

**ASX RELEASE**

LPI: ASX - 19 December 2017

**LOW COST, SHORT PAYBACK OUTCOMES IN PRELIMINARY  
ECONOMIC ASSESSMENT (PEA) FOR MARICUNGA LITHIUM BRINE  
PROJECT**

---

**Highlights**

- ✓ The Maricunga Lithium Brine project's Preliminary Economic Assessment (PEA) supports 20,000 tonnes per annum (t/a) production of lithium carbonate (LCE) and 74,000t/a potassium chloride fertilizer (KCl) over 20 years.
- ✓ Project NPV is estimated to be US\$1.049B before tax at 8% discount rate, providing an IRR of 23.4%.
- ✓ Payback in 2 years and 11 months based on a 2-year ramp up period.
- ✓ Project operating cost places Maricunga among most efficient producers with lithium carbonate production cost of US\$2,938 per tonne (/t) FOB in Chile, reducing to US\$2,635/t with credits from KCl by-product.
- ✓ Project development cost estimated at US\$366M (LPI's 50% share estimated at US\$183M) excluding KCl (US\$23M), plus indirect costs of 14.2% (US\$55M) and 18.6% (US\$83M) contingency.
- ✓ The project is progressing to a feasibility study, providing improved certainty regarding reserves, metallurgical design, equipment and operational risks.
- ✓ Conventional evaporation pond and process technology to minimise operational risks.
- ✓ PEA completed by Tier-1 engineering consultancy WorleyParsons to international standards. Accuracy of operating and capital cost estimates expected within a +/- 25% range.

---

For full access to the PEA document prepared by WorleyParsons please visit <http://lithiumpowerinternational.com/>

Lithium Power International Limited (ASX: LPI) (“LPI” or “the Company”) is pleased to provide details of the Preliminary Economic Assessment (PEA) for its Maricunga lithium brine project in northern Chile by the Maricunga joint venture company, Minera Salar Blanco (MSB).

**Lithium Power International’s Chief Executive Officer, Martin Holland, commented:**

“Release of the PEA is a very important step towards becoming a lithium producer. The study demonstrates a very positive and robust outcome that justifies completion of a full feasibility study. The operating expenditure estimate places Maricunga in the lower quartile on the cost curve, at US\$2,938/t (excluding KCI). The project has a payback of less than three years. It’s important to state that the high level of detail in this study meets international standards.”

## **Executive Summary and Key Study Parameters**

The project plan is to produce 20,000t/a of lithium carbonate (LCE), with production of 74,000t/a of potassium chloride (KCl) from year 3 of the project when potash salts have accumulated to a level where continuous processing can be carried out. Key operating and capital costs are summarised in Tables 1 to 3.

The study was based on extraction of an average 222 litres per second (l/s) of brine throughout the project life of 20 years. The brine commences approximately 10cm below the salt lake surface and extends below the base of the proposed bore field at 200m below the surface. Brine will be extracted from a minimum of 13 individual wells, pumping via a central collection pond to the evaporation ponds.

In the evaporation ponds, the brine would be concentrated through evaporation and chemical saturation, with precipitation of different salts, such as halite, sylvinite and carnallite. All salts that precipitate would be periodically harvested from the ponds, and stored in designated stockpiles. The sylvinite and carnallite salts would be sent directly to the KCl processing plant, where through processes of size reduction and classification, flotation, leaching, drying and packaging, KCl fertilizer is obtained.

Concentrated lithium brine from the evaporation ponds would be pumped to the reservoir ponds, from which a Salt Removal Plant would be fed. This plant would remove calcium impurities as calcium chloride and tachyhydrite from the brine. This would be achieved through consecutive evaporation and crystallization steps. This process allows a higher concentration of lithium in the brine.

The concentrated lithium brine obtained from the Salt Removal Plant would then be fed to the lithium carbonate plant, where purification, solvent extraction and filtration remove remaining impurities including calcium, magnesium and boron. The concentrated lithium brine would then be fed to a carbonation stage, where through the addition of soda ash, the lithium carbonate precipitates. This precipitated lithium carbonate would then be fed to a centrifuge for water removal, and final drying, size reduction and packaging. The lithium and potash products would be exported from ports in the second region of Chile, near Antofagasta.

The project has excellent existing infrastructure. The project is located beside one of the international roads connecting Chile and Argentina. High capacity electricity infrastructure is also nearby, providing excellent power options for the project development.

Completion of a definitive feasibility study in the second half of 2018 and securing the project environmental and operating permits will take the Company to the point of final decision to proceed and financial investment.

**Table 1: Summary of operating costs per tonne (excluding KCl)**

Operating Cost	US\$ / tonne Li <sub>2</sub> CO <sub>3</sub>	US\$ / tonne KCl	Total 000 US\$
<b>Direct Costs</b>			
Chemical Reactives and Reagents	925	17	19,757
Salt Harvest and Transport	93	1	1,947
Energy	860	17	18,438
Manpower	353	19	8,471
Catering & Camp Services	84	4	1,984
Maintenance	288	9	6,407
Transport	207	76	9,764
<b>Direct Cost Subtotal</b>	<b>2,809</b>	<b>143</b>	<b>66,769</b>
<b>Indirect Costs</b>			
General & Administration	129	2	2,716
<b>Indirect Cost Subtotal</b>	<b>129</b>	<b>2</b>	<b>2,716</b>
<b>Total Operating Cost</b>	<b>2,938</b>	<b>145</b>	<b>69,485</b>

**Table 2: Summary of capital cost items (all inclusive)**

Area	Description	Projected Budget
		US\$ 000
DIRECT COSTS		
1000	Brine Extraction Wells	25.637
2000	Evaporation Ponds	134.065
2500	Massive Soil Movements	6.246
3000	KCI Plant	23.396
5000	Salt Removal Plant	29.928
6000	Lithium Carbonate Plant	77.396
8000	General Services	29.898
9000	Infrastructure	62.816
	TOTAL DIRECT COSTS	389.382
	TOTAL INDIRECT COSTS - 14.2% -	55.216
	CONTINGENCIES - 18.6% -	82.708
	TOTAL PROJECTED BUDGET	527.305

**Table 3: Financial model summary information**

NPV discount rate	Before tax \$USM	After tax \$USM
NPV 6%	1,425	1,013
NPV 8%	1,049	731
NPV 10%	770	521
IRR	23.4	20.4
Project payback	2 Years 11 months	3 Years 3 months

## Preliminary Economic Assessment Parameters – Cautionary Statement

In response to the *November 2016 ASX interim guidance: Reporting scoping studies* the Company provides the following information.

The Study's results, production target and the financial information referred to in this ASX Release are based on initial technical and economic assessments (expected to be within a +/- 25% range of accuracy) that are to a much higher level of accuracy than typically developed in a scoping study or Preliminary Economic Assessment (PEA).

This assessment would conform to requirements for a Preliminary Feasibility Study, except that the MSB has not yet finalised a mineral reserve for the project.

The hydrogeological model which is being developed to define brine reserves for the project is expected to be completed in early 1Q18 and hence this study constitutes a PEA, rather than the PFS which was originally proposed by LPI.

The Mineral Resources subject to the Preliminary Economic Assessment consist of 80% in the Indicated and measured Mineral Resource categories with 20% of the resource classified as Inferred Mineral Resources. There is a lower level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration will result in the upgrading to Indicated or measured Mineral Resources or the conversion to Ore Reserves. The reader is advised that the project has an exploration target defined below the resource which further exploration may result in conversion to additional resources.

It must be stressed that an Exploration Target is not a Mineral Resource. The potential quantity and grade of the Exploration Target is conceptual in nature, and there has been insufficient exploration to define a Mineral Resource in the volume where the Exploration Target is outlined. It is uncertain if further exploration drilling will result in the determination of a Mineral Resource in this volume. There is a considerable amount of geological knowledge available to MSB from the drilling, seismic, AMT and gravity geophysics, which gives the company a fair amount of confidence with respect to the exploration target.

The consideration of JORC modifying factors is sufficiently advanced to support this Preliminary Economic Assessment. This includes hydrogeological and process modelling (with the hydrogeological model to be completed, to allow the definition of reserves), completion of engineering studies which support capital and operating cost estimates, discussions with contractors and third-party infrastructure providers, no identified social, legal or environment obstacles to development.

Government approvals are awaited with respect to the licence for lithium production (CCHEN licence).

As with all mining projects in Chile acceptance of the project environmental assessment is required to obtain operating licences for the project, as the properties held are already granted mining licences.

The Company believes there is a reasonable basis to expect it will be able to fund project development, considering the quality of the project and very strong lithium market fundamentals. This is supported by the recent capital raising by the Company in which the Company raised A\$35.6M from institutional and sophisticated investors. Details related to these themes are addressed in this ASX Release. The details of the updated Mineral Resource defined at the project were announced on the ASX on 12 July 2017.

## Detailed Preliminary Economic Assessment Information

### Development Plan and Preliminary Economic Assessment Overview

The Maricunga project is located in northern Chile, home to the largest and highest-grade lithium brine mines in the “Lithium Triangle” (Figure 1) and source of the world’s lowest cost lithium production. Maricunga is regarded as one of the highest quality pre-production lithium brine development projects globally.

The 2016-17 drilling program expanded the project resources with Measured and Indicated resources comprising 80% of the updated resource, with the Inferred category the remaining 20% of the total 2.15Mt LCE resource defined to only 200m. One deep hole (S19) was drilled to 360m, which together with the seismic, AMT and gravity geophysics executed over the area, gives MSB a high degree of confidence there is a continuation to a depth of around 500m of the aquifers hosting lithium resources above 200m. MSB expects to increase its resources (hence its reserves) within the next months as part of the development works, after finalizing the feasibility and getting the environmental approval for the project.

MSB has now completed a year of evaporation test work at the project site and is at the pilot plant stage of optimising the lithium and potassium extraction processes, working with leading global equipment providers Veolia, GEA, Andritz and FLSmidth. Test work is continuing to refine the process and quantities of chemical reagent use, to improve estimates of project operating costs. MSB is now moving towards a full feasibility study in 2018, following the positive outcomes of the PEA.

### Project Background

The mineralisation style of the Maricunga lithium brine project is that of a salt lake where lithium (Li, for battery production) and potassium (K, for production of potassium chloride fertiliser) are dissolved in brine hosted in pore spaces within the lake sediments. MSB’s Maricunga project is considered to be one of the highest grade lithium brine projects in existence, with proposed operating costs to be in the lowest quartile.

It is important to note there are fundamental differences between salt lake brine deposits and hard rock metal deposits. Brine is a fluid hosted in porous sediment and has the ability to flow in response to pumping or use of a natural hydraulic gradient. Brine projects almost always have much lower operating costs than hard rock projects, because there is no need to crush rock and sell a low grade concentrate for refining. Instead, brine operations directly produce and sell a high grade saleable lithium carbonate product.

### **Capital Costs**

Capital expenditures are based on an annual operating capacity of 20,000t of LCE, and 74,000t of KCl. Capital equipment costs have been obtained from in-house data and solicited budget price information.

The estimates are expressed in US\$ as of November 2017. No provision has been included to offset future cost escalation since expenses, as well as revenue, are expressed in constant dollars. Accuracy of the estimate is expected to be within a +/- 25% range.

The capital costs include direct and indirect costs for:

- Brine production bore fields and the pipeline delivery system
- Evaporation ponds, platforms, cutting and filling
- Salt removal plant
- Lithium carbonate and the potash plant
- General services
- Infrastructure

The capital investment for MSB's project, including equipment, materials, indirect costs and contingencies during the construction period is estimated to be US\$504M, excluding the US\$23.4M KCl plant. Out of this total Direct Project Costs represent US\$360M; Indirect Project Costs represent US\$55M (14.2%) and the provision for Contingencies is US\$83M (18.6%). Total capital expenditures are summarized in Table 2 at the beginning of the document.

### **Operating Costs**

The operating cost estimate for 20,000t/a LCE and 74,000t/a KCl facilities is based upon process definition, laboratory work, tests at equipment suppliers and reagents consumption rates all provided or determined by MSB. This work is currently at a relatively preliminary stage. Informative vendor quotations have been used for reagents costs. Expenses estimates, as well as manpower levels are based on WP experience and information delivered by MSB. Energy prices, mainly electricity and



diesel fuel and chemical prices, correspond to expected costs for products delivered at the project's location.

Chemical reactives and reagents are the major operating cost of the project, followed by energy costs. Over 80% of the chemical costs correspond to Soda Ash, of which 42,000t/a are required to produce 20,000t/a of LCE. Other important expense items are manpower and maintenance. If KCl income and expenses are netted, unit LCE production costs are reduced from US\$2,938/t to US\$2,635/t. The LCE production costs are summarized in Table 1 at the beginning of this report.

**Figure 1: Maricunga project location in the Lithium Triangle in Chile**





## **Financial Analysis**

To carry out the project's economic evaluation, a pre-tax and after tax cash flow model was developed. Inputs for this model were the capital and operating costs estimates, as well as an assumed production program and the pricing forecast included in the PEA.

Model results include the project's NPV at different rates, IRR and payback period. These parameters were calculated for different scenarios; in addition, a sensitivity analysis on the most important revenue/cost variables was performed.

For economic evaluation purposes, it has been assumed that 100 % of capital expenditures, including pre-production expenses and working capital are financed solely with owner's equity. Given the level of rates of return obtained, considering leverage would further improve these rates of return.

Income tax rate for corporations such as MSB has been set at 27 %. In the case of long lead projects, such as MSB's, Chilean VAT law allows for direct recovery from the government of VAT paid during the construction period. Additionally, in the case of companies that export all or nearly all of their production, they can recover directly from the government VAT paid on all supplies.

## **Project Properties and Chilean Mining Law**

The Maricunga Lithium Project consists of the *Litio 1-6 (1,438 ha) and adjacent Cocina 19-27 (450 ha), San Francisco, Salamina and Despreciada (675 ha together)* mining properties (Figure 2). The Cocina 19-27, San Francisco, Despreciada and Salamina concessions were constituted under the 1932 Chilean mining law and have "grand-fathered" rights for the production and sale of lithium products; unlike the Litio 1-6 concessions which were constituted under the 1983 Chilean mining law and require additional government permits (CEOL) for the production and sale of lithium.

Chilean regulation requires that the Chilean Nuclear Energy Commission (CCHEN in Spanish) authorize a quote of production and commercialization of lithium salts (products) for any company in the country. MSB has applied for this CCHEN permit and an approval regarding this matter is awaited.

According to MSB's interpretation of the relevant legislation, the 1932 Chilean mining law concessions are exempt from any special royalties on lithium carbonate production, and would be subject to royalties under the general mining regime. If this is case, and if MSB could produce 100 % of the brine required for the plant from the old properties, yearly royalties would amount to approximately US\$ 3.3 million per year. This is equivalent to about 1% of annual sales.

The Chilean government is currently reviewing a future regime for lithium production for the country which will probably include a royalty structure. It needs to be noted that MSB fully owns its mineral concessions and will not be exposed to additional payments like for example; long term lease payments as the ones CORFO, owner of the Atacama Salar, collects from SQM and Albemarle. For the PEA a very conservative potential royalty rate was applied for the project of 7.5% of sales.

### **Project Study Team**

A team of experienced consultants was assembled by MSB (Table 4 below) to advance the project to a feasibility study working with MSB management. The PEA is based on data collection that began in 2011 and continues today.

Tier-1 engineering consultancy WorleyParsons (WP) was selected to undertake the project engineering, given their extensive experience with both lithium feasibility projects and lithium operations. WP was responsible for the engineering design, pond design, geotechnical evaluation and cost compilation. Tier-1 Environmental consultancy MWH is undertaking the environmental baseline and EIA report preparation for the project.

Experienced lithium process engineer Peter Ehren is coordinating process evaluations and optimisation by major global equipment developers and suppliers Veolia, GEA, Andritz and FLSmidth for the lithium and potash production processes.

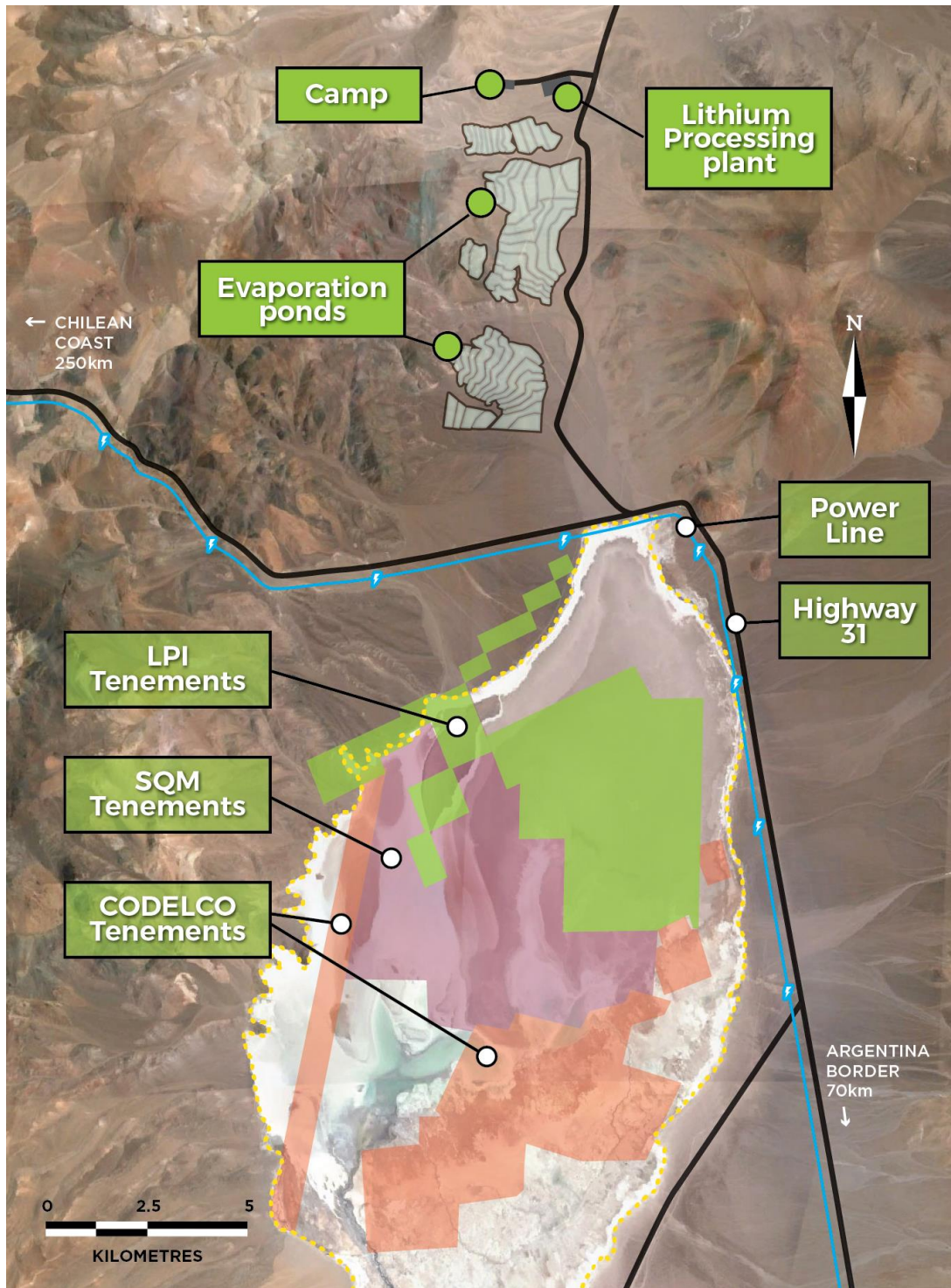
Infrastructure studies were commissioned to specialist consultancies, each an expert in their fields. The project Mineral Resources were estimated by FloSolutions, a specialist groundwater consultancy who is also developing the hydrogeological model for the project with personnel from DHI, the developer of the Feflow groundwater modelling software. The hydrogeological model will be completed in Q1 2018, as a key input to the EIA and to define lithium brine reserves. Working with MSB to act as a counterpart to FloSolutions through the hydrogeological model is Dr Carlos Espinosa, a highly experienced hydrogeologist who has been involved with government water agencies for many years.

### **Hydrogeology and Mineral Resources**

MSB completed a drilling and testing program from 4Q16 through 2Q17, following on from previous drilling and pumping tests conducted in 2012 and 2015 respectively. These investigations culminated in the release of the expanded lithium and potash resource for the project in July 2017.

The expanded Mineral Resource estimate for lithium and potassium hosted in the salar brine was completed based on knowledge of the geometry and types of the salar sediments, the variations in the drainable porosity of the sediments and the brine concentration within the host sediments. The reader is referred to announcements by the Company on 12 July 2017 and 15 August 2017. The resource and classification is summarised in Table 5 below.

Figure 2: Maricunga JV properties



**Table 4: Responsibilities for individual components of the PEA**

Responsibility	Consultants	Office location
Project Engineering	Worley Parsons	Santiago, Chile
Process engineering	PEC – Peter Ehren	La Serena, Chile
Lithium pilot plant	Veolia/ GEA	USA/ Germany
Potassium pilot plant	Andritz and FLSmidth	Germany
Geotechnical Evaluation	Worley Parsons	Santiago, Chile
Evaporation pond design	Worley Parsons & PEC	Santiago, Chile
Environmental baseline & reporting	MWH	Santiago, Chile
Process water supply	FloSolutions	Santiago, Chile
Mineral Resource Estimation	FloSolutions	Santiago, Chile
Hydrogeological Modelling	FloSolutions	Santiago, Chile
Hydrogeological review	Dr Carlos Espinosa	Santiago, Chile

**Table 5: July 2017 Maricunga JV Mineral Resource Estimate**

RESOURCE ESTIMATE MARICUNGA										
	Measured		Indicated		Inferred		Measured+Indicated		Total Resource	
Area km <sup>2</sup>	18.88		6.76		14.38 <sup>^</sup>		25.64		25.64	
Aquifer volume km <sup>3</sup>	3.06		1.35		0.72		4.41		5.13	
Brine volume km <sup>3</sup>	0.15		0.14		0.06		0.30		0.36	
Mean drainable porosity % (Specific yield)	5.02		10.65		8.99		6.75		7.06	
Element	Li	K	Li	K	Li	K	Li	K	Li	K
Mean grade g/m <sup>3</sup> of aquifer	56	409	114	801	114	869	74	529	79	577
Mean concentration mg/l	1,174	8,646	1,071	7,491	1,289	9,859	1,143	8,292	1,163	8,512
Resource tonnes	170,000	1,250,000	155,000	1,100,000	80,000	630,000	325,000	2,350,000	405,000	2,980,000
<b>Lithium Carbonate Equivalent tonnes</b>	900,000		820,000		430,000		1,720,000		2,150,000	
<b>Potassium Chloride tonnes</b>	2,400,000		2,100,000		1,200,000		4,500,000		5,700,000	

Lithium is converted to lithium carbonate (Li<sub>2</sub>CO<sub>3</sub>) with a conversion factor of 5.32. Values may not add due to rounding. No cut-off grade is applied in the resource.

Potassium is converted to potassium chloride (KCl) with a conversion factor of 1.91

<sup>^</sup> Inferred underlies the Measured in the Lito properties

## Field Evaporation studies

MSB installed a series of eleven test evaporation ponds at the Maricunga project, with brine from pump well P1 (1,260mg/l lithium) used for the evaporation evaluation. The testing measured the brine evaporation under the full range of climatic conditions experienced at the project site from September 2016. Over a 9 month period the brine concentration increased 7 times, with precipitation of halite (NaCl) and silvite (KCl) in the ponds together with carnallite (KCl·MgCl<sub>2</sub>·6H<sub>2</sub>O). Evaporation testing at the project is ongoing, in conjunction with process evaluation and discussions with engineering providers.



### **Wells and pipelines**

A minimum of 13 wells bores are planned for the project, based on the flow rates observed in pump tests to date. This number of wells includes additional wells that allow for normal mechanical and electrical availability and utilization purposes.

Production wells will pump brine from both the upper halite aquifer and the lower aquifer (gravel, volcanoclastic units). The details of the pumping will be confirmed by simulations with the yet to be completed hydrogeological model. Operation of the wells will also require periodic maintenance to clean wells and pumps due to a build up of crystalline salts. The brine from individual wells will be pumped via a centralized open pond location, then to the pond area for evaporation and later processing.

### **Evaporation Pond Design**

Geotechnical studies and site evaluation has been undertaken in the area where the evaporation ponds will be located to finalise pond design as part of the PEA study. The project will use the well-established method of open air evaporation in ponds to concentrate the brine, before final processing to produce lithium carbonate and potassium chloride for sale.

WorleyParsons has designed the evaporation ponds, working with Peter Ehren of PEC. The ponds are to be located ~5km to the north of the salar (Figure 3), where they can be constructed taking advantage of the modest natural slopes, and gravel and sand that can be easily shaped into pond embankments prior to lining with an impermeable HDP membrane. The membrane specification will ensure resistance to impacts and punctures for operation long term as non-harvestable and harvestable evaporation ponds.

### **Salt Removal Plant**

The brine that comes from the ponds is in a first instance fed to the Salt Removal Plant, which, through the processes of evaporation and crystallization, allows the concentration of the lithium contained in the brine, and at the same time enables the elimination of excess calcium and other impurities from the brine in the form of tachyhydrite and calcium chloride. This stage allows feeding of more concentrated brine to the rest of the stages, improving their efficiency and producing salts that may have market potential. It additionally generates water recovery that is used in the process.

### **Process Plants**

MSB is working with experienced suppliers Veolia, GEA, Andritz and FLSmidth and their laboratories, who are undertaking pilot plant test work using Maricunga brine. Stage 1 is now complete reaching a 5% lithium concentration. Stage 2 is underway with first lithium carbonate and potash (KCl) production

samples expected by the end of 4Q17. Test work aims to optimise lithium extraction and potassium production and develop the lowest cost process, with highest possible lithium recovery. Test work is well advanced and in the coming months final adjustments will be made to optimise the brine polishing sequence. The simplified process flow sheet diagram (Figure 4) is subject to ongoing optimisation.

### **Project Infrastructure**

WorleyParsons has also conducted initial designs and costings for the project infrastructure, the project construction facilities, and long term camp facility.

Site infrastructure consists of:

- Power and water supplies;
- Project accommodation camp and offices, laboratory, parking, workshops, general warehousing, weigh station and local access roads;
- Reagent preparation building (includes solvent extraction reagent warehouse, hydrochloric acid reception, caustic soda preparation), storage and preparation of soda ash
- Fuel plant and station.
- Storage and distribution of sulfuric acid and Lime plant;
- Compressors room; boiler room; water conditioning plant; and
- Lithium carbonate and potassium chloride production plants.

### **Power Supply**

The Salar Blanco mining project initially projects a demand for 8 MW of electrical power. Studies contracted by MSB indicate that the best supply alternative, from a technical-economic point of view, would be the connection through an existing 23 KV transmission through a sectioning substation.

### **Water Supply**

A well or wells in the vicinity of the Salar de Maricunga would provide water for the project operations and construction. Industrial water consumption is estimated at ~28 litre/sec. Industrial water will be treated in a reverse osmosis plant located inside the plant. This plant will feed tanks that will supply soft water to the process that require clean water but not potable water.



Figure 3: Location of planned project infrastructure

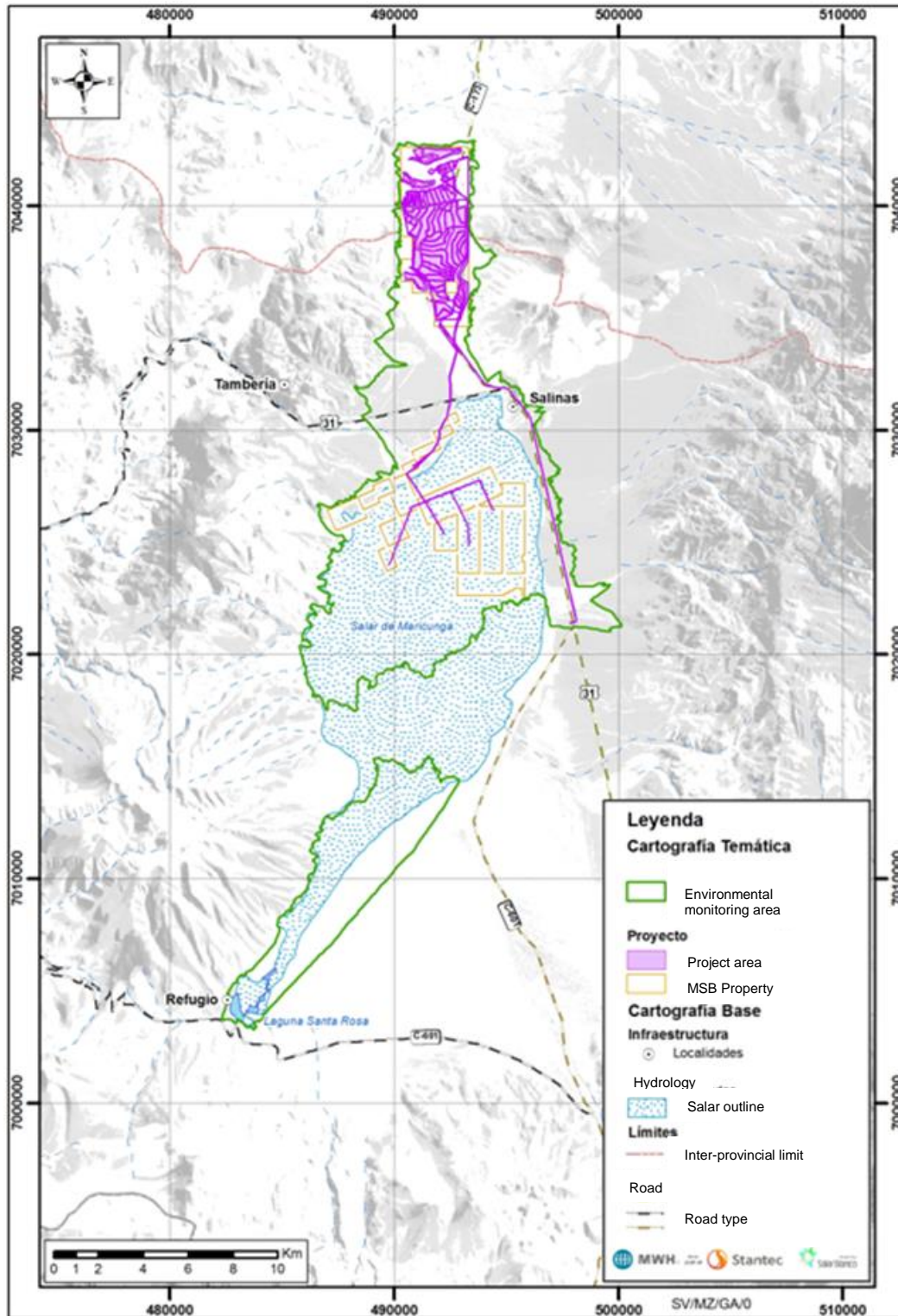
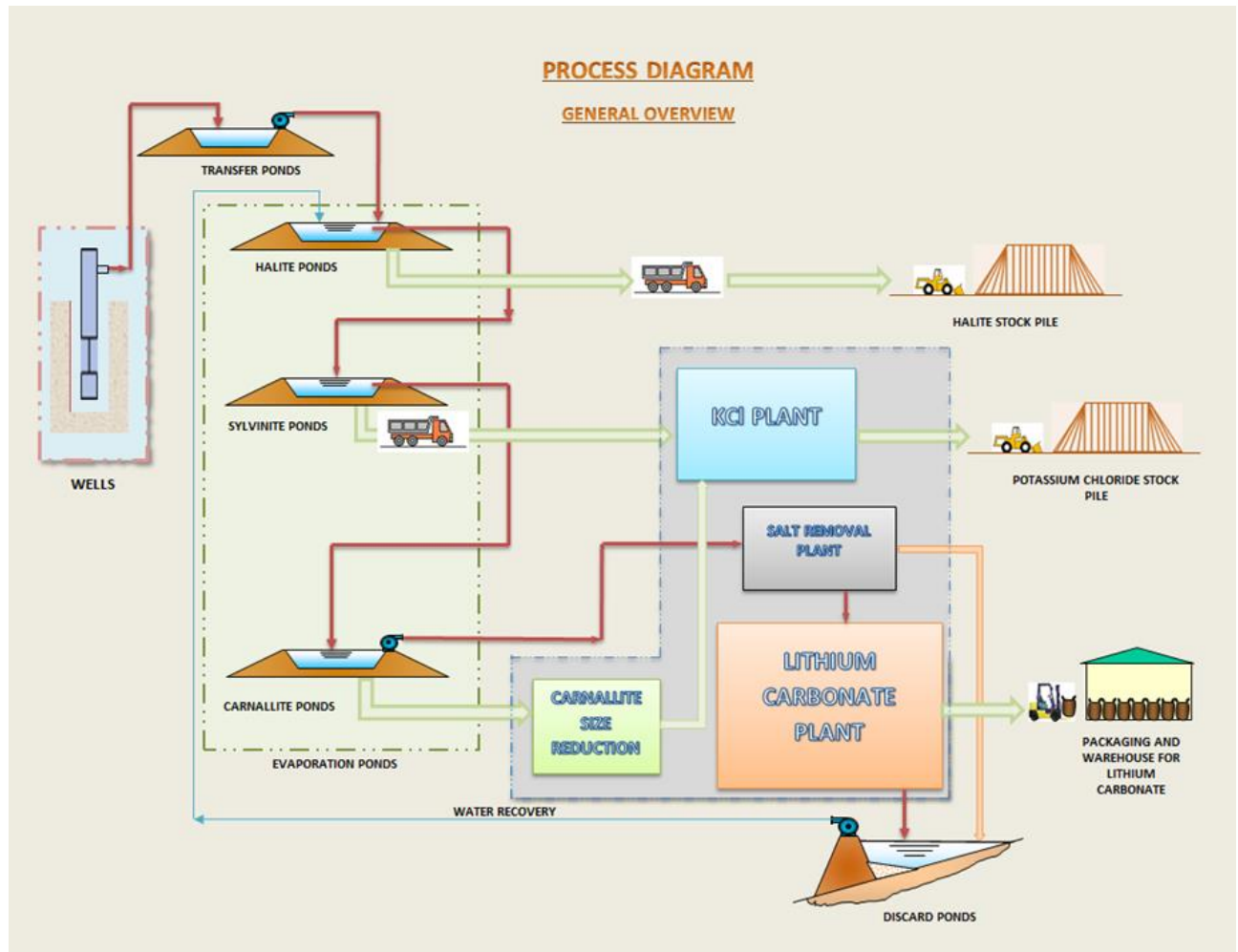


Figure 4: Simplified project flow sheet



Refer to Pages 198-208 of the PEA for the detailed process diagrams.

### Transportation

The Ultramar Logistics Group was hired to provide initial advice on haulage and storage options for materials being transported to and from the Maricunga project, including lithium carbonate and potash products, and particularly inbound soda ash. This recommended potash can be shipped from site in bulk haulage transport and potentially sold to SQM. The lithium carbonate exports can be made through the port of Angamos and the sodium carbonate (soda ash) imports can be made through the port of Antofagasta. Existing public roads for heavy haulage are available close by for the Maricunga project's needs to and from the coast.

**Figure 5: Existing electricity infrastructure along the road to Maricunga**



### **Marketing Study**

Neither MSB or LPI have obtained an updated market study for the PEA, following receipt of a market study by consultancy CRU, which formed part of LPI's Prospectus for the listing of the Company on ASX in June 2016. There is abundant information that supports a strong demand for lithium carbonate into the future, particularly for a low cost producer such as the planned Maricunga project.

Lithium and Potassium are industrial minerals and as such the prices for sale of these products may not be readily quoted in financial media. The lithium market is growing very strongly through the use of lithium in electronic applications and the predicted very significant expansion of electric vehicles and batteries for large scale energy storage. Both these applications will include demand for a significant volume of lithium products and consequently the quoted long term and spot prices for lithium have increased significantly in the last two years. However, traditional users of lithium such as glass and grease manufacturers remain a viable market sector for sales.

It should be noted that the lithium and potash markets have a high degree of producer concentration and the value of lithium and potash products is a function of product quality, volume of supply to the market, production costs and transport and handling. As lithium products are high value products transportation and sales make up much less of the total production cost than for potash (KCl).



## **Environmental Impact Assessment**

The environmental base line study includes two monitoring campaigns:

- Seasonal campaigns, which are conducted during each of the four seasons of the year, and
- Individual campaigns that need to be done just once (i.e. archeological evaluations of the plant and pond area).

All the engineering done to date by WorleyParsons has been provided to MWH to complete the Environmental Impact Assessment (EIA) of the project during the construction, operation and closure of the mine. Work is ongoing with the EIA final document. Environmental aspects like noise, air quality, roads and traffic, and hydrogeology, are key to identify potential impacts of the project over its baseline and the best mitigations strategies to be implemented at an early stage of engineering. MSB plans to submit the EIA during 2Q18.

## **Community Relations**

MSB has engaged early with communities that could be influenced by the project. This includes local and government authorities, and Colla indigenous communities. Meetings with the mayors of the three nearest towns, Diego de Almagro, Chañaral and Copiapó, to present the project and to fully understand the concerns and issues of the community, were executed.

MSB has already started talks with the indigenous Colla community, all meetings and agreements have been well documented. It is important to note that the only interaction with the indigenous territories of the Collas during construction and operation of the Project is the use of existing public roads that cross their territories. These public roads are also presently being used by other companies, including Codelco (Chilean government) mine operations.

**Figure 6: Community meeting with Community stakeholders**



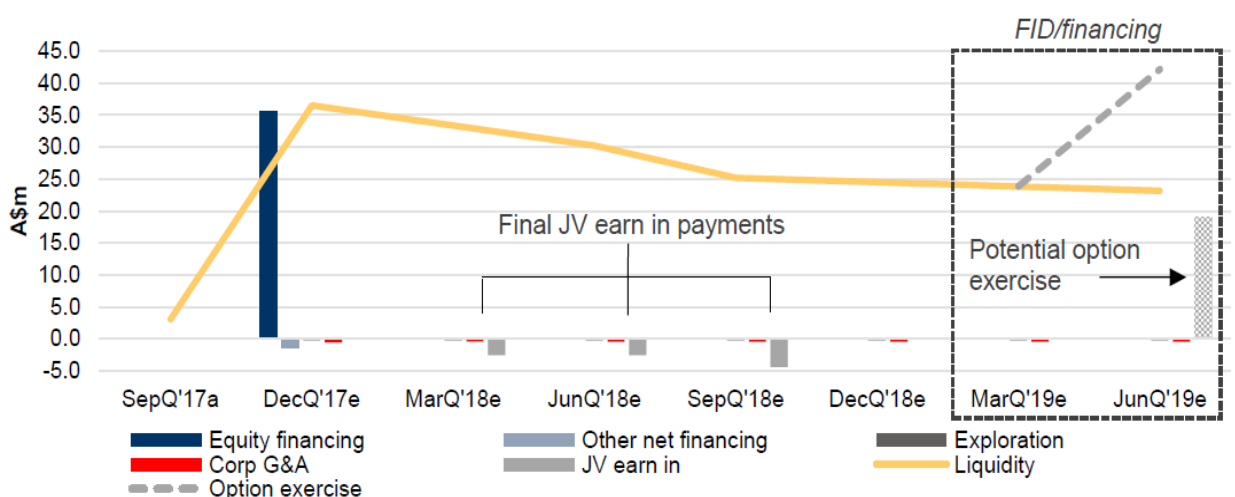
## Project Funding

The Company will continue to increase confidence in the project by completing a definitive feasibility study and firming up engineering design, improving the accuracy of the project capital and operating costs, together with delivering the supporting project infrastructure studies, submitting the project EIA and working with local communities to ensure they benefit adequately from the project.

LPI has a history of successful capital raisings and is increasingly in the eye of quality institutional investors who take a long term view with their investments. The Company has in recent weeks raised A\$35.6 m from institutional and sophisticated investors, thus confirming recognition of the interest in emerging and advanced lithium projects and companies. Consequently, LPI is funded for the completion of its commitment to Minera Salar Blanco (MSB), as per the joint venture Shareholders Agreement (SHA) and the original Investment Agreement. MSB will use its funds to continue the development of the project, including the definitive feasibility study, EIA, and pre-construction activities. Figure 7 (from Canaccord Genuity) shows the LPI cash flow and liquidity forecast.

Funding for the development of the project could come in many forms, and LPI is confident that funding will be possible within the fast growing lithium sector.

**Figure 7: LPI cash flow and liquidity forecasts (from Canaccord Genuity, December 2017)**



### **Planned Activities**

The PEA has demonstrated a highly positive outcome for the project at this stage of evaluation, and both the MSB and LPI boards have approved the advancement to a definitive feasibility study, with more detailed engineering and infrastructure evaluations to improve estimation of costs for the project. It is planned this would be completed during 2018.

Optimisation of the lithium production process will be carried out in parallel with other activities such as completing final arrangements with the power and water supplies, community relations at both the indigenous and local level, and submission of the project EIA.

### **Competent Person Statements**

The information contained in this ASX release relating to project engineering has been compiled by the WorleyParsons Santiago, Chile team. The report by WorleyParsons (WP) was reviewed by Marek Dworzanowski, Pr.Eng, BSc (Hons), FSAIMM of WP. Mr. Dworzanowski is a “competent person” (CP) and is independent of MSB. WP is responsible for the engineering design for the project. WP has consented to the presentation of the information in the form it is presented in this announcement. The WP team has been externally supervised by the MSB representatives highly experienced process engineer Mr Peter Ehren and engineer Mr Hugo Barrientos. Mr Ehren and Mr Barrientos are independent of the Company and MSB and consent to the inclusion in this announcement of this information in the form and context in which it appears.

The information contained in this ASX release relating to Exploration Targets, Exploration Results and resources has been compiled by Mr Murray Brooker. Mr Brooker is a Geologist and Hydrogeologist and is a Member of the Australian Institute of Geoscientists (AIG) and the International Association of Hydrogeologists (IAH). Mr Brooker has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a competent person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.

Mr Brooker is also a “Qualified Person” as defined by Canadian Securities Administrators’ National Instrument 43-101. The resource estimation was undertaken by Flosolutions of Santiago, Chile. LPI confirms that it is not aware of any new information or data that materially affects the information included in the Original release, and in the case of mineral resources, that all material assumptions and technical parameters underpinning the estimates in the original release continue to apply and have not materially changed.

LPI confirms the form and context in which the Competent Person’s findings are presented have not been materially modified from the original release.

Mr Brooker is an employee of Hydrominex Geoscience Pty Ltd and an independent consultant to the Company. Mr Brooker consents to the inclusion in this announcement of this information in the form and context in which it appears. The information in this announcement is an accurate representation of the available data from initial drilling at the Maricunga project.



### **Forward Looking Statements**

The PEA is based on forward looking information subject to both known and unknown risks and uncertainties that could cause actual future outcomes to differ materially from those defined in the PEA information presented in this document. This forward looking information includes details of the proposed production plant, lithium and potassium recovery rates, projected brine concentrations, capital and operating costs, permitting and approvals, royalties, the project development timeline and exchange rates, amongst others.

This announcement was prepared based on the requirements of the JORC Code (2012) and the ASX listing rules. Material assumptions on which the PEA's outcomes are based are disclosed in this announcement for the ASX and for exploration and the resource in the JORC Table at the end of this report. Information on the project mineral resource is included in the announcement by the Company on the 12 July, 2017. It is noted that the 20% of the resource which is classified as inferred has a lower level of confidence than the Indicated and Measured resources and it is considered that consistent with the JORC (2012) Code it is reasonable to expect the majority of the Inferred Mineral Resource could be upgraded to Indicated Mineral Resources with further exploration.

The LPI board believes there is a reasonable basis for making the forward looking statements in this ASX release with what is classified as a production target (the proposed 20ktpa lithium carbonate production) and financial forecasts. The board considers this is reasonable based on the details of the project, the extensive experience of the MSB management and project team and their understanding of the context of operating mining projects in Chile.

### **Key Project Risks - as shown on the PEA Report**

- The risk of obtaining final environmental approvals from the necessary authorities in a timely manner;
- The risk of obtaining all the necessary licenses and permits on acceptable terms, in a timely manner or at all;
- Risks associated with pending government regulation with respect to lithium exploitation, especially with regards to royalty rates;
- The risk of changes in laws and their implementation, impacting activities on the properties;
- The risk of activities on adjacent properties having an impact on the Maricunga project;

The PEA is believed to be a comprehensive preliminary document where the project concepts and design have been considered thus providing a project accuracy of +/-25%. All this work will be studied in more detail and upgraded in the definitive feasibility study which is already underway, including the key finalisation of the hydrological model and reserves.

**For further information, please contact:****Martin C Holland – CEO**

Lithium Power International

E: [info@lithiumpowerinternational.com](mailto:info@lithiumpowerinternational.com)

Ph: +612 9276 1245

[www.lithiumpowerinternational.com](http://www.lithiumpowerinternational.com)

@LithiumPowerLPI

APPENDIX 1 - JORC Code, 2012 Edition - Table 1 Report: Maricunga Salar

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Considerations for Mineral Brine Projects
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>Drill cuttings were taken during rotary drilling. These are low quality drill samples, but provide sufficient information for lithological logging and for geological interpretation.</li> <li>Drill core was recovered in lexan polycarbonate liners and plastic bags alternating every 1.5 m length core run during the sonic drilling.</li> <li>Brine samples were collected at 6 m intervals during drilling (3 m in 2011 drilling). This involved purging brine from the drill hole and then taking a sample corresponding to the interval between the rods and the bottom of the hole. Brine samples below 204 m in hole S19 were taken every 12 m. Fluorescein tracer dye was used to distinguish drilling fluid from natural formation brine.</li> <li>The brine sample was collected in a clean plastic bottle and filled to the top to minimize air space within the bottle. Each bottle was marked with the sample number and details of the hole.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>Rotary drilling (using HWT size casing) – This method was used with natural formation brine for lubrication during drilling, to minimize the development of wall cake in the holes that could reduce the inflow of brine to the hole and affect brine quality.</li> <li>Rotary drilling allowed for recovery of drill cuttings and basic geological description. During rotary drilling, cuttings were collected directly from the outflow from the HWT casing. Drill cuttings were collected over two metre intervals in cloth bags, that were marked with the drill hole number and depth interval. Sub-samples were collected from the cloth bag by the site geologist to fill chip trays.</li> <li>Sonic drilling (M1A, S2, S18 and S20) produced cores with close to 100% core recovery. This technique uses sonic vibration to penetrate the salt lake sediments and produces cores without the rotation and drilling fluid cooling of the bit required for rotary drilling – which can results in the washing away of more friable unconsolidated sediments, such as sands.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse</li> </ul>	<ul style="list-style-type: none"> <li>Rotary drill cuttings were recovered from the hole in porous cloth bags to retain drilling fines, but to allow brine to drain from the sample bags (brine is collected by purging the hole every 6 m and not during the drilling directly, as this uses recirculated brine for drilling fluid). Fluorescein tracer dye was used to distinguish drilling fluid from natural formation brine.</li> </ul>

Criteria	JORC Code explanation	Considerations for Mineral Brine Projects
	<i>material.</i>	<ul style="list-style-type: none"> <li>Sonic drill core was recovered in alternating 1.5m length lexan tubes and 1.5 m length tubular plastic bags.</li> </ul>
<b>Geologic Logging</b>	<ul style="list-style-type: none"> <li><i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></li> <li><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li><i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>Rotary (using HWT size casing) drilling was carried out from the collection of drill cuttings for geologic logging and for brine sampling. Drill cuttings were logged by a geologist.</li> <li>Sonic holes are logged by a geologist who supervised cutting of samples for porosity sampling then splits the plastic tube and geologically logs the core.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li><i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>Core samples were systematically sub-sampled for laboratory analysis, cutting the lower 15 cm of core from the polycarbonate core sample tube and capping the cut section and taping the lids tightly to the core. This sub-sample was then sent to the porosity laboratory for testing. Sampling was systematic, to minimize any sampling bias.</li> <li>Brine samples collected following the purging of the holes during drilling are homogenized over the sampling interval, as brine is extracted from the hole using a bailer device. No sub-sampling is undertaken in the field. Fluorescein tracer dye was used to distinguish drilling fluid from natural formation brine.</li> <li>The brine sample was collected in one-litre sample bottles, rinsed and filled with brine. Each bottle was marked with the drill hole number and details of the sample. Prior to sending samples to the laboratory they were assigned unique sequential numbers with no relationship to the drill hole number.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and the derivation, etc.</i></li> <li><i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>The University of Antofagasta in northern Chile is used as the primary laboratory to conduct the assaying of the brine samples collected as part of the drilling program. They also analyzed blanks, duplicates and standards, with blind control samples in the analysis chain. The laboratory of the University of Antofagasta is not ISO certified, but it is specialized in the chemical analysis of brines and inorganic salts, with extensive experience in this field since the 1980s, when the main development studies of the Salar de Atacama were begun.</li> <li>The quality control and analytical procedures used at the University of Antofagasta laboratory are considered to be of high quality and comparable to those employed by ISO certified laboratories specializing in analysis of brines and inorganic salts.</li> <li>Duplicate and standard analyses are considered to be of acceptable quality.</li> <li>Samples for porosity test work are cut from the base of the plastic drill tubes every 3 m.</li> <li>Down hole geophysical tools were provided by a geophysical contractor and these are believed to be calibrated periodically to produce consistent results.</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li><i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry procedures, data verification, data</i></li> </ul>	<ul style="list-style-type: none"> <li>A full QA/QC program for monitoring accuracy, precision and to monitor potential contamination of samples and the analytical process was implemented. Accuracy, the closeness of measurements to the "true" or accepted value, was monitored by the insertion of standards, or reference samples, and by check analysis at an</li> </ul>

Criteria	JORC Code explanation	Considerations for Mineral Brine Projects
	<p><i>storage (physical and electronic) protocols.</i></p> <ul style="list-style-type: none"> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	<p>independent (or umpire) laboratory.</p> <ul style="list-style-type: none"> <li>Duplicate samples in the analysis chain were submitted to the University of Antofagasta as unique samples (blind duplicates) following the drilling process.</li> <li>Stable blank samples (distilled water) were inserted to measure cross contamination during the analytical process.</li> <li>The anion-cation balance was used as a measure of analytical accuracy and was always considerably less than +/-5%, which is considered to be an acceptable balance.</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li><i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></li> <li><i>Specification of the grid system used.</i></li> <li><i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>The hole was located with a hand held GPS in the field and subsequently located by a surveyor on completion of the drilling program.</li> <li>The location is in WGS84 Zone 19 south.</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li><i>Data spacing for reporting of Exploration Results.</i></li> <li><i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li><i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>Lithological data was collected throughout the drilling. Drill holes have a spacing of approximately 2 km.</li> <li>Brine samples have a 6 m vertical separation and drill cutting lithological samples are on 2 m intervals (in 2011 drilling samples were taken every 3 m). Porosity samples were taken every 3 m in sonic core holes.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li><i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></li> </ul>	<ul style="list-style-type: none"> <li>The salar deposits that host lithium-bearing brines consist of sub-horizontal beds and lenses of halite, sand, gravel and clay. The vertical holes are essentially perpendicular to these units, intersecting their true thickness.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>Samples were transported to the University of Antofagasta (primary, duplicate and QA/QC samples) for chemical analysis in sealed 1-litre rigid plastic bottles with sample numbers clearly identified.</li> <li>The samples were moved from the drill site to secure storage at the camp on a daily basis. All brine sample bottles are marked with a unique label.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>No audits or reviews have been conducted at this point in time.</li> </ul>

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Considerations for Mineral Brine Projects
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>The Maricunga property is located approximately 170 km northeast of Copiapo in the III Region of northern Chile at an elevation of approximately 3,800 masl.</li> <li>The property comprises 1,438 ha in six mineral properties known as <i>Litio 1 -6</i>. In addition the <i>Cocina 19-27</i> properties, <i>San Francisco</i>, <i>Salamina</i> and <i>Despreciada</i> properties (1,125 ha) were purchased between 2013 2013 and 2015.</li> <li>The properties are located in the northern section of the Salar de Maricunga.</li> <li>The tenements/properties are believed to be in good standing, with payments made to relevant government departments.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>SLM Litio drilled 58 vertical holes in the <i>Litio</i> properties on a 500 m x 500 m grid in February, 2007. Each hole was 20 m deep. The drilling covered all of the <i>Litio 1 – 6</i> property holdings.</li> <li>Those 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.</li> <li>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.</li> <li>Prior to this the salar was evaluated by Chilean state organization Corfo, using hand dug pit samples.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The sediments within the salar consist of halite, sand, gravel and clay which have accumulated in the salar from terrestrial sedimentation and evaporation of brines within the salar. These units are interpreted to be essentially flat lying, with unconfined aquifer conditions close to surface and semi-confined to confined conditions at depth.</li> <li>Brines within the salar are formed by solar concentration, with brines hosted within the different sedimentary units.</li> <li>Geology was recorded during drilling of all the holes.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Lithological data was collected from the holes as they were drilled as drill cuttings, and at the geological logging facility for sonic cores, with the field parameters (electrical conductivity, density, pH) Measured on the brine samples taken on 6 m intervals.</li> <li>Brine samples were collected at 6 m intervals and sent for analysis to the University of Antofagasta, together with quality control/quality assurance samples.</li> </ul>



Criteria	JORC Code explanation	Considerations for Mineral Brine Projects
	<ul style="list-style-type: none"> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>Drill hole collars, surveyed elevations, dip and azimuth, hole length and aquifer intersections are provided in tables within the text.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>Brine samples taken from the holes every 6 m represent brine over the sample interval.</li> <li>No outlier restrictions were applied to the concentrations, as distributions of the different elements do not show anomalously high values.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>The lithium-bearing brine deposits extend across the properties and over a thickness of &gt; 150 to 200 m (depending on the depth of drilling), limited by the depth of the drilling. Mineralisation in brine is interpreted to continue below the depth of the resource.</li> <li>The drill holes are vertical and essentially perpendicular to the horizontal sediment layers in the salar (providing true thicknesses of mineralisation)</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>Diagrams are provided in the text of this announcement and diagrams were provided in Technical report on the Maricunga Lithium Project Region III, Chile NI 43-101 report prepared for Li3 Energy May 23, 2012. See attached location map.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>This announcement presents representative data from drilling at the Maricunga salar, such as lithological descriptions, brine concentrations and chemistry data, and information on the thickness of mineralisation.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to the information provided in Technical report on the Maricunga Lithium Project Region III, Chile. NI 43-101 report prepared for the Maricunga Joint Venture August 25, 2017 for all geophysical and geochemical data.</li> <li>Information on pumping tests has been provided by the Company following the completion of pumping tests at holes P4 and P2.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>The Company will consider additional drilling. The brine body is open at depth and there is an exploration target defined in this area which could potentially be incorporated into the resource subject to positive drilling results.</li> </ul>

Criteria	JORC Code explanation	Considerations for Mineral Brine Projects
<b>Database integrity</b>	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>Data was transferred directly from laboratory spreadsheets to the database.</li> <li>Data was checked for transcription errors once in the database, to ensure coordinates, assay values and lithological codes were correct.</li> <li>Data was plotted to check the spatial location and relationship to adjoining sample points.</li> <li>Duplicates and Standards have been used in the assay process.</li> <li>Brine assays and porosity test work have been analysed and compared with other publicly available information for reasonableness.</li> <li>Comparisons of original and current datasets were made to ensure no lack of integrity.</li> </ul>
<b>Site visits</b>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>The JORC Competent Person visited the site multiple times during the drilling and sampling program.</li> <li>Some improvements to procedures were made during visits by the Competent Person.</li> </ul>
<b>Geological interpretation</b>	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li>There is a high level of confidence in the geological model for the Project. There are relatively distinct geological units in essentially flat lying, relatively uniform, clastic sediments and halite.</li> <li>Any alternative interpretations are restricted to smaller scale variations in sedimentology, related to changes in grain size and fine material in units.</li> <li>Data used in the interpretation includes sonic, rotary and reverse circulation drilling.</li> <li>Drilling depths and geology has been used to separate the deposit into different geological units.</li> <li>Sedimentary processes affect the continuity of geology, whereas the concentration of lithium and potassium and other elements in the brine is related to water inflows, evaporation and brine evolution in the salt lake.</li> </ul>
<b>Dimensions</b>	<ul style="list-style-type: none"> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<ul style="list-style-type: none"> <li>The lateral extent of the resource has been defined by the boundary of the Company's properties. The brine mineralisation consequently covers 25.64 km<sup>2</sup>.</li> <li>The top of the model coincides with the topography obtained from the Shuttle Radar Topography Mission (SRTM). The original elevations were locally adjusted for each borehole collar with the most accurate coordinates available. The base of the resource is limited to a 200 m depth. The basement rocks underlying the salt lake sediments have not yet been intersected in drilling.</li> <li>The resource is defined to a depth of 200 m below surface, with the exploration target immediately underlying the resource.</li> </ul>

Criteria	JORC Code explanation	Considerations for Mineral Brine Projects
<b>Estimation and modelling techniques</b>	<ul style="list-style-type: none"> <li><i>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</i></li> <li><i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></li> <li><i>The assumptions made regarding recovery of by-products.</i></li> <li><i>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</i></li> <li><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li><i>Any assumptions behind modelling of selective mining units.</i></li> <li><i>Any assumptions about correlation between variables.</i></li> <li><i>Description of how the geological interpretation was used to control the resource estimates.</i></li> <li><i>Discussion of basis for using or not using grade cutting or capping.</i></li> <li><i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></li> </ul>	<ul style="list-style-type: none"> <li>The resource estimation for the Project was developed using the Stanford Geostatistical Modeling Software (SGeMS) and the geological model as a reliable representation of the local lithology. Generation of histograms, probability plots and box plots was conducted for the Exploratory Data Analysis (EDA) for lithium and potassium. Regarding the interpolation parameters, it should be noted that the search radii are flattened ellipsoids with the shortest distance in the Z axis (related to the variogram distance). No outlier restrictions were applied, as distributions of the different elements do not show anomalously high values.</li> <li>No grade cutting or capping was applied to the model. The very high lithium concentration values obtained near surface during the drilling and sampling are considered to be representative of the upper halite unit locally.</li> <li>Results from the primary porosity laboratory GSA were compared with those from the check laboratory Core Laboratories, and historical porosity results when assigning porosity results and historical results were normalized within the complete data set based on the results from the total data set.</li> <li>Potassium is the most economically significant element dissolved in the brine after lithium. Potassium can be produced using the evaporative process as for lithium. However, the final production of potassium requires independent processing from the lithium brine. The potassium recovery process is well understood and could be implemented in the project. Potassium has been estimated as a by-product of the lithium extraction process. As a resource this makes no allowance for losses following brine extraction, in evaporation ponds and the processing plant.</li> <li>Interpolation of Lithium and Potassium for each block in mg/l used ordinary kriging. The presence of brine is not necessary controlled by the lithologies and lithium and potassium concentrations are independent of lithology. Geological units had hard boundaries for estimation of porosity.</li> <li>Estimation of resources used the average drainable porosity value for each geological unit, based on the drill hole data.</li> <li>The block size (50 x 50 x 1m) has been chosen for being representative of the thinner units inside the geological model.</li> <li>No assumptions were made regarding selective mining units and selective mining can be difficult to apply in brine deposits, where the brine flows in response to pumping.</li> <li>No assumptions were made about correlation between variables. Lithium and potassium were estimated independently.</li> <li>The geological interpretation was used to define each geological unit and the property limit was used to enclose the reported resources. The lithium and</li> </ul>

Criteria	JORC Code explanation	Considerations for Mineral Brine Projects
		<p>potassium concentration is not necessary related to a particular lithology.</p> <ul style="list-style-type: none"> <li>The Inferred resource was extrapolated in this area on the basis that it is within the salt lake and occupies the same geological unit as Measured resource in the adjacent Cocina property.</li> <li>Validation was performed using a series of checks including comparison of univariate statistics for global estimation bias, visual inspection against samples on plans and sections, swath plots in the north, south and vertical directions to detect any spatial bias.</li> <li>An independent nearest-neighbor (NN) model was generated for each parameter in order to verify that the estimates honor the borehole data. The NN model also provides a de-clustered distribution of borehole data that can be used for validation.</li> <li>Visual validation shows a good agreement between the samples and the OK estimates. A global statistics comparison shows relative differences between the ordinary kriging results and the nearest-neighbor is below 0.3% for measured resources and below 3% for indicated resources which is considered acceptable.</li> </ul>
<b>Moisture</b>	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul style="list-style-type: none"> <li>Moisture content of the cores was not Measured (porosity and density measurements were made), but as brine will be extracted by pumping not mining this is not relevant for the resource estimation.</li> <li>Tonnages are estimated as metallic lithium and potassium dissolved in brine.</li> </ul>
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>No cut-off grade has been applied as the highest grades are present within the upper halite unit and are considered to be real and consistent and a relatively small volume of the total resource.</li> </ul>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>The resource has been quoted in terms of brine volume, concentration of dissolved elements, contained lithium and potassium and their products lithium carbonate and potassium chloride.</li> <li>No mining or recovery factors have been applied (although the use of the specific yield = drainable porosity is used to reflect the reasonable prospects for economic extraction with the proposed mining methodology).</li> <li>Dilution of brine concentrations may occur over time and typically there are lithium and potassium losses in both the ponds and processing plant in brine mining operations. However, potential dilution will be estimated in the groundwater model simulating brine extraction.</li> <li>The conceptual mining method is recovering brine from the salt lake via a network of wells, the established practice on existing lithium and potash brine projects.</li> <li>Detailed hydrologic studies of the lake are being undertaken (groundwater</li> </ul>

Criteria	JORC Code explanation	Considerations for Mineral Brine Projects
		modelling) to define the extractable resources and potential extraction rates.
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>Assessment of the preferred brine processing route is underway utilizing major global chemical engineering companies to conduct test work under the supervision of the project process engineer.</li> <li>Lithium and potassium would be produced via conventional brine processing techniques and evaporation ponds to concentrate the brine prior to processing.</li> <li>Process test – work (which can be considered equivalent to metallurgical test work) is being carried out on the brine following initial test work initiated under Li3 Energy in 2012.</li> </ul>
<b>Environmental factors or assumptions</b>	<ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>Impacts of a lithium and potash operation at the Maricunga project would include; surface disturbance from the creation of extraction/processing facilities and associated infrastructure, accumulation of various salt tailings impoundments and extraction from brine and fresh water aquifers regionally.</li> </ul>
<b>Bulk density</b>	<ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul style="list-style-type: none"> <li>Density measurements were taken as part of the drill core assessment. This included determining dry density and particle density as well as field measurements of brine density. Note that no mining is to be carried out as brine is to be extracted by pumping and consequently sediments are not mined but the lithium and potassium is extracted by pumping.</li> <li>However, no bulk density was applied to the estimates because resources are defined by volume, rather than by tonnage.</li> <li>The salt unit can contain fractures and possibly vugs which host brine and add to the drainable porosity.</li> </ul>
<b>Classification</b>	<ul style="list-style-type: none"> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul style="list-style-type: none"> <li>The resource has been classified into the three possible resource categories based on confidence in the data collected and the estimation.</li> <li>The Measured resource reflects the predominance of sonic drilling, with porosity samples from drill cores and well constrained vertical brine sampling in the holes.</li> <li>The Indicated resource reflects the lower confidence in the brine sampling in the rotary drilling and lower quality geological control from the drill cuttings.</li> <li>The Inferred resource underlying the Measured resource in the <i>Litio</i> properties reflects the limited drilling to this depth together with the likely geological continuity suggested by drilling on the adjacent <i>Cocina</i> property and the geophysics through the property.</li> <li>In the view of the Competent Person the resource classification is believed to adequately reflect the available data and is consistent with the suggestions of Houston et. al., 2011 and the CIM Best Practice Guidelines.</li> </ul>

Criteria	JORC Code explanation	Considerations for Mineral Brine Projects
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<ul style="list-style-type: none"> <li>This Mineral Resource was estimated by independent consultancy Flosolutions, who are contracted by the Maricunga JV for hydrological services. This work has been reviewed by the Competent Person.</li> </ul>
<b>Discussion of relative accuracy/ confidence</b>	<ul style="list-style-type: none"> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul style="list-style-type: none"> <li>An independent estimate of the resource was completed using a nearest-neighbour estimate and the comparison of the results with the ordinary kriging estimate is below 0.3% for measured resources and below 3% for indicated resources which is considered to be acceptable.</li> <li>Univariate statistics for global estimation bias, visual inspection against samples on plans and sections, swath plots in the north, south and vertical directions to detect any spatial bias shows a good agreement between the samples and the ordinary kriging estimates. .</li> </ul>

#### References

Houston, J., Butcher, A., Ehren, P., Evans, K., and Godfrey, L. The Evaluation of Brine Prospects and the Requirement for Modifications to Filing Standards. Economic Geology. V 106, p 1225-1239.

CIM Best Practice Guidelines for Resource and Reserve Estimation for Lithium Brines.