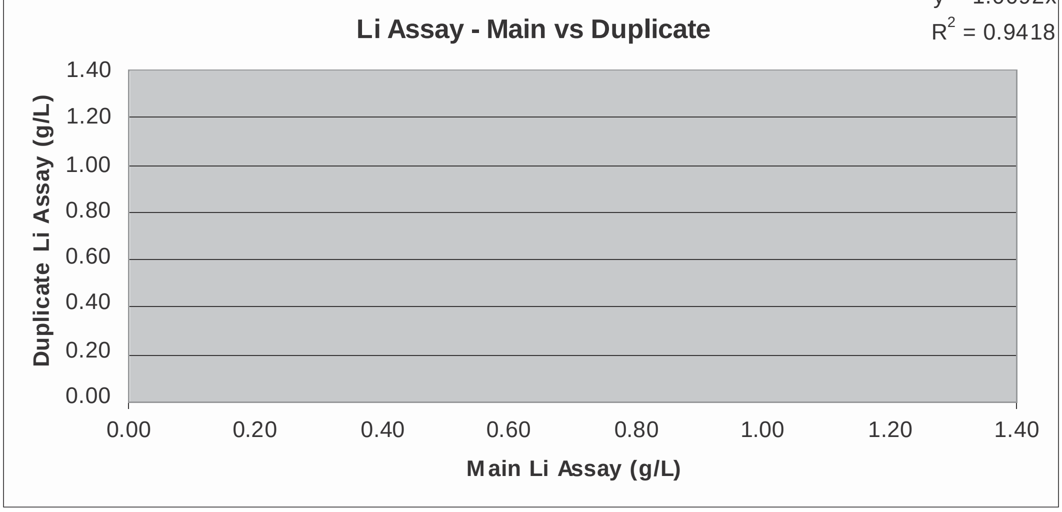


Figure 14-10

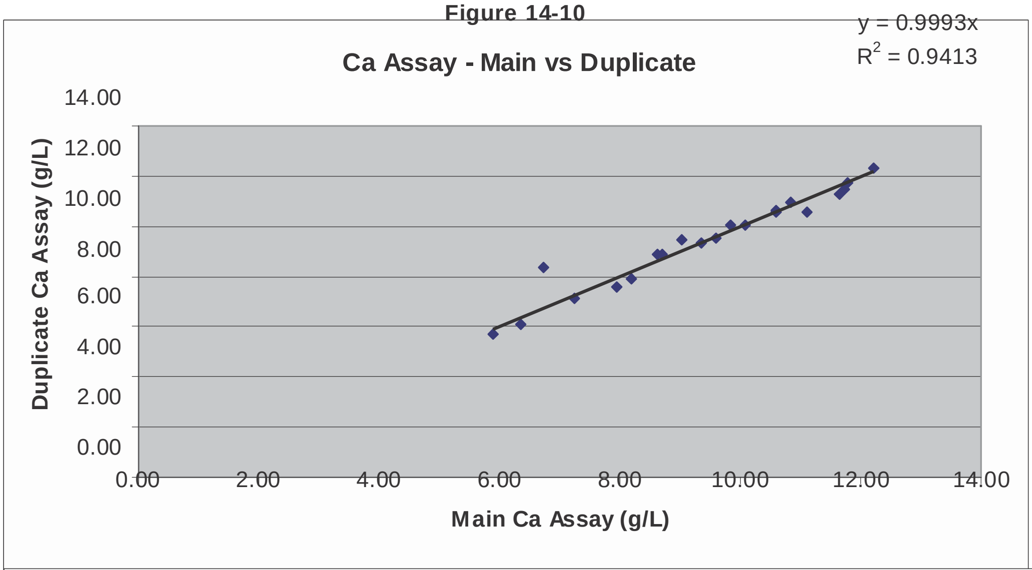
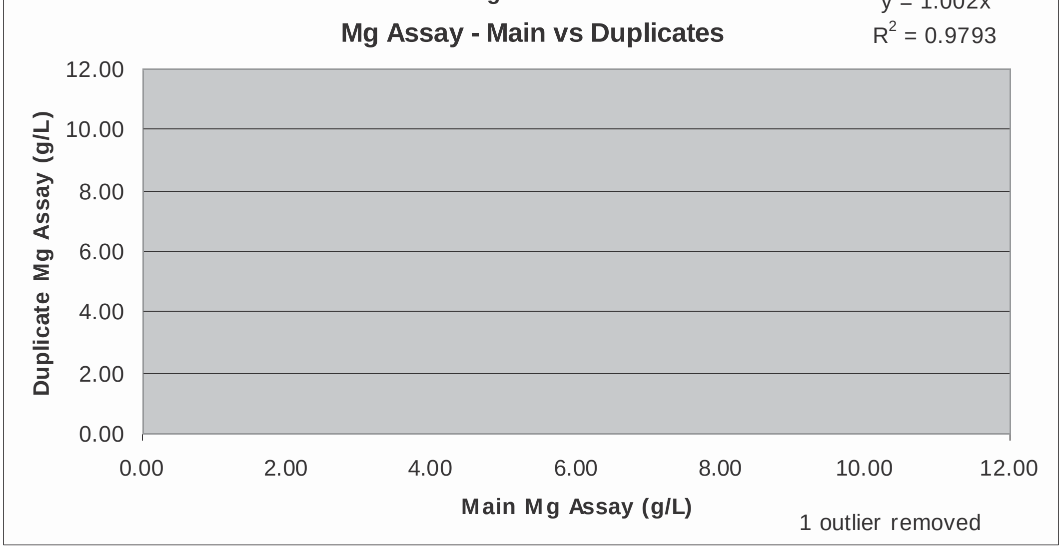


Figure 14-11



The correlations between the main and duplicate assays for total dissolved solids (TDS) and specific gravity are poor (Figures 14-12 and 14-13). The reasons for these differences have not yet been determined.

Figure 14-12

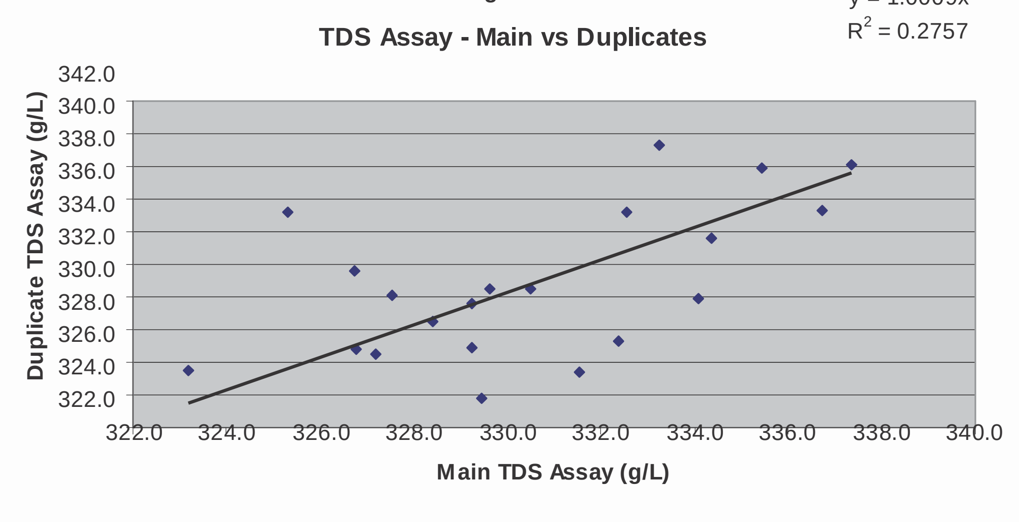
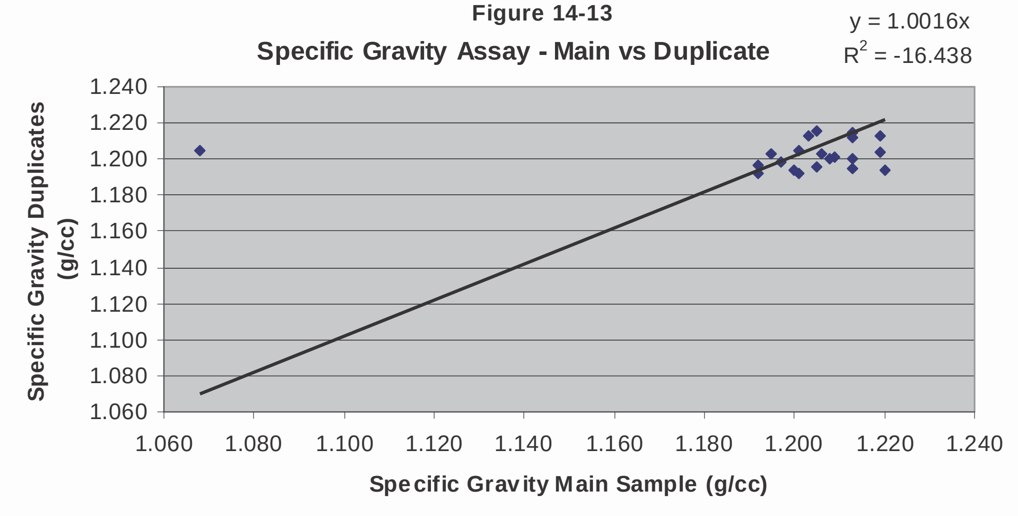


Figure 14-13



MAIN VS CHECK SAMPLE ASSAYS

Comparison of main assay results versus check assay results indicates a significant upward bias in favour of the check assays (Figures 14-14 through 14-21). The check assay sample values were determined using ICP while the main assay values were determined using atomic absorption and gravimetric methods and the bias is attributed to the differences in analytical methods. In general, atomic absorption and gravimetric methods are the preferred method for analysis of saturated brines.

Figure 14-14

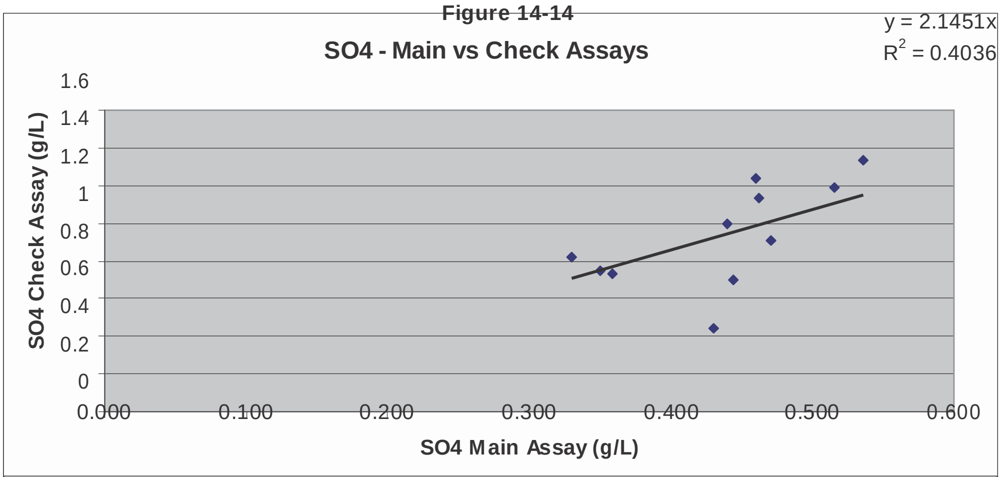


Figure 14-15

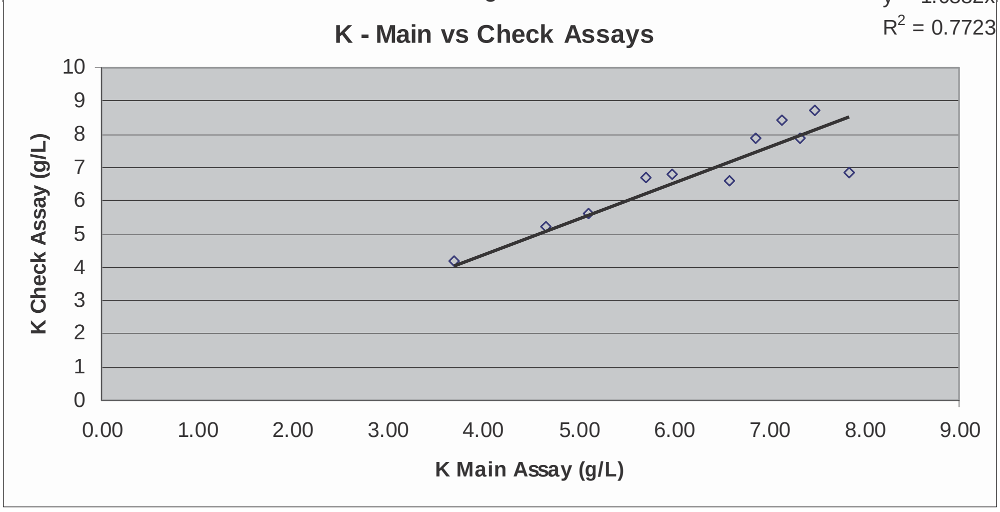


Figure 14-16

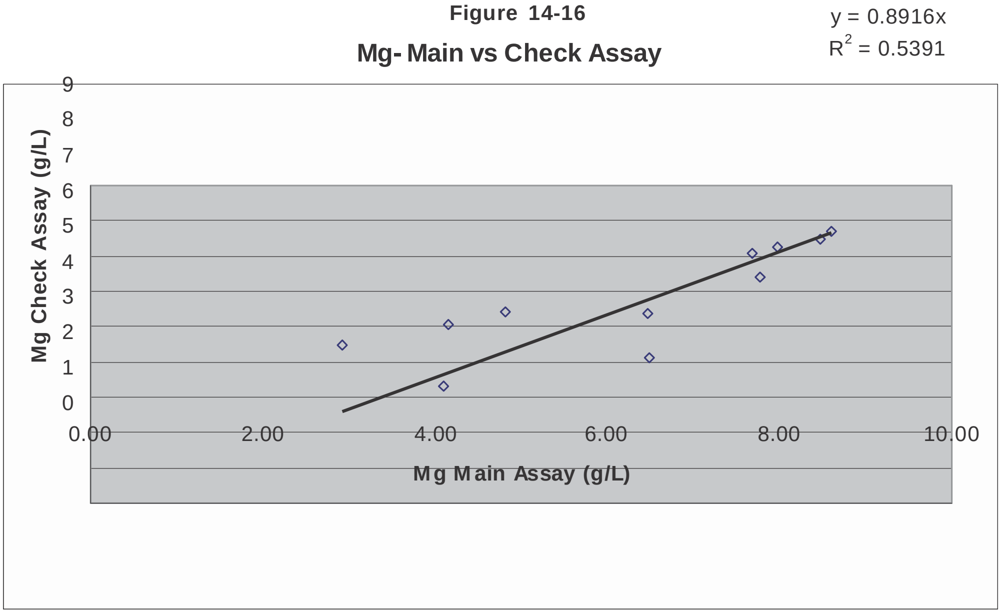


Figure 14-17

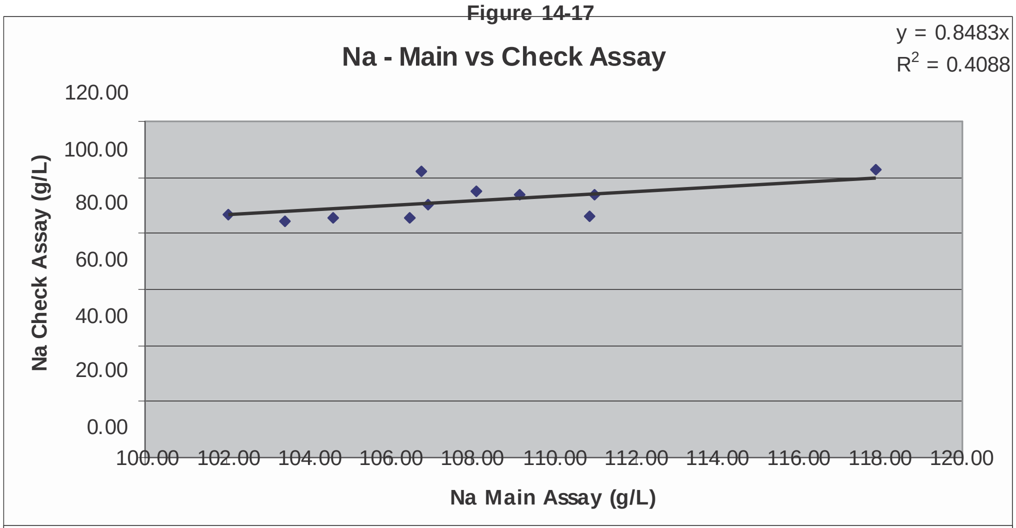


Figure 14-18

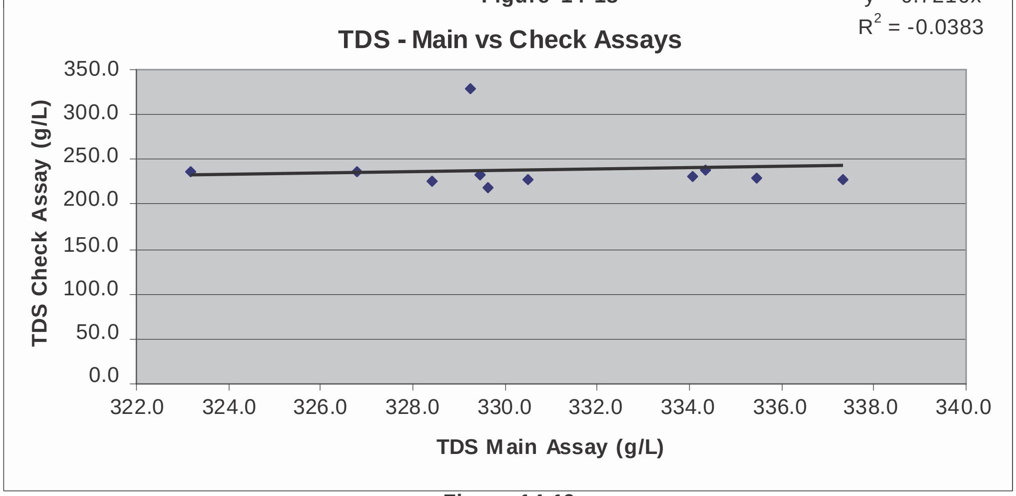


Figure 14-19

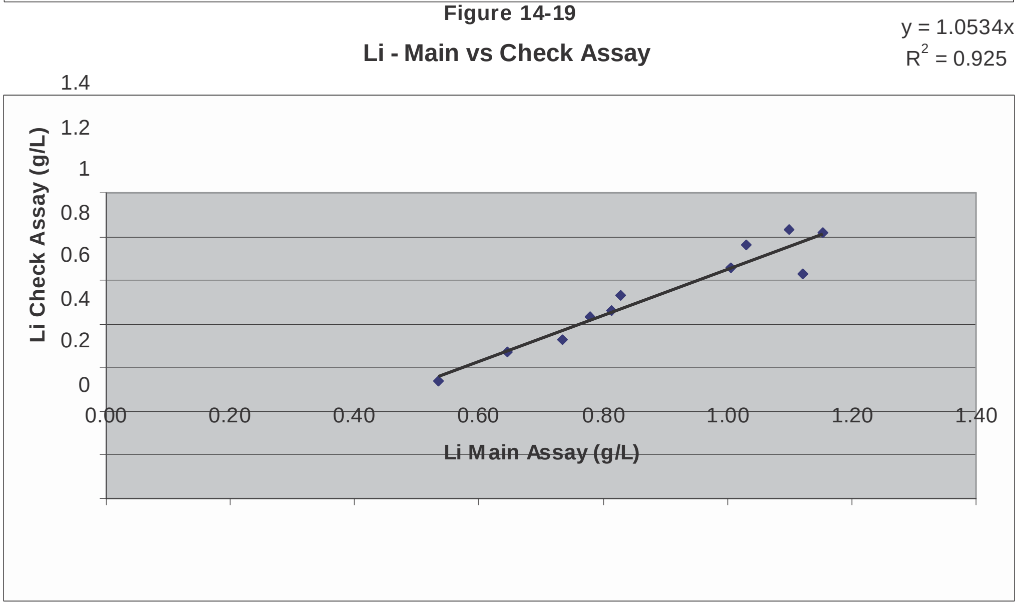


Figure 14-20

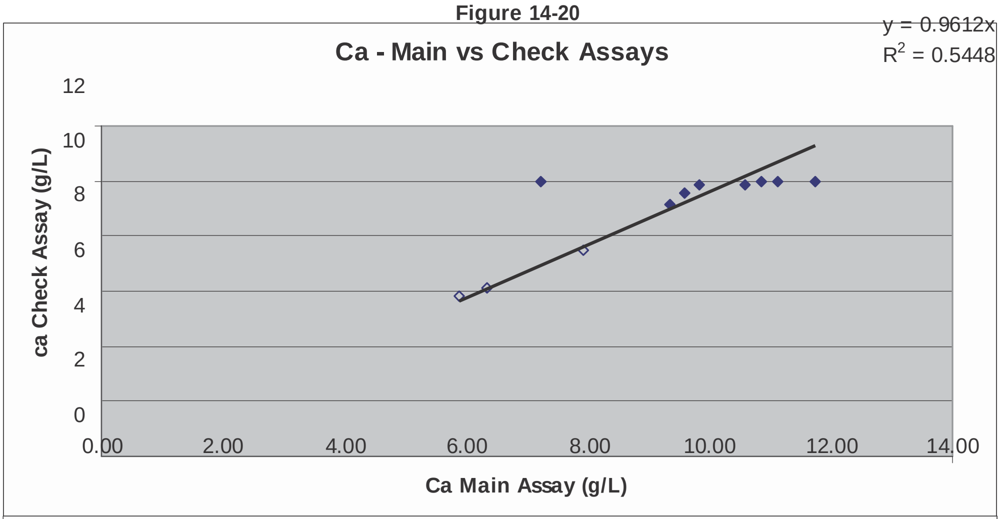
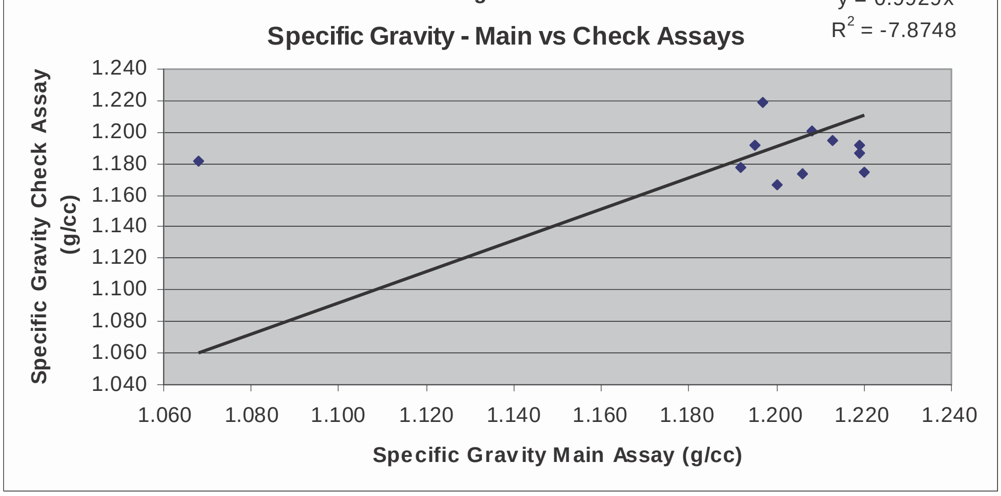


Figure 14-21



Comparison of the samples collected from the pits versus the samples collected from the pipes (Table 14-1) shows that the pipe samples exhibit higher values for most of the cations and anions and have a higher specific gravity. These differences are attributed to concentration of the brine in the pipes due to evaporation and or re-dissolution of brines over the period from 2007 to 2010.

TABLE 14-1: COMPARISON OF PIT (NO. 1) AND PIPE (NO. 2) SAMPLES

	SO_4	Cl	B	K	Na	Li	Ca	Mg	CO_3	$CaCO_3$	TDS	pH	SG
	g/l	g/l	g/l	g/l	g/l	g/l	g/l	g/l	g/l	ppm	g/l		g/cc
Average of pit samples (/1)	0.457	198.4	<0.100	6.55	108.13	0.90	8.95	6.41	0.24	392	327	6.50	1.201
Std. dev of pit samples (/1)	0.079	3.2	0.00	1.59	3.91	0.23	2.24	2.00	0.05	81	40	0.19	0.019
Average of pipe samples (/2)	0.463	198.8	<0.100	7.37	106.48	1.04	10.04	7.05	0.26	426.49	332.78	6.4461	1.20593
St. dev. of pipe sample (/2)	0.077	2.6	0.00	1.82	5.17	0.28	2.65	2.67	0.05	83	6	0.23	0.007
Average ratios "n"/Li (/1)	0.506	219.8	0.00	7.26	119.79	1.00	9.92	7.10	0.26	434			
Average ratios "n"/Li (/2)	0.447	191.9	0.00	7.11	102.79	1.00	9.69	6.80	0.25	412			

Based on the analysis results of the assays, the author is satisfied that the analytical and quality control/quality assurance procedures employed by Li3 are acceptable and the results can be accepted as valid.

15 ADJACENT PROPERTIES

There are a number of claims held by other companies on the Salar de Maricunga. Some of these claims are immediately adjacent to the claims held by SLM Litio 1-6. To the best of the author's knowledge, no exploration work has been conducted with respect to these claims and no data are available.

16 MINERAL PROCESSING AND METALLURGICAL TESTING

Li3 has not conducted any evaporation or other mineral process test work to determine evaporation rates or process routes for recovery of lithium and potassium.

17 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

No mineral resource estimate has been prepared for the property. Estimation of resources for a brine deposit requires knowledge of the effective porosity and specific yield of the brine and these data are not available. Li3 plans to develop such data in a later phase of the exploration program.

18 OTHER RELEVANT DATA AND INFORMATION

COMPARISON TO OTHER SALARS

The Salar de Maricunga exhibits favourable characteristics in comparison to many of the other salars in Chile and Argentina. In particular, it is relatively enriched in lithium, has a low sulphate content and a favourable potassium content, and has a reasonable Mg/Li ratio (Table 18-1). These characteristics indicate a relatively simple process route for recovery of lithium and potassium, with reduced requirements for process chemicals such as lime, sodium sulphate, hydrochloric acid and sodium hydroxide.

TABLE 18-1: COMPARISON OF MARICUNGA TO OTHER SALARS

Item	Maricunga Li3 2011 DD results)	Maricunga (2007)	Salar de Atacama	Salar de Hombre Muerto	Oroccobre (Salar de Olaroz)	Lithium Americas (Salar de Cauchari)
Li, ppm	752	834	1,500	900	955	540
K, ppm	5,455	6,600	18,000	9,500	7,920	4,900
Mg, ppm	5,337	5,500	9.600	900	2,750	1,380
SO_4, ppm	380	n.a.	17,800	12,100	n.a.	16,960
Mg/Li ratio	7.1	6.6	6.4	1.0	2.9	2.6
K/Li ratio	7.3	7.9	12.0	9.4	8.9	9.1
SO_4/Li ratio	0.5	n.a.	11.9	13.4	n.a.	31.4
K/Mg ratio	1.0	1.2	1.9	9.4	2.9	3.6

Source: Company reports

MINERAL PROCESSING

Li3 has proposed a preliminary process flow sheet for recovery of lithium and potassium from the brines. The flow sheet provides for sequential solar evaporation of the brine with removal of sodium chloride in a halite evaporation pond. Calcium will be removed as gypsum by adding sodium sulphate. This will be followed by a sylvinte evaporation pond for recovery of sodium/potassium chloride salts, which will be processed in a potash recovery plant. Brine from the sylvinite pond will move to a silvite evaporation pond where magnesium/potassium chlorides will be recovered and sent to a potash recovery plant. The brine will then be pumped to a bischoffite evaporation pond for removal of magnesium chloride. The brine will then be processed by solvent extraction for removal of boron. Following this, lime will be added to precipitate magnesium hydroxide, and then sodium carbonate added to precipitate crude lithium carbonate. The crude lithium carbonate will be repulped with water, washed and centrifuged to recover battery grade lithium carbonate. Sodium chloride waste liquors will be recovered and recycled to the evaporation ponds as required.

MARKETS

The primary markets for the products are as battery grade lithium carbonate and as potassium chloride feedstock for the production of potassium nitrate. Lithium carbonate is used in lithium ion batteries. Forecasts for lithium carbonate demand are very robust, with the market anticipated to expand from a current size of approximately 115,000 tonnes to over 280,000 tonnes by 2020. Should electric vehicle demand and/or market penetration increase at a faster rate than currently forecast, demand for lithium carbonate could exceed 400,000 tonnes by 2025. Such a rapid increased in demand will require a significant increase in production capacity.

Nitrates in the form of potassium nitrate and other nitrate compounds find their major application as specialty fertilizers for fruits, vegetables, tobacco, etc. Specialty nitrate fertilizers are generally produced by reaction of a nitrate source such as sodium nitrate with an alkali salt such as potassium chloride. Chile is the world's largest producer of natural nitrate fertilizers. Production is concentrated in Regions 1 and 2 in northern Chile.

ENVIRONMENTAL CONSIDERATIONS

There are no known environmental concerns associated with the property. A national park lies to the south of the salar de Maricunga. Due to the general drainage to the north, no environmental concerns with respect to the impact of brine extraction on the park are anticipated.

No additional information or explanation is necessary to make this Technical Report understandable and not misleading.

LEGAL STATUS OF LITHIUM BRINE OPERATIONS

Current Chilean law classifies lithium as a strategic resource and only two operations, SQM and Sociedade Chileno de Litio, both operating on the salar de Atacama are permitted for direct production of lithium. However, if lithium is produced as a by-product or co-product of potassium production from brines, such operations are permitted. Moreover, the Chilean government has proposed to amend the current law to permit direct lithium production. This change in the law is anticipated to be effective by the end of 2011.

19 INTERPRETATION AND CONCLUSIONS

The Salar de Maricunga represents a potentially significant source of lithium and potassium. The salar is located in Region III of northern Chile at an elevation of approximately 3,750 m. It is classified as a mixed type of salar of the Na-cl-Ca/SO_4 system. Due diligence work by Li3 indicates surface brine assay values as detailed in Table 19-1:

TABLE 19-1: LI3 DUE DILIGENCE SUMMARY ASSAY RESULTS

	K [g/l]	Li [g/l]	Mg [g/l]	SO_4 [g/l]
Average for "Litio" Property	6.551	0.903	6.408	0.457
Ratios "n"/Li			7.10	0.51

These results are comparable to prior exploration work by others which indicates the brines in the salar are enriched in lithium and potassium and that the brine has a Mg/Li ratio permitting lithium recovery. The relatively high boron concentration in the brine should permit extraction as boric acid, a valuable co-product. The sulphate in the brine is unusually low for a Chilean salar, reducing the need for additional reagents for sulphate removal.

The due diligence exploration work by Li3 in 2011 has confirmed the exploration results obtained by the Litio 1-6 consortium in 2007 and prior work by CORFO and others in the 1980s. Historical hydrology and hydrogeological work undertaken by the Chilean government in 1985-1988 indicates the aquifers feeding the salar are highly productive.

Historical resource estimates, which are not NI 43-101 compliant, indicate the following:

SLM LITIO INDICATED RESOURCE ESTIMATE[1]

Element	Surface Area (ha)	Depth to (m)	Porosity (%)	Contained Tonnes
Li	1,450	20	10	29,000
K				229,970
B (as B_2O_3)				52,000

1) not NI 43-101 compliant and not to be relied upon.

Source: SLM Litio

SLM LITIO INFERRED RESOURCE ESTIMATE[1]

Element	Surface Area (ha)	Depth[2] (m)	Porosity (%)	Contained Tonnes
Li	1,450	80	6	70,000
K				550,000
B (as B_2O_3)				120,000

1) not NI 43-101 compliant and not to be relied upon. 2) from 20 m

Source: SLM Litio

Based on the results of the Li3 2011 exploration program, it is anticipated that it will be possible to develop a resource estimate in conformance with NI 43-101 approximately equivalent to the historical estimate.

The Salar de Maricunga property is judged to be a Property of Merit holding sufficient exploration potential to warrant exploration expenditure to advance the project to the prefeasibility stage.

20 RECOMMENDATIONS

The following recommendations are made:

Undertake a phased program of geological, geophysical, and hydrogelogical exploration work to better define the geometry of the salar, brine chemistry, salar hydrology, salar hydrogeology and salar porosity and specific yield.
Undertake a program of exploration drilling and sampling to develop data on pumping rates, brine chemistry and other factors governing brine production.
Undertake a program of solar evaporation tests and other metallurgical test work to confirm a suitable process for recovery of lithium, potassium and boron and develop engineering data sufficient for preparation of capital and operating cost estimates.
Prepare an NI 43-101 report to support estimation of Indicated and Measured Resources on the property.
Prepare a Scoping/Prefeasibility Report for the property.

The recommended budget to achieve the objectives outlined above is as follows:

Geophysical survey (TEM)	$ 200,000
Hydrology and hydrogeological modeling	$ 125,000
Meteorological data development	$ 25,000
Surface Brine sampling and analysis	$ 250,000
Laboratory Process Simulation & Phase Chemistry test work	$ 750,000
Drilling Program:	
DD core drilling and core analysis (2,000 m)	$1,000,000
RC drilling (large diameter, 500 m)	$ 500,000
Large diameter pumping and monitoring tests	$ 75,000
Pilot scale evaporation tests and metallurgical tests	$ 175,000
NI 43-101 report	$ 50,000
Scoping/Prefeasibility Study (±30%):	
Logistics, transport and energy studies	$ 200,000
Evaporation tests and metallurgical test work	$ 200,000
Conceptual engineering work& reporting	$ 250,000
TOTAL BUDGET	$3,800,000

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22 SIGNATURE PAGE

This report titled "Technical Report on Salar de Maricunga, Region 1II, Chile" and dated March 18, 2011 and amended May 26, 2011 was prepared by and signed by the following author:

signed

Dated at Toronto, Ontario
Donald H. Hains, P. Geo
March 18, 2011
May 26, 2011

23 CERTIFICATE OF QUALIFICATIONS

DONALD H. HAINS

I, Donald H. Hains, P. Geo., as an author of this report entitled "Technical Report on Salar de Maricunga Project, Region 1II, Chile" prepared for Li3 Energy Inc. and dated March 18, 2011 and as amended May 26, 2011 do hereby certify that:

1. I am Principal of Hains Technology Associates with offices at 2275 Lakeshore Blvd. W., Suite 515, Toronto, Ontario M8V 3Y3.

2. I am a graduate of Queen's University, Kingston, Ont. in 1974 with an Hon. BA (Chemistry) and a graduate of Dalhousie University, Halifax, N.S. in 1976 with a Master of Business Administration

4. I am registered as a Professional Geoscientist in the Province of Ontario (Reg. # 0494).

5. I have worked as a geoscientist for a total of 25 since my graduation. My relevant experience for the purpose of the Technical Report is:

Evaluation of various salar deposits in Chile and Argentina (Pozuelos, Cauchari, Pocitos, Centenario, Hombre de Muerto, Diaballos, Atacama, Rincon)
Various economic geology studies related to production of lithium and potassium from brines.

6. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI43-101.

7. I visited the Maricunga property on December 7, 2010.

8. I am responsible for overall preparation of the Technical Report.

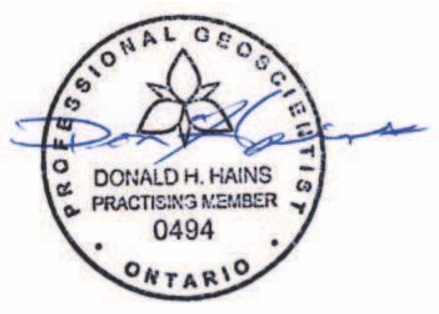
9. I am independent of the Issuer applying the test set out in Section 1.4 of National Instrument 43-101.

10. I have had no prior involvement with the property that is the subject of the Technical Report.

11. I have read National Instrument 43-101, and the Technical Report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1.

12. 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 18th day March, 2011



Donald H. Hains, P. Geo.

Amended May 26, 2011

24 APPENDICES

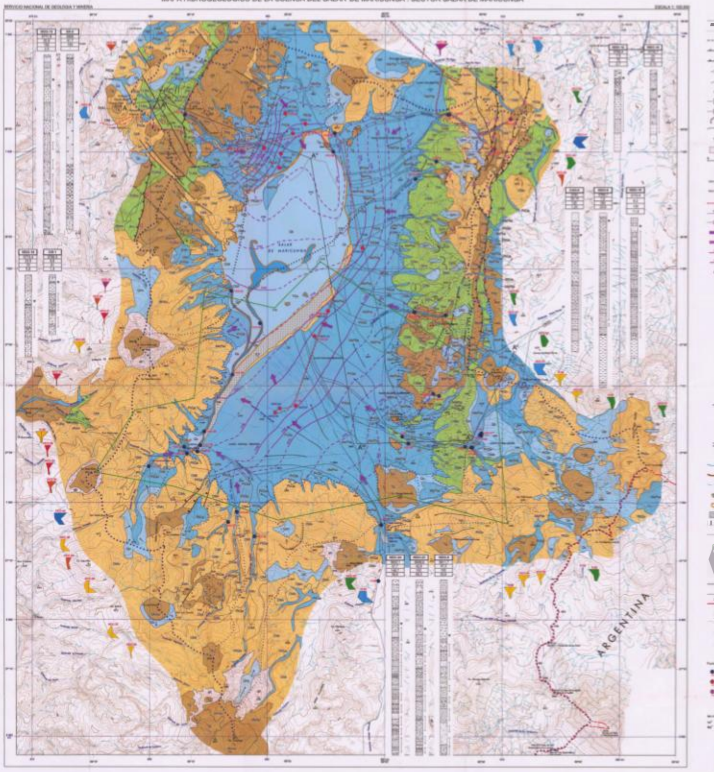
Appendix 1: Hydrogeological Map of Maricunga Basin
Appendix 2: Assay Certificate – Brine Standard
Appendix 3: Assays Certificates – Brine Samples, CESMEC
Appendix 4: Assay Certificates – Check Samples, ALS

24 APPENDICES

Appendix 1: Hydrogeological Map of Maricunga Basin
Appendix 2: Assay Certificate – Brine Standard
Appendix 3: Assays Certificates – Brine Samples, CESMEC
Appendix 4: Assay Certificates – Check Samples, ALS

MAPA HIDROGEOLOGICO DE LA CUENCA DEL SALAR DE MARICUNGA : SECTOR SALAR DE MARICUNGA

SERVICIO NACIONAL DE GEOLOGIA Y MINERIA

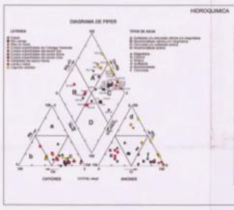


SIMBOLOGIA

LEYENDA

HIDROQUIMICA

DIAGRAMA DE PIPER



CALIDAD QUIMICA DEL AGUA

GEOFISICA

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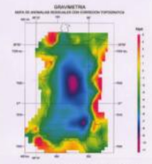
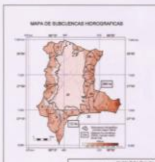
GRAVIMETRIA

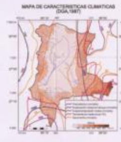


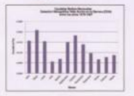
HIDROGRAFIA Y CLIMA

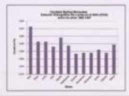
MAPA DE SUBCUENCAS HIDROGRAFICAS



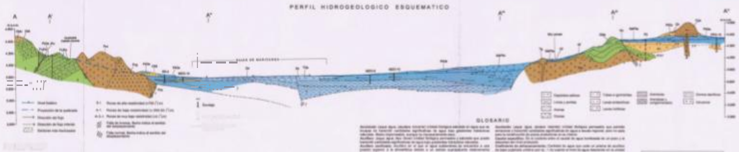
MAPA DE CARACTERISTICAS CLIMATICAS







PERFIL HIDROGEOLOGICO ESQUEMATICO



REFERENCIAS

GLOSARIO

SINTESIS HIDROGEOLOGICA

TRABAJOS ANTERIORES Y FUENTE DE LA INFORMACION

MAPA DE UBICACION

MAPA HIDROGEOLOGICO DE LA CUENCA SALAR DE MARICUNGA: SECTOR SALAR DE MARICUNGA

REGION DE ATACAMA

DOCUMENT

1998

INFORME PRELIMINAR ANALISIS QUIMICO
SQA-24711

Área Minerales y Metales - Santiago

cesmec
Una Empresa Bureau Veritas

Solicitante : CTH LTOA.
Atención Sr. : Carlos Theune
Dirección : Las Arañas N" 1956 – La Reina

Orden de Trabajo : 370532
Fecha de Emisión : 15.01.2011

1.- ANTECEDENTES GENERALES

Fecha de Recepción : 16.12.2010
Cantidad de Muestras : Una (01)
Tipo de Muestras : Solución Preparada en Laboratorio CESMEC S.A.
Proporcionadas por : CESMEC S.A. / Área Minerales y Metales, División Análisis Químico
Fecha Término Análisis : 15.01.2011

2.- METODOLOGIAS

Parámetro	Metodología
Cationes (Li, K, Mg, y Ca)	Espectrofotometria Absorción Atómica
Aniones (Cl, B, SO_4 y CO_3)	Volumetría

3.- RESULTADOS

3.1.- Determinación de Cationes

Muestra	Li	K	Mg	Ca
	g/L			
Promedio	0,230	16,5	1,79	2,14
Desviación Estándar	0,006	4,479	0,058	0,069
N(*)	20	20	20	20

(*) Número de muestras ensayadas

cesmec
Una Empresa Bureau Veritas

3.2.- Determinación de Aniones

Muestra	Cl	8	SO_4	CO_3
	g/L			
Promedio	17,7	<0,01	0,58	0,934
Desviación Estándar	0,397	-	0,013	0,024
N(*)	20	20	20	20

(*) Número de muestras ensayadas

FABIAN SILVA C.
Jefe de Departamento
División Química – Sede Santiago

Nota Importante al reverso

INFORME ANALISIS QUIMICO
SQA-24790
Area Minerales y Metales - Santiago

cesmec
Una Empresa Bureau Veritas

Solicitante : CTH Ltda.
Atención Sr. : Carlos Theune
Dirección : Las Arañas 1956 – La Reina

Orden de Trabajo: 370933
Fecha de Emisión: 07.02.2011

1.- ANTECEDENTES GENERALES

Fecha de Recepción		29.12.2011
Cantidad de Muestras	:	Ciento Cincuenta y Tres (153)
Tipo de Muestras	:	Soluciones
Proporcionadas por	:	CTH Ltda.
Metodología	:	Volumetrla / Gravimetría / Absorción Atómica / Potenciometría
Fecha Término Análisis	:	07.02.2011

2.- RESULTADOS

2.1.- Análisis de $SO_4^{=}$, Cl-, B, K, Na, Li, Ca

Identificación Muestras	$SO_4^{=}$ g/L	Cl^- g/L	B Mg/L	K g/L	Na g/L	Li g/L	Ca g/L
M-1	0.56	197.5	<100	7.1	103.9	1.0	6.8
M-2	0.56	197.7	<100	5.8	111.4	0.78	8.61
M-3	0.55	196.2	<100	4.6	113.6	0.65	7.46
M-4	0.57	198.9	<100	6.9	109.3	1.03	8.70
M-5	0.04	2.1	<100	0.3	0.2	0.02	<0.05
M-6	0.53	197.3	<100	5.6	112.2	0.75	8.86
M-7	0.53	197.7	<100	6.6	113.9	0.97	7.84
M-8	0.54	198.4	<100	7.2	111.1	1.10	8.90
M-9	0.55	199.7	<100	6.6	112.5	0.97	7.36
M-10	0.55	195.8	<100	6.6	114.2	0.89	6.40
M-11	0.54	197.3	<100	6.6	110.9	0.83	6.34
M-13	0.55	198.3	<100	6.7	108.7	0.87	6.74
M-14	0.58	198.5	<100	6.6	110.2	0.88	6.07
M-15	0.56	197.3	<100	5.9	111.0	0.70	5.26
M-16	0.58	198.4	<100	6.3	105.7	0.87	5.86
M-17	0.58	195.5	<100	6.2	106.4	0.80	5.61
M-18	0.56	198.3	<100	6.0	109.1	0.81	6.28
M-19	0.57	198.1	<100	6.9	107.2	0.84	7.36
M-20	0.59	196.5	<100	5.8	109.9	0.83	6.34
M-21	0.60	196.1	<100	4.6	116.4	0.58	5.20
M-22	0.59	197.9	<100	6.4	107.7	0.70	4.89
M-23	0.58	197.1	<100	7.9	113.9	0.88	2.38
M-24	0.56	198.1	<100	6.9	108.2	0.87	6.91
M-25	0.56	198.8	<100	7.3	109.8	0.83	5.70

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Identificación Muestras	SO/ g/L	Cr g/L	B Mg/L	K g/L	Na g/L	Li g/L	Ca g/L
M-26	0.47	202.5	<100	9.7	109.3	1.40	9.50
M-27	0.50	203.6	<100	11.4	98.4	1.70	11.11
M-28	0.54	201.7	<100	8.2	108.2	1.01	8.53
M-29	0.52	198.6	<100	10.5	107.0	1.45	8.81
M-30	0.51	200.5	<100	7.2	109.5	0.91	8.90
M-31	0.53	201.9	<100	8.7	103.4	1.09	10.48
M-32	0.50	200.0	<100	8.8	102.2	1.14	10.98
M-33	0.51	200.0	<100	7.1	107.1	0.83	8.81
M-34	0.54	200.0	<100	7.4	103.3	0.89	9.50
M-35	0.53	196.3	<100	6.6	107.7	0.92	8.30
M-36	0.53	199.0	<100	6.9	106.3	0.83	7.96
M-37	0.54	194.7	<100	7.9	109.9	0.97	9.02
M-38	0.57	193.3	<100	6.2	111.9	0.85	6.72
M-39	0.52	197.2	<100	7.8	112.8	1.00	9.71
M-40	0.02	1.8	<100	0.1	1.2	0.02	<0,05
M-41	0.53	197.9	<100	8.6	107.1	1.09	9.16
M-42	0.49	201.7	<100	8.8	104.5	1.50	9.54
M-43	0.59	194.1	<100	8.2	110.0	0.99	9.45
M-44	0.52	199.4	<100	6.5	108.0	0.84	8.36
M-45	0.44	203.1	<100	10.4	95.5	1.46	11.09
M-46	0.43	200.4	<100	10.7	99.8	1.46	10.95
M-47	0.41	201.2	<100	8.7	104.7	1.06	10.10
M-48	0.39	198.7	<100	8.9	98.5	1.14	11.79
M-49	0.43	197.4	<100	7.9	106.8	1.12	10.60
M-51	0.43	198.9	<100	7.8	103.2	1.06	10.57
M-52	0.40	198.6	<100	8.6	99.7	1.17	11.70
M-53	0.44	199.7	<100	7.4	106.8	1.02	10.60
M-54	0.48	196.2	<100	7.6	108.7	0.96	9.38
M-55	0.47	199.7	<100	8.9	101.0	1.26	11.77
M-56	0.47	195.5	<100	8.9	109.5	1.23	12.57
M-57	0.46	191.5	<100	6.9	102.5	1.07	9.31
M-58	0.44	197.5	<100	6.9	102.1	1.03	9.84
M-60	0.50	197.9	<100	8.9	100.4	1.32	12.41
M-61	0.50	200.3	<100	8.0	104.4	1.12	10.03
M-62	0.47	193.7	<100	6.4	105.4	0.95	10.59
M-63	0.47	197.7	<100	6.8	104.4	0.99	10.03
M-64	0.53	192.7	<100	5.4	109.5	0.78	7.10

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Identificación Muestras	SO_4 g/L	cr g/L	B Mg/L	K g/L	Na g/L	Li g/L	Ca g/L
M-65	0.41	197.8	<100	8.3	101.4	1.19	14.52
M-66	0.43	195.5	<100	6.4	102.5	0.95	10.64
M-67	0.42	198.8	<100	9.8	104.2	1.58	14.55
M-68	0.35	197.1	<100	7.5	104.6	1.10	11.74
M-69	0.57	17.0	<100	3.9	19.8	0.22	1.69
M-71	0.40	195.0	<100	6.9	101.2	1.08	10.37
M-72	0.37	196.7	<100	7.0	106.5	1.11	11.50
M-73	0.58	17.2	<100	3.9	19.2	0.24	1.72
M-74	0.41	198.3	<100	7.8	98.4	1.21	11.43
M-75	0.35	199.4	<100	7.3	104.1	0.95	11.22
M-76	0.40	200.0	<100	8.8	105.1	1.38	12.92
M-77	0.39	199.3	<100	8.8	106.2	1.13	13.14
M-78	0.59	17.7	<100	3.9	18.9	0.24	1.74
M-79	0.36	197.5	<100	7.5	108.1	1.24	11.40
M-80	0.42	198.6	<100	7.9	102.6	0.99	11.66
M-81	0.40	196.5	<100	6.5	108.3	0.87	9.58
M-82	0.42	200.3	<100	8.5	99.9	1.12	13.17
M-83	0.40	196.9	<100	6.5	111.0	0.87	9.62
M-84	0.37	199.9	<100	7.8	103.0	1.08	12.24
M-85	0.36	199.8	<100	7.3	106.5	1.01	11.12
M-87	0.42	197.5	<100	6.9	106.3	0.93	10.43
M-88	0.41	195.0	<100	7.7	102.9	1.13	11.29
M-89	0.39	198.8	<100	6.2	114.0	0.80	7.71
M-90	0.56	17.4	<100	3.8	19.4	0.23	1.83
M-91	0.41	196.4	<100	6.3	114.9	0.49	5.28
M-92	0.37	198.8	<100	7.2	116.8	1.01	10.55
M-93	0.44	197.2	<100	7.8	107.9	1.05	12.35
M-94	0.41	195.4	<100	5.6	106.9	0.75	8.82
M-95	0.37	199.0	<100	6.8	107.2	0.75	9.80
M-96	0.41	199.2	<100	7.3	100.4	0.94	10.07
M-97	0.38	200.2	<100	7.6	104.8	0.88	9.31
M-98	0.38	194.2	<100	8.4	101.8	1.01	10.71
M-99	0.42	201.0	<100	6.6	101.6	0.89	10.04
M-100	0.31	205.7	<100	8.2	106.2	1.30	13.16
M-101	0.34	203.9	<100	8.7	101.3	1.27	14.46
M-102	0.34	204.3	<100	9.0	102.3	1.52	13.60
M-103	0.33	201.0	<100	7.1	103.4	1.15	10.85
M-105	0.33	200.1	<100	7.2	106.8	1.15	10.94

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Identificación Muestras	$O4= g/L	cr g/L	B Mg/L	K g/L	[TI L	Li g/L	Ca g/L
M-106	0.39	201.6	<100	8.7	104.9	1.41	13.01
M-107	0.04	0.5	<100	0.1	1.8	0.01	0.17
M-108	0.36	199.5	<100	7.2	110.8	1.18	10.76
M-109	0.28	198.8	<100	8.6	101.1	1.37	12.75
M-110	0.40	202.2	<100	8.6	114.4	1.10	12.95
M-111	0.59	197.8	<100	4.7	108.1	0.68	7.48
M-112	0.47	195.6	<100	4.7	108.1	0.65	7.24
M-114	0.55	17.5	<100	3.7	19.8	0.24	1.79
M-115	0.06	0.5	<100	0.1	1.9	0.03	0.21
M-116	0.33	199.5	<100	8.0	104.7	1.11	11.93
M-117	0.47	196.1	<100	4.5	108.5	0.68	7.13
M-118	0.44	198.0	<100	5.9	104.3	0.84	7.43
M-119	0.48	195.2	<100	5.0	108.5	0.68	11.29
M-120	0.46	195.2	<100	5.9	107.4	0.84	8.01
M-121	0.49	196.4	<100	5.0	116.0	0.70	7.95
M-122	0.46	200.2	<100	4.0	110.7	0.62	8.19
M-123	0.44	196.8	<100	4.7	113.6	0.83	9.88
M-124	0.44	206.4	<100	6.0	106.9	0.78	9.35
M-126	0.45	201.3	<100	2.9	109.9	0.59	7.92
M-127	0.36	198.2	<100	7.6	110.4	0.98	11.34
M-128	0.29	198.4	<100	7.8	100.5	1.18	12.54
M-129	0.47	201.0	<100	5.9	114.6	0.81	9.32
M-130	0.37	199.0	<100	8.3	107.2	1.25	13.34
M-131	0.39	200.0	<100	7.6	102.9	1.07	12.21
M-132	0.44	197.9	<100	3.8	112.6	0.35	11.85
M-133	0.39	199.6	<100	9.0	101.4	1.38	13.06
M-134	0.40	202.8	<100	5.7	107.8	0.81	9.67
M-135	0.36	200.8	<100	7.5	100.9	1.10	12.32
M-136	0.57	17.5	<100	3.8	19.9	0.24	1.75
M-137	0.46	195.8	<100	5.7	111.0	0.81	9.60
M-139	0.45	196.4	<100	5.4	112.3	0.72	8.70
M-140	0.45	192.5	<100	5.2	117.6	0.73	8.75
M-141	0.52	200.1	<100	3.8	109.1	0.48	6.27
M-142	0.46	203.1	<100	5.6	111.7	0.82	9.53
M-143	0.55	197.2	<100	3.7	110.0	0.51	5.73
M-144	0.51	195.5	<100	3.7	116.5	0.54	5.94
M-145	0.52	193.0	<100	3.7	117.9	0.53	5.89
M-147	0.54	208.4	<100	3.2	109.4	0.78	6.51

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Identificación Muestras	SO/ g/L	cr g/L	B Mg/L	K g/L	Na g/L	Li g/L	Ca g/L
M-148	0.46	196.2	<100	1.9	115.0	0.61	6.43
M-149	0.44	204.9	<100	2.0	112.6	0.73	8.11
M-150	0.54	194.6	<100	3.5	114.2	0.53	5.69
M-151	0.46	201.8	<100	5.3	109.5	0.67	8.77
M-152	0.44	202.2	<100	4.9	109.8	0.68	7.73
M-153	0.35	198.8	<100	7.7	104.4	1.12	11.59
M-154	0.36	204.0	<100	7.8	104.7	1.12	12.55
M-155	0.27	208.4	<100	11.0	98.1	1.79	19.26
M-156	0.35	197.8	<100	6.5	96.3	0.98	17.36
M-157	0.27	206.6	<100	10.9	107.2	1.63	18.71
M-158	0.53	196.9	<100	2.2	115.4	0.32	4.61
M-159	0.27	205.0	<100	10.0	109.9	1.87	10.61
M-160	0.46	196.1	<100	5.1	109.2	0.73	7.94
M-162	0.43	192.4	<100	4.8	112.9	0.70	7.58
M-163	0.59	17.7	<100	3.8	18.8	0.23	1.81
M-164	0.03	2.5	<100	0.1	1.4	0.00	<0,05

Nota Importante al reverso

2.2.- Análisis Ca, Mg, HCO_3, $CaCO_3$, Sólidos Totales Disueltos, pHh, Densidad

Identificación Muestras	Mg g/l	CO_3 g/l	CaCO3 Mg/l	Sólidos Totales Disueltos g/l	pH	Densidad g/ml
M-1	6.8	0.29	479	322.0	6.22	1.197
M-2	5.89	0.27	391	326.7	6.51	1.201
M-3	4.93	0.23	391	326.7	6.52	1.200
M-4	5.92	0.25	409	329.3	6.47	1.205
M-5	0.15	0.07	71	1.3	8.39	0.990
M-6	5.83	0.25	367	331.6	6.50	1.192
M-7	6.76	0.25	412	332.6	6.53	1.201
M-8	5.78	0.24	394	329.6	6.60	1.216
M-9	6.88	0.30	512	335.9	6.57	1.201
M-10	6.13	0.31	529	326.7	6.56	1.206
M-11	6.48	0.31	526	329.6	6.61	1.208
M-13	6.45	0.34	561	330.5	6.66	1.195
M-14	6.33	0.29	535	330.5	6.63	1.200
M-15	4.40	0.26	435	329.1	6.64	1.197
M-16	6.09	0.28	465	324.0	6.92	1.197
M-17	5.78	0.22	364	324.7	6.82	1.213
M-18	5.73	0.21	348	327.6	6.89	1.212
M-19	6.65	0.27	442	330.8	6.79	1.198
M-20	5.83	0.25	421	329.4	6.92	1.205
M-21	3.97	0.25	426	323.6	7.32	1.195
M-22	5.61	0.22	378	328.0	6.89	1.198
M-23	7.31	0.28	461	332.3	7.16	1.193
M-24	6.42	0.24	404	335.6	6.95	1.207
M-25	6.54	0.24	400	337.9	6.91	1.214
M-26	9.91	0.29	496	346.6	6.44	1.193
M-27	11.41	0.32	530	324.5	6.29	1.196
M-28	6.90	0.26	437	343.1	6.39	1.193
M-29	10.32	0.29	488	339.8	6.38	1.194
M-30	5.90	0.26	428	339.2	6.39	1.205
M-31	8.43	0.33	551	340.2	6.36	1.203
M-32	8.91	0.32	532	341.4	6.21	1.196
M-33	6.88	0.32	521	333.6	6.35	1.215
M-34	7.33	0.25	430	327.1	6.30	1.211
M-35	6.40	0.21	358	328.6	6.36	1.196
M-36	6.96	0.21	339	329.8	6.49	1.208
M-37	5.29	0.26	444	325.3	6.35	1.192
M-38	5.96	0.24	396	332.4	6.20	1.203

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Identificación Muestras	Mg gil	CO_3 g/L	caco, Mg/L	Sólidos Totales Disueltos g/L	pH	Densidad g/ml
M-39	8.38	0.29	489	336.1	6.19	1.206
M-40	0.19	0.08	81	2.2	8.42	0.972
M-41	9.03	0.36	604	332.7	6.38	1.193
M-42	9.50	0.29	488	329.7	6.38	1.216
M-43	9.50	0.26	400	335.2	645	1.197
M-44	6.73	0.20	328	327.3	6.47	1.213
M-45	11.35	0.30	567	320.3	6.41	1.211
M-46	11.27	0 28	468	328 9	6.42	19n
M-47	9q	0.22	466	329.4	6.40	1 21 0
f.l-48	9 54	0 S:	5T«-	32;..:	6.40	l ¿C'
l,l-4f	8 l)	0.2,	410	32t:;	6.4J	[illegible]
l.i-51	q r	p	qc,	.cl	[illegible]	[illegible]
l.lS?	U 38	0 3	3L'1	32	r	[illegible]
t:l-5:	84	.03	''-	332	5:11	1.201
f.1-5L	/ 08	0 26	498	1] b	[illegible]	1 208
i1-	cl G	A,	47	34	?ti t-5	[illegible]
t»	0 17	0 9 ¿<T	341 J	b ?1	f.1-57	1 217
7 51	0 23	3.n	328 4	6 42		1 21.2
M-58	, 6'	016	25G.86	323 4	6 3	1 21
1,1-60	9 96	8 27	450	332 2	6 2T	1 2'11
M-61	8 26	0 28	460	337 7	G.39	1 2,)'1
M-62	6 90	0.27	470	327 5	G 36	1 2ur
M-63	7.92	0 17	281	328 5	6 40	1 213
M-64	5.84	0.21	359	325 9	658	1 20
M-65	9 61	0.32	533	332.3	G 13	1 19(
M-66	6.95	0.29	487	330.1	6.35	1.196
M-67	10.82	0.22	373	345.1	610	1 2 15
M-68	7.98	0.24	390	330.5	6.25	1 220
M-69	1.99	5.40	9059	89.3	864	1 01P
M-71	7.76	0.29	495	334.3	G.34	1 181
M-72	8.13	0.23	374	330.5	6.21	1 1 (14
M-73	2.12	5.52	9165	91.7	853	1 038
M-74	8.73	0.11	182	321.5	6.33	1.214
M-75	8.22	0.23	378	332.4	677	i 20,
						1 21
M-76	9.24	0.24	392	348.2	670	1 2U5
M-77	9.19	0 20	331	344.4	6.7:	
M-78	2.10	5.51	9145	91.6	875	1 000

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Identificación Muestras	Mg g/L	CO_3 g/L	$CaCO_3$ Mg/L	Sólidos Totales Disueltos g/L	pH	Densidad g/ml
M-79	7.38	0.18	302	337.0	6.80	1.199
M-80	8.54	0.22	379	333.2	6.64	1.201
M-81	5.35	0.20	337	334.5	6.80	1.211
M-82	8.30	0.22	363	340.5	6.66	1.218
M-83	6.54	0.27	451	336.1	6.76	1.215
M-84	7.95	0.26	419	337.0	6.71	1.211
M-85	7.78	0.20	301	337.3	6.68	1.195
M-87	6.67	0.18	305	331.9	6.36	1.213
M-88	8.68	0.24	395	339.3	6.24	1.205
M-89	6.25	0.17	294	337.4	6.50	1.208
M-90	2.12	5.53	9257	91.7	8.49	1.068
M-91	6.37	0.19	315	337.2	6.42	1.206
M-92	7.64	0.21	342	338.1	6.33	1.203
M-93	7.92	0.27	446	344.3	6.41	1.211
M-94	5.63	0.17	286	335.9	6.33	1.216
M-95	5.46	0.14	233	331.4	6.44	1.202
M-96	7.07	0.23	374	332.5	6.37	1.213
M-97	6.52	0.14	231	334.5	6.39	1.200
M-98	7.52	0.22	376	334.3	6.26	1.213
M-99	6.59	0.21	350	335.2	6.21	1.215
M-100	9.41	0.28	466	339.2	6.25	1.206
M-101	10.72	0.36	588	340.0	6.27	1.209
M-102	10.71	0.27	455	338.0	6.23	1.208
M-103	8.47	0.29	434	335.5	6.26	1.213
M-105	8.41	0.29	480	337.9	6.39	1.200
M-106	10.22	0.32	526	339.7	6.35	1.202
M-107	0.10	0.01	14	3.9	8.56	0.972
M-108	8.76	0.27	447	338.1	6.23	1.198
M-109	10.00	0.32	520	340.9	6.35	1.197
M-110	9.70	0.37	624	338.7	6.27	1.201
M-111	5.10	0.23	388	326.8	6.58	1.203
M-112	6.49	0.20	334	326.8	6.53	1.068
M-114	2.13	5.63	9478	89.1	8.79	1.029
M-115	0.15	0.01	9	4.3	8.54	0.985
M-116	5.73	0.26	431	336.0	6.41	1.205
M-117	6.50	0.19	322	326.8	6.47	1.205
M-118	3.04	0.20	334	326.1	6.46	1.193
M-119	2.32	0.18	306	325.0	6.38	1.197

Nota Importante al reverso

SQA-24790

Fecha de Emisión: 07.02.2011

cesmec
Una Empresa Bureau Veritas

Identificación Muestras	Mg g/L	col g/L	CaCO3 Mg/L	Sólidos Totales Disueltos a/L	pH	Densidad g/ml
M-120	3.84	0.25	414	328.3	6.26	1.192
M-121	0.96	0.20	331	325.4	6.43	1.196
M-122	4.90	0.18	295	331.5	6.45	1.213
M-123	3.18	0.28	461	333.3	6.37	1.198
M-124	4.15	0.25	407	334.1	6.42	1.200
M-126	5.15	0.20	318	325.4	6.38	1.212
M-127	4.54	0.24	400	338.8	6.42	1.207
M-128	6.46	0.29	479	327.1	6.26	1.209
M-129	3.96	0.25	423	329.9	6.41	1.194
M-130	3.50	0.31	510	334.2	6.15	1.217
M-131	7.45	0.22	334	336.7	6.25	1.213
M-132	2.69	0.25	406	332.7	6.43	1.200
M-133	2.38	0.27	442	335.3	6.33	1.196
M-134	4.22	0.19	320	328.7	6.50	1.208
M-135	7.49	0.22	367	335.3	6.59	1.195
M-136	2.15	5.68	9442	93.0	8.72	1.026
M-137	4.81	0.25	365	334.4	6.48	1.192
M-139	4.96	0.16	268	330.4	6.66	1.198
M-140	2.60	0.22	375	328.5	6.46	1.206
M-141	5.82	0.19	317	331.3	6.38	1.198
M-142	5.05	0.24	350	333.6	6.57	1.192
M-143	3.04	0.22	360	329.0	6.60	1.207
M-144	2.81	0.22	362	326.0	6.55	1.204
M-145	4.10	0.25	363.	329.5	6.48	1.206
M-147	6.23	0.23	396	32.6	6.56	1.198
M-148	2.80	0.24	384	327.5	6.52	1.208
M-149	1.65	0.21	349	328.3	6.67	1.213
M-150	3.99	0.25	375	323.8	6.50	1.203
M-151	3.31	0.23	380	324.1	6.45	1.199
M-152	3.50	0.22	362	329.1	6.48	1.198
M-153	4.56	0.25	410	335.2	6.44	1.208
M-154	7.89	0.25	411	338.0	6.46	1.192
M-155	3.32	0.32	536	345.8	6.18	1.211
M-156	6.93	0.29	489	331.9	6.25	1.208
M-157	3.39	0.33	557	344.4	6.20	1.208
M-158	2.13	0.09	152	319.6	6.15	1.193
M-159	2.39	0.33	560	344.6	6.64	1.197
M-160	2.92	0.24	257	323.2	6.36	1.219

Nota Importante al reverso

SQA-24790

Fecha de Emisión: 07.02.2011

cesmec
Una Empresa Bureau Veritas

Identificación Muestras	Mg g/l	CO_3 g/l	$CaCO_3$ Mg/l	Sólidos Totales Disueltos g/l	pH	Densidad g/ml
162	3.01	0.25	278	325.5	6.53	1.204
163	2.13	5.54	9636	91.4	8.48	1.015
164	0.10	0.01	13	2.6	8.55	0.982

NOTA: Los *resultados obtenidos* son *válidos sólo para las muestras analizadas, las cuales fueron proporcionadas e identificadas por el solicitante.*

JUAN PASTEN SANTANDER
Supervisor Área Minerales y Metales
CESMEC S.A.

Nota Importante al reverso

ALS Labaratar4 Ciraup
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

INFORME DE ENSAYO

SE11O0004

Informe para	:	CTH Ltda.
Dirección	:	Las Arañas 1956-La Reina Santiago
Atención	:	Carlos Theune
Fecha de Informe	:	19-Jan-11
Fecha de Recepción	:	03-Jan-11
Muestreado por	:	CTH Ltda.
Referencia	:	---
Proyecto	:	---

ALS ENVIRONMENTAL

Rodrigo.Parra
laboratory Manager
Los Ebanistas 8521 La Reina Santiago Chile
Tel.: (56 2) 6546109

Environmental Division
SE1100004

RESULTACOS DE ANALISIS

Identificación				12	50	59
Fecha de Muestteo				19-Dec-10	19-Dec-10	19-Dec-10
Hora de Muestreo				13:00	13:00	13:00
Código ALS				SEI 100004-001	SE1100004-002	SE1100004-003
Tipo de Mue1t111				AG	AG	AG
Parámetro / LD	Analito	Unidades	Fecha de Análisis			
PARAMETROS FISICOQUIMICOS						
Q1[2I						
ECE-POT401 / 2	CE	11S/cm	03-Jan-11	241000	237000	238000
ESTD-GRA203 / 10	STD	mg/L	07-Jan-11	217795	215979	224789
EALCB-VOL304 / 1	AlcHCO3	mg/L CaCO3	07-Jan-11	437	448	386
EALCC-VOL304 / 1	AlcCO3	mg/L CaCO3	07-Jan-11	<1	<1	<1
EALCT-VOL304 / 1	Ale Total	mg/L CaCO3	07-Jan-11	437	448	386
EPH-POT403 / 0.01	pH		03-Jan-11	6.94	6,68	666
Densidad	Densidad	g/ml	12-Jan-11	1.2	1.2	1.2
PARAMETROS INORGANICOS						
Aniones						
ECL-VOL309 / 0.5	Ci	mg/L	12-Jan-11	198105 2	217432 6	183609.7
ES04-GRA205c / 10	5O4	mg/L	04-Jan-11	1338	757	696

o Menor que el limite de detección Indicado
AG (Agua)
NA: No Analizada, IM: Insuficiente Muestra

ALS Laborator4 Ciroup
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division
SE11O0004

RESULTADOS DE ANALISIS

Identificación				12	50	59
Fecha de Muestreo				19-Dec-10	19-0ec-10	19-0ec-10
Hora de Muestreo				13:00	13:00	13:00
Código ALS				SE11O0004-001	SE1100004-002	SE1100004-003
Tipo de Muestra				AG	AG	AG
Parámetro / LO	Analito	Unidades	Fecha de Análisis			
METALES TOTAL!iS-ICP 15						
Ag	Ag	mg/L	13-Jan-11	<1	<1	<1
Al	Al	mg/L	13-Jan-11	<100	<100	<100
As	As	mg/L	13-Jan-11	<10	<10	10
B	B	mg/L	13-Jan-11	500	500	500
Ba	Ba	mg/L	13-Jan-11	<10	<10	<10
Be	Be	mg/L	13-Jan-11	<0.1	<0.1	<0.1
Ca	Ca	mg/L	13-Jan-11	6100	>10000	9870
Cd	Cd	mg/L	13-Jan-11	<0.5	<0.5	<0.5
Co	Co	mg/L	13-Jan-11	<2	<2	<2
Cr	Cr	mg/L	13-Jan-11	<2	<2	<2
Cu	Cu	mg/L	13-Jan-11	<1	<1	<1
Fe	Fe	mg/L	13-Jan-11	<1.00	<100	<100
K	K	mg/L	13-Jan-11	6600	8800	7900
Li	U	mg/L	13-Jan-11	930	1280	1160
Mg	Mg	mg/L	13-Jan-11	5380	7670	7070
Mn	Mn	mg/L	13-Jan-11	<1	<1	<1
Mo	Mo	mg/L	13-Jan-11	<1	<1	<1
Na	Na	mg/L	13-Jan-11	86300	83500	87000
Ni	Ni	mg/L	13-Jan-11	<2	<2	<2
p	p	mg/L	13-Jan-11	<100	<100	<100
Pb	Pb	mg/L	13-Jan-11	<5	<5	<5
Sb	Sb	mg/L	13-Jan-11	<5	<5	<5
Sr	Sr	mg/L	13-Jan-11	207	353	335
TI	Ti	mg/L	13-Jan-11	<100	<100	<100
V	V	mg/L	13-Jan-11	<1	<1	1
Zn	Zn	mg/L	13-Jan-11	<1	<1	<1

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AG (Agua)
NA: No Analizada, IM: Insuficiente Muestra

ALS Pataqanla S.A.
P1A.ci.1. AIAL-,.:.ratar Ciraup
Lo! Mrs S L.1 Me ııı1, Santiago, Chile
Fono: +56 2 6M 6100 Fax: +56 2 654 6130 www.1l1glob1l.com

ALS Laborator4 Ciroup
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division
SE1100004

RESULTADOS DE ANALISIS

Identificación				70	86	104
Fecha de Muestreo				19-Dec-10	19-Dec-10	19-0ec-10
Hora de Muestreo				13:00	13:00	13:00
CódigoALS				SE1100004-004	SE1100004-005	SE1100004-006
Tipo de Muestra				AG	AG	AG
Parámetro / LO	AnalIto	Unidades	Fecha de Aníllsls			
PARAMETRQS FISICOQUIMICO ;						
Q!m						
ECE-POT-401 / 2	CE	11S/cm	03-Jan-11	238000	239000	239000
ESTD-GRA203 / 10	STO	mg/L	07-Jan-11	226533	227557	228411
EALCB-VOL304 / 1	AlcHCO3	mgfI CaCO3	07-Jan-11	406	430	422
EALCC-VOL304 / 1	AlcCO3	mgfI CaCO3	07-Jan-11	<1	<1	<1
EALCT-VOL304 ! 1	Ale Total	mgJL CaCO3	07-Jan-11	406	430	422
EPH-POT403 f 0.01	pH		03-Jan-11	6.62	6.70	665
Densidad	Densidad	gfmI	12-Jan-11	1.2	1.2	1.2
P�� METROS INQB!:iANICOS						
Aniones						
ECL-VOL309 / 0.5	CI	mgfI	12-Jan-11	208735.3	196172.5	199071.6
ES04-GRA205c I 10	5O4	mg/L	04-Jan-11	745	729	819

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AG (Agua)
NA: No AneliZIda, IM: Insuric,ente Muestre

ALS Laborator4 Ciroup
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division
SE11O0004

RESULTADOS DE ANALISIS

Identificación				70	86	104
Fecha de MuHtnio				19-Dec-10	19-0ec-10	19-Dec-10
Hora de Muestreo				13:00	13:00	13:00
CódigoALS				SE11O0004-Q0.6	SE11O0004-005	SE1100004-006
Tipo de Muestra				AG	AG	AG
Parámetro / LO	Analito	Unidades	Fecha de Análisis			
METALES TOTALES�CP 15						
Ag	Ag	mg/L	13-Jan-11	<1	<1	<1
Al	Al	mg/L	13-Jan-11	<100	<100	<100
As	As	mg/L	13-Jan-11	10	10	<10
B	B	mg/L	13-Jan-11	500	500	500
Ba	Ba	mg/L	13-Jan-11	<10	<10	<10
Be	Be	mg/L	13-Jan-11	<0.1	<0.1	<0.1
Ca	Ca	mg/L	13-Jan-11	>10000	>10000	>10000
Cd	Cd	mg/L	13-Jan-11	<0.5	<0.5	<0.5
Co	Co	mg/L	13-Jan-11	<2	<2	<2
Cr	Gr	mg/L	13-Jan-11	<2	<2	<2
Cu	Cu	mg/L	13-Jan-11	<1	<1	<1
Fe	Fe	mg/L	13-Jan-11	<100	<100	<100
K	K	mg/L	13-Jan-11	8700	7900	8400
u	Li	mg/L	13-Jan-11	1230	1060	1220
Mg	Mg	mg/L	13-Jan-11	7260	6400	7460
Mn	Mn	mg/L	13-Jan-11	<1	<1	<1
Mo	Mo	mg/L	13-Jan-11	<1	<1	<1
Na	Na	mg/L	13-Jan-11	85400	85800	84300
Ni	Ni	mg/L	13-Jan-11	<2	<2	<2
p	p	mg/L	13-Jan-11	<100	<100	<100
Pb	Pb	mg/L	13-Jan-11	<5	<5	<5
Sb	Sb	mg/L	13-Jan-11	<5	<5	<5
Sr	Sr	mg/L	13-Jan-11	390	357	377
n	Ti	mg/L	13-Jan-11	<100	<100	<100
V	V	mg/L	13-Jan-11	<1	<1	<1
Zn	Zn	mg/L	13-Jan-11	<1	<1	<1

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AG (Agua)
NA: No Analizada, IM: Insuficiente Muestra

ALS P•ta.qanl• S.A.
PDl,tAt.A&.$.il...-Or•tan.) �raup
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ALS Laborator4 Ciroup
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division
SE11O0004

RESULTADOS DE ANALISIS

Identific•clón				113	125	138
Fech• de Muestreo				19-Dec-10	19-Dec-10	19-Dec-10
Hora de Muestreo				13:00	13:00	13:00
CódigoALS				SE1100004-007	SE1100004-008	SE1100004-009
Tipo de MuHtra				AG	AG	AG
Parámetro / LO	Anallto	Unldadn	Fecha de Análisis			
PARAMETROS FISICOQUIMICOS						
.Qlm						
ECE-POT401 / 2	CE	µS/cm	03-Jan-11	242000	241000	241000
ESTD-GRA203 / 10	STD	mg/L	07-Jan-11	235629	230543	238861
EALCB-VOL304 f 1	AlcHCO3	mgfl CaCO3	07-Jan-11	351	439	401
EALCC-VOL304 11	AlcCO3	mg/L CaCO3	07-Jan-11	<1	<1	<1
EALCT-VOL304 f 1	Ale Total	mg/L CaCO3	07-Jan-11	351	439	401
EPH-POT403 / 0.01	pH		03-Jan-11	6.87	6.84	6.82
Densidad	Densidad	g/mL	12-Jan-11	1.2	1.2	12
PARAMETROS INORGANICOS						
&!!2!!n						
ECL-VOL309 / 0.5	Cl	mgfL	12-Jan-11	213567.1	194239.8	239659.0
ES04-GRA205c 110	SO4	mg/l	04-Jan-11	906	996	1239

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AG (Agua)
NA: No Analizada, IM: Insuficiente Muestra

ALS Laborator4 Ciroup

ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

SE1100004

RESULTADOS DE ANALISIS

Identificación				113	125	138
Fecha de Muestreo				19-Dec-10	19-Dec-10	19-Dec-10
Hora de Muestreo				13:00	13:00	13:00
CódlgoALS				SE1100004-007	SE1100004-008	SE1100004-009
Tipo de Muestra				AG	AG	AG
Parimetro / LD	Anallto	Unidades	Fecha de Anillsis			
METALES TOTALES-ICP 15						
Ag	Ag	mgfl	13-Jan-11	<1	<1	<1
Al	Al	mgfl	13-Jan-11	<100	<100	<100
As	As	mgfl	13-Jan-11	10	<10	10
B	B	mg/L	13-Jan-11	400	500	400
Ba	Ba	mg/L	13-Jan-11	<10	<10	<10
Be	Be	mg/L	13-Jan-11	<0.1	<0.1	<0.1
Ca	Ca	mg/L	13-Jan-11	7020	9170	9570
Cd	Cd	mg/L	13-Jan-11	<0.5	<0.5	<0.5
Co	Co	mg/L	13-Jan-11	<2	<2	<2
Cr	Cr	mg/L	13-Jan-11	<2	<2	<2
Cu	Cu	mg/L	13-Jan-11	<1	<1	<1
Fe	Fe	mg/L	1J.Jan-11	<100	<100	<100
K	K	mg/L	13-Jan-11	5200	6800	6700
Li	U	mg/L	13-Jan-11	670	830	860
Mg	Mg	mg/L	13-Jan-11	4140	5060	5430
Mn	Mn	mg/L	13-Jan-11	<1	<1	<1
Mo	Mo	mg/L	13-Jan-11	<1	<1	<1
Na	Na	mg/L	13-Jan-11	95300	90100	93700
Ni	Ni	mg/L	13-Jan-11	<2	<2	<2
p	p	mg/l	13-Jan-11	<100	<100	<100
Pb	Pb	mg/L	13-Jan-11	<5	<5	<5
Sb	Sb	mg/L	13-Jan-11	<5	<5	<5
Sr	Sr	mg/L	13-Jan-11	231	289	307
Tl	Ti	mg/L	13-Jan-11	<100	<100	<100
V	V	mg/L	13-Jan-11	<1	<1	<1
Zn	Zn	mg/L	13-Jan-11	<1	<1	<1

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AG (Agua)
NA: No Analizada, IM: Insuficieote Muestra

ALS Labaratar4 Ciraup
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division
SE1100004

RESULTADOS DE ANALISIS

Identificación				146	161	165
Fecha de Muestreo				19-0ec-10	19-Dec-10	19-Dec-10
Hora de Muestreo				13:00	13:00	13:00
Código ALS				SE1100004-010	SE1100004-011	SEf100004-012
Tipo de Muestra				AG	AG	AG
Parimetro / LO	Analito	Unidadn	Fecha de Anillsls			
PARAMETROS FISICOQUIMICOS						
Otros						
ECE-POT401 / 2	CE	µS/cm	03-Jan-11	245000	242000	70400
ESTD-GRA203 / 10	STO	mg!L	07-Jan-11	232073	235617	68261
EALCB-VOL304 / 1	AlcHCO3	mg!L CaCO3	07-Jan-11	385	392	1926
EALCC-VOL304 11	AlcCO3	mg/L CaCO3	07-Jan-11	<1	<1	<1
EALCT-VOL304 / 1	Ale Total	mg/L CaCO3	07-Jan-11	385	392	1926
EPH-POT403 / 0.01	pH		03-Jan-11	7.07	6.88	6.39
Densidad	Densidad	g/mL	12-Jan-11	1.2	1.2	1.0
PARAMETROS INORGANICOS						
Ani.2.!!tl						
ECL-VOL309 / 0.5	Cl	mglL	12-Jan-11	251255.4	212600.7	14495.5
ESO4-GRA205c/ 10	SO4	mg/L	04-Jan-11	1190	1136	1284

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AG (Agua)
NA: No Analizlda, IM: Insuficiente Muestra

ALS Laborator4 Ciroup
ANALYTICAL CHEMISTRY S TESTING SERVICES

Environmental Division
SE1100004

RESULTADOS DE ANALISIS

Identlficación				146	161	165
Fech1 de Muestreo				19-Dec-10	19-Dec-10	19-Dec-10
Hora de Muestreo				13:00	13:00	13:00
CódlgoALS				SE1100004-010	SE1100004-011	SE1100004-012
Tipo de Muestra				AG	AG	AG
Parámetro / LO	An1llto	Unidad**	Fecha de Análsls			
METALES TOTALES-ICP 15						
Ag	Ag	mg/L	13-Jan-11	<1	<1	<1
Al	Al	mg/L	13-Jan-11	<100	<100	<100
As	As	mg/L	13-Jan-11	10	<10	<10
B	B	mg/L	13-Jan-11	400	400	500
Ba	Ba	mg/L	13-Jan-11	<10	<10	<10
Be	Be	mg/L	13-Jan-11	<0.1	<0,1	<0.1
Ca	Ca	mg/L	13-Jan-11	5820	7510	1780
Cd	Cd	mg/L	13-Jan-11	<0,5	<0,5	<0,5
Co	Co	mg/L	13-Jan-11	<2	<2	<2
Cr	Gr	mg/L	13-Jan-11	<2	<2	<2
Cu	Cu	mg/L	13-Jan-11	<1	<1	<1
Fe	Fe	mg/L	13-Jan-11	<100	<100	<100
K	K	mg/L	13-Jan-11	4200	5600	3800
Li	Ll	mg/L	13-Jan-11	540	730	220
Mg	Mg	mg/L	13-Jan-11	3330	4490	1660
Mn	Mn	mg/L	13-Jan-11	<1	<1	<1
Mo	Mo	mg/L	13-Jan-11	<1	<1	<1
Na	Na	mg/l	13-Jan-11	103000	94000	16800
Ni	Ni	mg/L	13-Jan-11	<2	<2	<2
p	p	mg/L	13-Jan-11	<100	<100	<100
Pb	Pb	mg/L	13-Jan-11	<5	<5	<5
Sb	Sb	mg/L	13-Jan-11	<5	<5	<5
Sr	Sr	mg/l	13-Jan-11	188	253	<2
Ti	Ti	mg/L	13-Jan-11	<100	<100	<100
V	V	mg/L	13-Jan-11	<1	<1	<1
Zn	Zn	mg/l	13-Jan-11	<1	<1	<1

<- Menor que el límie de detección Indicado
AG (Agua)
NA: No Analizada. IM: Insuficiente Muestra

Environmental Division
SE1100004

Anexo 1 - CONTROL DE CALIDAD - Duplicados

Identificación				146	
Fecha de Muestreo				19-Dec-10	
Hora de Muestreo				13:00	
Código ALS				SE1100004-010	
Tipo de Muestra				AG	
Parámetro / LD	Analito	Unidades	Fecha de Análisis	ORIG	DUPL
PARAMETROS FISICOQUIMICOS					
Otros					
ECE-POT401 / 2	CE	µS/cm	03-Jan-11	245000	244000
ESTD-GRA203 / 10	STD	mg/L	07-Jan-11	232073	234737
EALCB-VOL304 / 1	Alc HCO3	mg/L CaCO3	07-Jan-11	385	384
EALCC-VOL304 / 1	Alc CO3	mg/L CaCO3	07-Jan-11	<1	<1
EALCT-VOL304 / 1	Alc Total	mg/L CaCO3	07-Jan-11	385	384
EPH-POT403 / 0.01	pH		03-Jan-11	7.07	7.07
PARAMETROS INORGANICOS					
Aniones					
ECL-VOL309 / 0.5	Cl	mg/L	12-Jan-11	251255.4	250289.0
ES04-GRA205c / 10	SO4	mg/L	04-Jan-11	1190	1202

<: Menor que el límite de detección indicado
AG (Agua)
NA: No Analizada, IM: Insuficiente Muestra

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Anexo 1 - CONTROL DE CALIDAD - Duplicados

Identificación				165	
Fecha de Muntreo				19-Dec-10	
Hora de Muestreo				13:00	
CódigoALS				SE1100004-012	
Tipo de Muestra				AG	
Parámetro / LO	Analito	Unidades	Fecha de Análisis	ORIG	DUPL
PARAMETROS FISICOQ!.!Ifl'!ICOS					
Q1[2I					
ECE-POT401 12	CE	µS/cm	03-Jan-11	70400	70400
ESTD-GRA203 110	STO	mg/L	07-Jan-11	68261	69599
EALCB-VOL304 / 1	Ale HCO3	mg/L CaCO3	07-Jan-11	1926	1923
EALCC-VOL304 11	AlcCO3	mg/L CaCO3	07-Jan-11	<1	<1
EALCT-VOL304 / 1	Ale Total	mg/L CaCO3	07-Jan-11	1926	1923
EPH-POT403 / 0.01	pH		03-Jan-11	8.39	8.39
PARAMETBQ§ INORSzA�I�Q§					
ECL-VOL309 / 0.5	Cl	mgIl	12-Jan-11	14495.5	15461.9
ESO4-GRA205c 110	504	mg/L	04-Jan-11	1284	1136

o Menor que el límite de detección Indic.do
AG (Agua)
NA: No Analizada, IM: Insuficiente Mue sira

Anexo 2 - CONTROL DE CALIDAD - Adiciones

Par,metro / LO	Ana lito	Unidades	Fecha de An,lisis	Rango("/.)	"/,Recup.	Código ALS
PARAMETROS INORGANICOS						
Aniones						
ECL-VOL309 / 0.5	Cl	mg/L	12-Jan-11	<75-125>	NA	SE11O0004-001
ECL-VOL309 / 0.5	e,	mg/L	12-Jan-11	<75-125>	NA	SE11O0004-011

<: Menor que et limlte de detección Indicado

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Anexo 3 - CONTROL DE CALIDAD - Blancos y Estándares

P•rílmetro I LO	An•lito	Unid•des	Fech• de Análisis	Bl•nco	V•lor STD	Valor Nomln•l	% Recup.	Limites	Nombre STO
PARAMETROS FIS!COOUIMICOS									
2Y2l									
ECE-POT401 / 2	CE	µS/cm	03-Jan-11	<2	1410	1413	100	80-120	Pt-CE-1-4
ESTD-GRA203 / 10	STO	mg/L	07-Jan-11	<10	283	293	97	80-120	P1-SDT-1-7
EALCB-VOL304 / 1	Ale HCO3	mg/LCaCO3	07-Jan-11	----	100	100	100	80-120	Pt-Alc-1-5
EALCC-VOL304 / 1	AlcCO3	mg/L CaCO3	07-Jan-11	----	100	100	100	80-120	P1-Alc-1-5
EALCT-VOL304 / 1	Ale Total	mg/LCaCO3	07-Jan-11	----	100	100	100	80-120	P!-Alc-1-5
EPH-POT403 / 0.01	pH		03-Jan-11	----	4 01	4.00	100	80-120	Pt-pH-1-1
PARAMETRQS INORGANICQS									
Aniones									
ECL-VOL309 / 0 5	Ci	mg/L	12-Jan-11	<0.5	91.8	100.0	92	80-120	P!-Cl-1-4
ESO4-GRA205c/ 10	SO4	mg/L	04-Jan-11	<10	103	100	103	80-120	Pt-5O4-1-8

<• Menor que el limite de detección indicado

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Anexo 4 - COMENTARIOS

Condiciones de Recepción de Muestras

- Se recibieron 12 muestras.
- La muestra fue tomada por el cliente quien se responsabiliza por su correcta identificación y preservación.
- Muestra(s) fue(ron) recibida(s) en ALS Environmental con Temperatura de recepción de 20ºC.
- Medida del parámetro pH y Conductividad fue realizado en ALS Environmental a 25ºC.
- Medida del parámetro Metal Total fue realizado en ALS Environmental Externo.
- La información contenida en este informe no podrá ser reproducida total o parcialmente para usos publicitarios sin la autorización previa de ALS Patagonia S.A.
- Los resultados contenidos en este Informe de ensayo sólo son válidos para las muestras analizadas.

Referencias de Métodos

- EALCB-VOL304 (Alc HCO3): Titration Method. APHA 2320-B, page 2-27 to 2-29, 21st ed.
- EALCC-VOL304 (Alc CO3): Titration Method. APHA 2320-B, page 2-27 to 2-29, 21st ed.
- EALCT-VOL304 (Alc Total): Titration Method. APHA 2320-B, page 2-27 to 2-29, 21st ed.
- ECE-POT401 (CE): Laboratory Method. APHA 2510-B, page 2-47 to 2-48, 21st ed.
- ECL-VOL309 (Cl): Argentometric Method. APHA 4500-Cl-B, page.4-70 to 4-71, 21st ed.2005.
- EPH-POT403 (pH): Electrometric Method. APHA 4500-H-B, page 4-90 to 4-94, 21st ed.
- ESO4-GRA205c (SO4) : Método Gravimétrico con Secado de Residuos, SISS ME-30-2007, pág. 222 - 227, 2da versión 2007.. Gravimetric Method with Drying of Residue. APHA 4500-SO4-D, page 4-187 to 4-188, 21st ed.2005.
- ESTD-GRA203 (STD): Total Dissolved Solids Dried at 180 ºC. APHA 2540 C. page 2-57, 21st ed.

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Anexo 5

Procedimientos Analíticos

CODIGO METODO	DESCRIPCION
EALCB-VOL3�	Alcalinidad Bicarbonato, volumetría
EALCC-VOL304	Alcalinidad Carbonato, volumetria
EALCT-VOL3�	Alcalinidad Total, volumetria
ECE-POT40t	Conductividad electrice. potenciometría
ECL-VOL309	Cloruro por
Volumetria EPH-POT403	pH por
potenciometria ES04-GRA205c	Sulfato
por gravimetria	
ESTD-GRA203	Sólidos Disueltos Totales. Gravimetria

** FIN DEL REPORTE **