

Lithium Power International Ltd: Reserve Estimate and Resource Update for Maricunga Lithium Brine Project

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Sydney, Australia - [Lithium Power International Ltd.](#) (ASX:LPI) (OTCMKTS:LTHHF) (LPI or the Company) through its Joint Venture (JV) Company, Minera Salar Blanco S.A. (MSB), is pleased to provide details of the maiden Ore Reserve and Mineral Resource update for its Maricunga lithium brine project in northern Chile (see Figure 1 in link below).

Highlights

- Maiden Reserve estimate reported in accordance with JORC guidelines and NI 43-101 international standards, for a total of 742,000 tonnes of LCE(see Note 1 below) thus exceeding the 20-year project mine life production needs.
- Resources updated to a total of 2,070,000 tonnes of Lithium Carbonate (LCE) now all classified as Measured or Indicated following the drilling of two additional 200 m deep holes.
- Life of mine extraction concentration between 1,050 and 1,200 mg/l lithium.
- Definitive Feasibility Study (DFS) is in the final stages of preparation for release.

Lithium Power International's Chief Executive Officer, Cristobal Garcia-Huidobro, commented:

"Producing the maiden Reserve and updated Resource, is an important step forward for the company and a key part of the project Definitive Feasibility Study, to be released in the coming days. The Reserve more than supports 20 years of production, with an average input grade of brine pumped from aquifers to the ponds of between 1,050 and 1,200 mg/l lithium, highlighting the exceptional grade of the Maricunga project. An optimized well field design supports brine extraction over the life of project from within the MSB properties."

Executive Summary and Key Outcomes

The Mineral Resource estimate consists of 100% Indicated and Measured Resources, with the previous 20% Inferred Resources converted to Indicated Resources following the drilling of two additional sonic holes to 200 m in 2H18 for a revised Resource of 2.07 Mt of lithium Resources (see Tables 1 and 2 in link below). The estimated Mineral Resources used in the Definitive Feasibility Study has been prepared by competent persons and reported in accordance with requirements of the 2012 JORC code.

A hydrogeological model was developed to define a maiden brine Reserve for the project, taking into account brine recovery from the aquifers in the salar. An overall mining Reserve of 742,000 tonnes of LCE has been defined, for brine extracted from the aquifer and pumped to the ponds, of which 203,000 is classified as Proved and 539,000 as Probable (see Table 3 in link below). Proved Resources represent those in the old mining code Cocina property and the first 7 years of production from the Lito properties in the salar. The remaining Reserves are classified as Probable. When the lithium pond and process recovery efficiency of 58% is applied, the total recovered LCE equates to 430,000 tonnes, of which 27% derives from Proved Ore and 73% is derived from Probable Ore in brine fed to the ponds (see Table 4 in link below).

This 430,000 tonnes of defined Reserve for the project exceeds the 20 years of production at 20 Ktpa of lithium carbonate, based on the Resource and Reserve defined to 200 m depth. The company believes there is also considerable scope to add additional Resources, and probably Reserves, below the current Resource drilling depth of 200 m.

Project Background

The mineralization style of the Maricunga lithium brine project is that of a salt lake (salar) where lithium (Li, for electronic applications and battery production) and potassium (KCL, for production of potassium chloride fertilizer - Potash) 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.

It is important to note that 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 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.

Project Geology

Geological Setting

The Salar de Maricunga (Maricunga Salar) is located within a large drainage basin of approximately 2,200 km² located to the west of the western Andes cordillera. The basin enclosing the Maricunga Salar has surrounding mountain ranges that have been raised by inverse faults that expose a basement sequence ranging in age from Upper Paleozoic to Lower Tertiary (see Figure 2 in link below).

The Maricunga Salar has an ellipsoidal shape, covering an area of approximately 140 km² in the northern sector of the Maricunga basin, with a NNE-SSW trending axis approximately 23 km long and an approximately east-west axis of 10 km wide. 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. The asymmetric shape of the salar suggests the importance of faulting in the basin, with movement along faults trending north to northeast during Quaternary time.

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. In addition to drilling undertaken by the Joint Venture, there are a number of historical drill holes outside the salar which provide useful information on the distribution of the clastic sediments outside the salar.

Geological Interpretation

Correlation between MSB's drill holes has allowed recognition of different sediment units, which vary in thickness and lateral extent. These represent variations between lithologies originally deposited in a dry salt lake environment (salt, clays) and those deposited by flooding and transportation of coarser grained material (sands, gravels, volcanoclastic sediments). The distribution of these units is shown in Figures 3 (see link below). Interpretation is based on the 2016-18 drilling program (S and M-holes) and the 2011 C-series (sonic) and P-series (Reverse Circulation) drill holes. The general distribution of units from top to bottom consists of the:

- Upper Halite unit (salt) with salt+clay intervals - This unit is present at surface in the north of the salar. The upper halite unit thickness is up to generally 15 to 30 m thick and thins to the east, west and north through the project area. This upper halite unit has relatively high drainable porosity and permeability (discussed in subsequent sections), with clay interbeds reducing the drainable porosity and permeability at different depths;

- Clay Core - This clay unit is located predominantly beneath the Litio 1-6 properties and thickens towards the south and east, extending to a depth of approximately 100 m in C1 and C2 and to a depth of 170 m in S18. This unit is absent in the western properties, which contain dominantly coarser material. The clay unit has low drainable porosity and was the predominant unit intersected in the 2012 drilling campaign;

- Deeper halite - This localized deeper halite (salt) unit within the clay core was intersected in holes S18 and C3. It has a thickness of approximately 20 m and represents a previous salar surface and has relatively lower drainable porosity than the upper halite unit due to compaction;

- Eastern Alluvium - This unit consists of clean gravels to clayey gravels and has moderate drainable porosity. This unit is present to the east of the Litio 1-6 properties and becomes interbedded with sediments of the clay core and sands within the salar. The unit is heterogeneous, with gravel fragments in a matrix of sand, silt and clay;

- Northwest Alluvium - This unit consists of a well sorted gravel and sandy gravel in the north and west of the project area and is part of the alluvial / fluvial fan system entering the salar from the west and northwest. The unit may locally contain sub-rounded fragments and sand. The northwest gravel unit has a high drainable porosity.

- Lower Alluvial - This unit consists dominantly of sands and is spatially interpreted as the distal part of Northwest gravel alluvial/fluvial system that enters the salar from the northwest. This unit is interbedded with the clay core further east in the salar;

- Upper Volcaniclastic - This upper volcaniclastic unit is very friable and matrix supported, with sub angular fragments including pumice material. A maximum thickness of 139 m was intersected in hole M2 (S11) and it is interpreted to thin further east in the salar. The Upper Volcaniclastic has a high drainable porosity;
- Lower Sand - A lower sand unit is recognized separating the upper and lower volcaniclastic units and is interpreted as reworked material from the lower volcaniclastic unit. This unit consists of medium to fine sand which has moderate sorting and a moderate porosity due to the presence of a finer grained matrix; and
- Lower Volcaniclastic - A lower volcaniclastic unit has been intersected to the base of the current drilling including in deep hole (S-19) to a depth of 360 m, with a thickness of 78 m to the base of the hole. The unit is homogeneous and friable with a fine to medium sand texture and some silt, also containing some pumice fragments. The Lower Volcaniclastic has a high drainable porosity.

Surface Water Hydrology

The catchment which comprises the Maricunga salar covers an area of 2,200 km², with the salar the low point to which water flows within the catchment. The catchment is entirely closed and there is no surface water outflow from the basin. Evaluation of flow patterns within the catchment show that water flows towards the north of the salar, with seasonal flooding around the margin of the Litio 1-6 and Cocina properties from summer rain and some winter snowfall, balanced by evaporation of this surface water. Seasonal flooding is more extensive further south in the salar.

Groundwater Hydrology

The salar is the topographic low point within the Maricunga Basin. The salar itself is surrounded by alluvial fans which drain into the salar. In the north of the salar the water table can be within approximately 5 cm of the surface, promoting evaporation of shallow groundwater in the marginal sediment surrounding the salar and the salar nucleus, resulting in hyper-saline brine (6 times more concentrated than sea water) which contains elevated concentrations of lithium and potassium. Interpretation of drilling and testing results in the salar and the surrounding alluvial fans by MSB suggests the occurrence of several hydrogeological units of importance that is summarized below:

- Alluvial fans surrounding the salar - These are coarse grained and overall highly permeable units that drain towards the salar. Groundwater flow is unconfined to semi-confined; specific yield (drainable porosity) is high. Water quality in the fans on the east side of the salar is fresh to brackish;
- An unconfined to semi-confined Upper Halite+Clay aquifer can be identified in the northern center of the salar. This unit is limited in areal extent to the visible halite nucleus of the salar observed in satellite images. This upper brine aquifer is highly permeable and has a medium drainable porosity. This upper brine aquifer contains high concentration lithium brine;
- The clay core -This clay unit underlies the upper halite aquifer in the center of the salar and extends to the east below the alluvial fans. This clay unit has a very low permeability and forms a hydraulic barrier for flow between the upper halite aquifer and the underlying clastic units (deeper sand gravel and volcaniclastic aquifers). On the eastern side of the salar fresh water in the alluvial fans sits on top of this clay core; while brine is encountered in the clastic sediments underlying the clay. In the nucleus of the salar the clay unit contains high concentration lithium brine; and
- A deeper brine aquifer occurs in the gravel, sand and volcaniclastic units underlying the clay core. Below the nucleus of the salar this deeper aquifer is overlain by the clay core and groundwater conditions are confined. On the west side of the salar, in absence of the clay core, groundwater conditions become semi-confined to unconfined. The deeper brine aquifer is relatively permeable (well P4/S-10 pumping test results) and has a relatively high drainable porosity.

Drilling Program

Between September 2016 and the end of January 2017 MSB conducted the drilling of 9 rotary drill holes and 4 sonic drill holes on the project for a total number of 1,815 m and 613 m, respectively. The Resource drilling program consisted of 200 m deep drill holes for brine sampling (excluding production well P4). Drilling rigs were truck mounted machines, driven to the drill sites on or immediately surrounding the salar. Two additional holes were drilled to 200 m in 2Q18 in the Litio properties, to convert the inferred Resources below 150 m to Indicated Resources. Drill holes were located by a qualified surveyor at the end of the drilling program (see Table 11 and Figure 4 in link below for locations).

To view the full release with tables and figures, please visit:
<http://abnnewswire.net/lnk/734O1NIX>

About Lithium Power International Ltd:

[Lithium Power International Ltd.](#) (ASX:LPI) (FRA:24L) is a pure-play lithium explorer and developer, focusing on developing and fast-tracking to production the high-grade Maricunga lithium brine project in Chile.

LPI has a well known performing technical team with the experience to take the Maricunga project all the way through the development stages to production.

The regions that LPI is currently focussed on are:

1. Maricunga JV (Chile) – On 13th September 2016, Lithium Power announced the creation of a new JV to develop the world-class Maricunga lithium brine deposit in northern Chile.
2. Pilbara (Western Australia) – LPI has one granted exploration tenement and two pending exploration applications covering 203km² in the Pilbara region of northern Western Australia. The largest granted exploration tenement is at Pilgangoora-Houston Creek is 2-3km west of the Pilbara Minerals (PLS.ASX) and Altura Mining (AJM.ASX) lithium deposits.
3. Greenbushes (Western Australia) – LPI has two granted exploration tenements covering 400km² in the Greenbushes area of southern Western Australia. The tenements are adjacent to the world's largest hard rock lithium mine owned & operated by Tianqi/Talison.
4. Centenario (Argentina) – Through its Argentinian subsidiary, Lithium Power holds a total of 6 granted tenements in the Centenario lithium brine salar within the Salta province of the Puna Plateau. In total, the 6 granted tenements cover an area of 61.52km². In addition, there is 1 further tenement in the grant review stage.

With the exception of the Maricunga JV, all tenements are 100% owned by LPI or LPSA (including rights to the Centenario tenement which is the subject of review by the Argentinian mining authorities).

Source:

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