SPROTT CAPITAL PARTNERS

10 November 2017

Ticker:	LPI AU	**(Net) cash**:	A$3.0m	**Project:**	Maricunga
Market cap:	A$125m	**Price**:	A$0.64	**Country:**	Chile

Site visit highlights strong potential for upcoming PEA

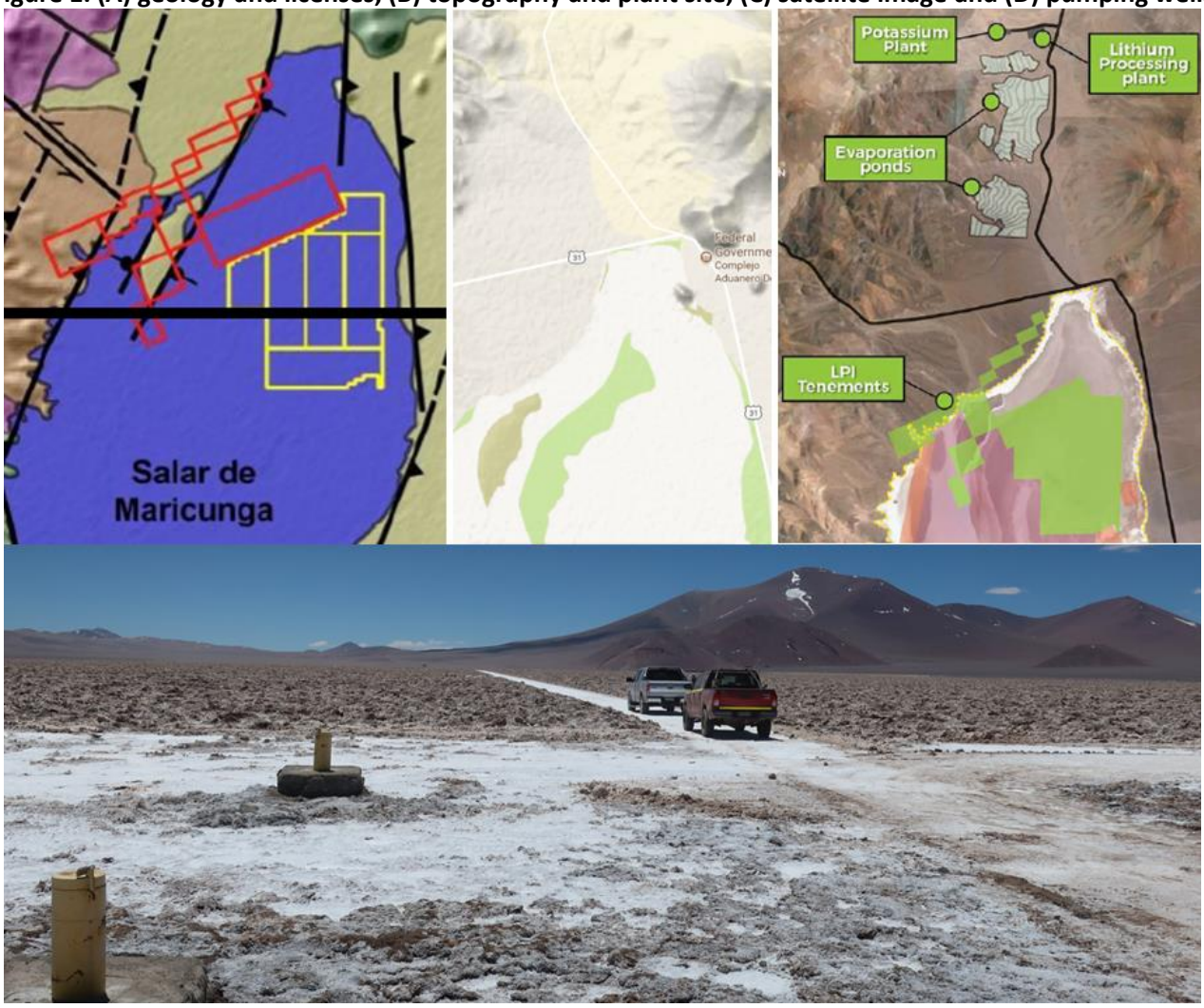
Lithium Power is a catalyst-rich ASX-listed junior who released an impressive maiden 2.15Mt LCE resource earlier this year on one of the highest-grade lithium salars globally, Maricunga (earning into 50%), one of the larger undeveloped resources held by juniors in the space. The company will be releasing a maiden PEA/scoping study (±25%) in the current quarter, which like peers of similar size we expect to show a DCF valuation variably in excess of a billion dollars. Our site visit highlighted the good logistics and ample room for evaporation ponds, with extremely high grades and low sulphate likely to enable reagent cost-savings to offset the higher calcium concentrations. Better still, although only the lowest part of the 'pay interval' is in volcaniclastics, but the favourable drainability means this unit accounts for 80% of the total resource to 200m; only a single hole went to 360m, hitting the friable volcaniclastic to end of hole, leading us to surmise that the company's +1-2.5Mt LCE exploration target is eminently achievable, potentially lifting the resource to a 'strategic' size once drilled.

Ownership and logistics

Lithium Power's cornerstone asset is a licence package in the Maricunga salar in Chile. Lithium Power owns 50% of the Maricunga JV project, with the other half split between a Chilean investor (32%) and Li3 Energy (18%). LPI's stake is subject to a US$7.5m earn-in payment in three tranches by September 2018, taking total payments to US$27.2m by that time. Thereafter, JV partners will contribute proportionally.

Thereafter all shareholders are required to contribute proportionally. Once Lithium Power reaches 50%, JV partners Bearing and a local partner would own 17.7% and 32.3%, respectively. The properties are broadly divided into licences Litio 1-6 (1,438ha, Figure 1A in yellow on the right hand side) on which a 2012 43-101 was prepared by prior owners. The holding was then expanded via the addition of new properties (Cocina, San Francisco, Despreciada and Salamina, Figure 1A in red). The salar is well served by a gravel road leading to Copiapo 168km away. The project will require an 8km long spur to connect to Chile's 220kV power grid, and roughly double that for internal distribution, but far less than most South American lithium projects. This is important because process water requires heating to 40^{o}C. Being farther south than the larger Atacama salar, road haulage to port is a little longer at ~660km. While local ports are close they don't have bulk handling capacity. Importantly, key reagent lime can be locally sourced outside the town of Copiapo.

Figure 1. (A) geology and licenses, (B) topography and plant site, (C) satellite image and (D) pumping wells

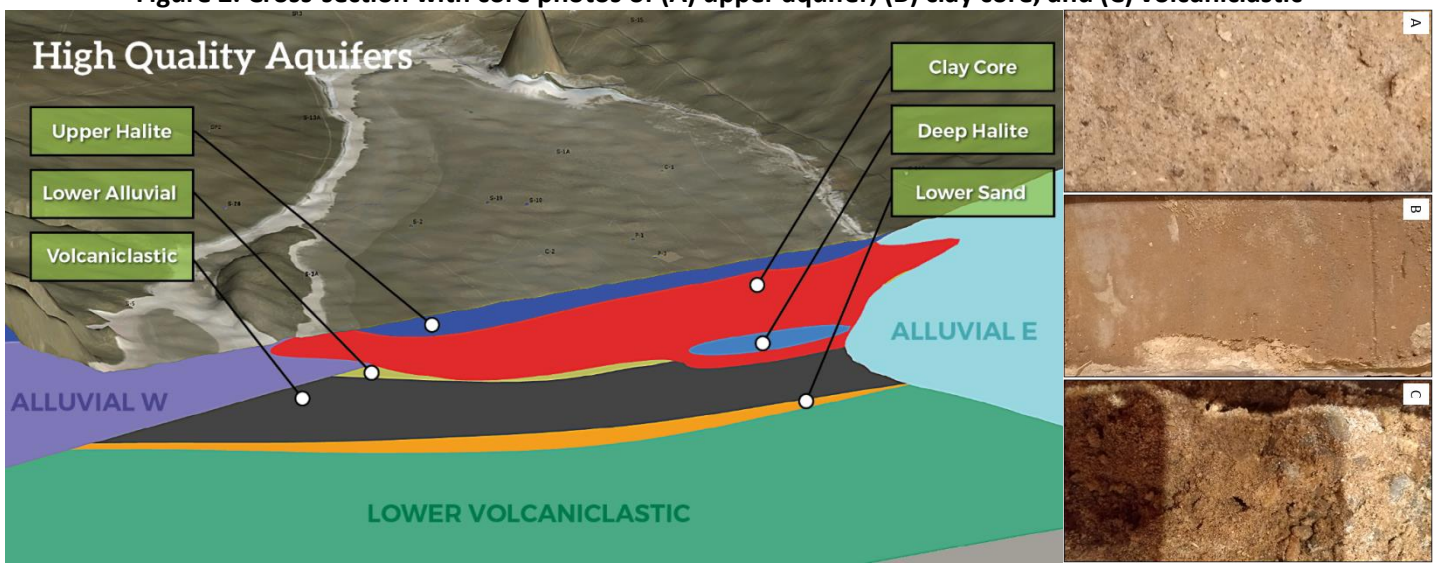


Sources: Lithium Power, Google Maps, SCP

Geology

Maricunga is a typical high-altitude desert salar located in northern Chile. The major units of the salar sequence are (i) an upper mixed halite-clay sequence up to 55m thick, underlain by (ii) the 'clay core' down to ~170m, and (iii) volcaniclastic sands and gravels below (2). The latter unit is the project's main resource expansion target as it has the highest drainable porosity, strong flow rates, and extends at least 160m beyond the current resource depth. Although it represents a smaller part of the total resource, the upper reservoir has very high flow rates and will likely provide an important early-years source of brine.

Figure 2. Cross-section with core photos of (A) upper aquifer, (B) clay core, and (C) volcaniclastic



Source: Lithium Power

Resource

Lithium Power recently published a resource of 2.15Mt LCE at 1,163mg/L Li, with Mg:Li and SO4:Li ratios of 6.5 and 0.8, respectively, with an average 7.1% drainable porosity and 80% of the total resource in M&I categories after 13 drill holes. The resource has only been defined to 200m depth, leading the company to issue an exploration target for an additional 1.0-2.5Mt LCE.

	LCE (t)	DP (%)*	Li (mg/L)	Mg:Li	SO_4:Li
Measured	908	5.02%	1174		
Indicated	821	10.65%	1071		
Inferred	437	8.99%	1289		
Total	**2166**	**7.06%**	**1163**	**6.5**	**0.8**
Target	**1,030-2,500**	**6-10%**	**691-1,000**		

Table 1. 3Q17 JORC resource estimate, *drainable porosity

Compared to the 2012 43-101 the resource has grown considerably from 574kt LCE, with increases in aerial extent from new licences, as well as depth. However, a significant impact also came from drainable porosity – previously this was very low (i.e. compact host rocks) at 1.2-3.5% with much of the resource in a 'clay core' (Figure 2b), but this now averages 7.1% (Table 2), a reflection of the recently discovered coarser grained sediments on properties added since the prior 43-101. Otherwise, the chemistry is almost precisely in line with the 2012 43-101, with a slight drop in grade from 1,250mg/L, slight improvement in Mg:Li from 6.6 to 1, and slight lift in SO4:Li from 0.6 to 1. The calcium is elevated compared to peers at ~12:1 Ca:Li, however this is linked to the low SO_4; with Ca, being in surplus, it precipitates out the SO_4 as gypsum. The Ca will need to be removed also, a metallurgical balance will need to be determined to maximise recoveries and minimise reagent consumption – again there are no surprises here with little change from the 2012 43-101.

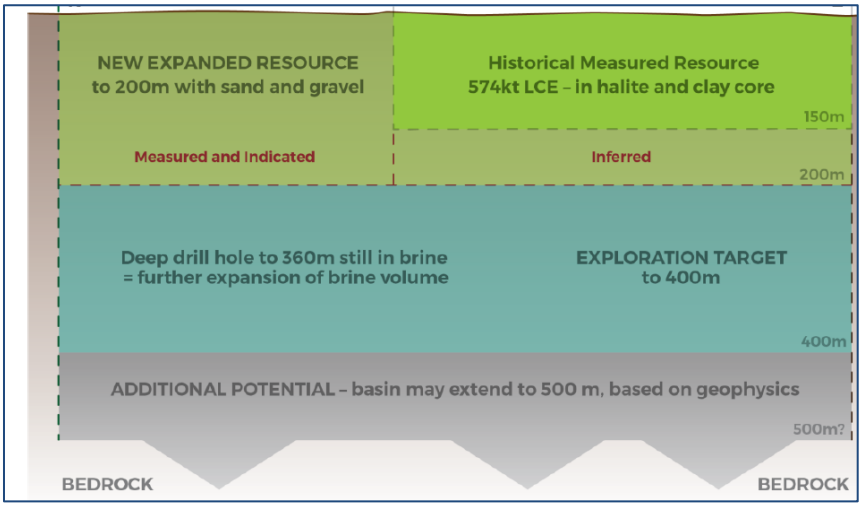
Depth	Unit	Drainable porosity	Flow rate (l/s)	Portion of resource	Resource LCE kt
0 up to 55m	Halite±clay	6.5%	45	7%	162
55m up to 100-170m	Clay	2.2%	-	12%	270
> 100-200m	Volcaniclastics	10.3%	25	80%	1,734
	TOTAL	**7.1%**	**-**	**100%**	**2,166**

Table 2. Maricunga resource by major host units

Expansion target

The deepest hole on the property was drilled to 360m, 160m below the current resource depth, and finished in porous brine-bearing volcaniclastics. Geophysical data suggest this unit extends to 500m. Based on 100-200m additional thickness, 6-10% drainable porosity and 691-1000mg/L Li, the company published an exploration target of +1.03-2.5Mt (Table 1). Of note, although the volcanicalstic only makes up ~15% of the 'pay interval', it accounts for 80% of the resource (Table 2), meaning the prior drill holes effectively 'ended in mineralisation'. *In our view, the lower end of this is certainly very defendable. For example, Lithium America's geophysics at Olaroz indicates that down to 300m depth compaction (and thus drainable porosity) is similar to higher levels. In fact, we understand that flow-rates in the >200m aquifers at Olaroz are actually superior to those at near-surface.*

Figure 3. Schematic showing the previous & current resources and growth potential



Brine composition, production and evaporation

The Maricunga brines are exceptionally Li-rich with an average resource grade of 1,163mg/L, the highest of any undeveloped lithium play. Comparing key element ratios to the peer group (Table 3) shows that Lithium Power's brines sit squarely with its highest-quality peers SQM/Albemarle (Atacama) and Neo Lithium (3Q).

				ppm	Ratios	
Company	**Project**	**Listing**	**Country**	Li	Mg/Li	SO_4/Li
Neo Lithium[2]	3Q	TSX	ARG	716	2.0	0.5
SQM/Albermarle[1]	Atacama	NYSE	CHL	1,500	6.4	11
Galaxy[9]	Sal de Vida	ASX	ARG	810	2.2	12
Lithium Power[7]	Maricunga	ASX	CHL	1,163	6.5	0.8
Zhabuye Lithium[4]	Zhabuye	-	CHN	1,258	0.0	54
FMC[1]	Hombre Muerto	NYSE	ARG	620	1.4	14
Orocobre[1]	Olaroz	ASX	ARG	690	2.4	25
Lithium Americas[6]	Cauchari	LSE	ARG	698	2.4	28
Millenial Lithium[11]	Pastos Grandes	TSX	ARG	535	6	18.5
Albermarle[1]	Silver Preak	NYSE	USA	230	1.3	31
Lithium X[10]	Sal de LA	TSX	ARG	456	10.9	19
Comibol[5]	Uyuni	-	BOL	424	18.6	24
Rincon Lithium[1]	Rincon	-	ARG	393	9.2	26
Western Mining Gr[1]	East Taijinair	-	CHN	640	21.5	221
CITIC Guoan[1]	West Taijinair	-	CHN	210	32.8	713

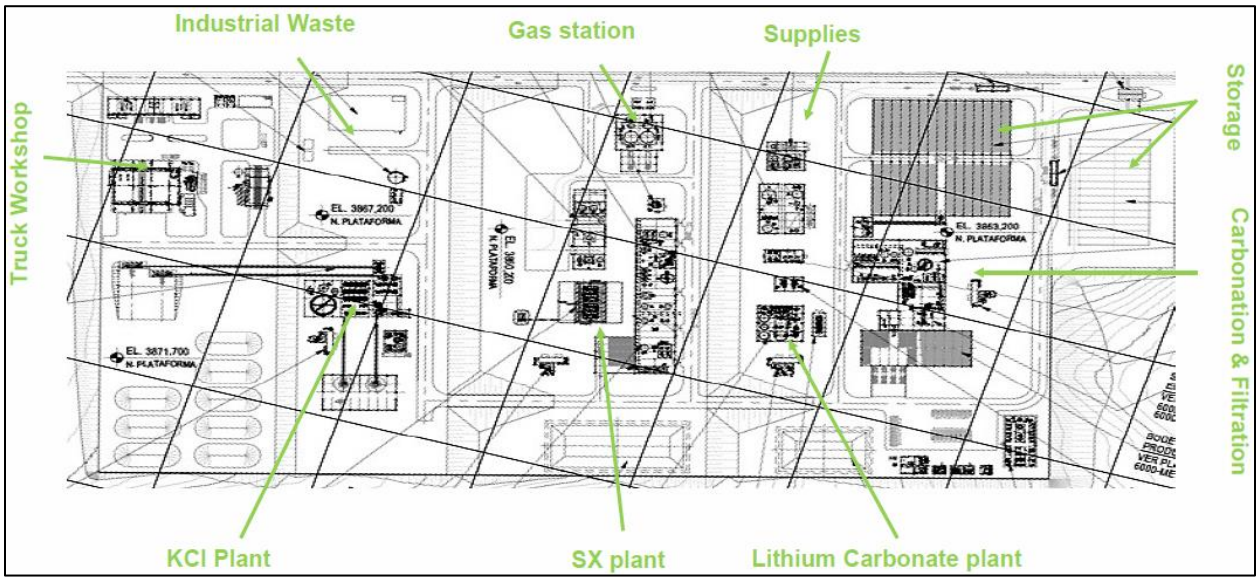
Table 3. Lithium Power brine chemistry compared to peers, *(1) Lithium Americas 2012 43-101 FS, (2) Neo Lithium weighted average from drilling, (3) Orocobre 43-101 2013, citing Rincon study, Pavlovic and Fowler, 2004, (4) NeoLithium 43101 2016, data from China pers. comm, (5) NeoLithium 43101 2016, data from Roskil 2009, (6) 2017 43101 FS, (7) 3Q17 JORC, (8) 2011 FS, SO4 not reported, taken from 2011 LAC FS, (9) DFS 2016 and minority ratios from presentation, (10) Li and K from 2016 LiX resource, Mg from 2011 Rodinia Lithium PEA, colour denotes shared salar, (11) Grade from drilling ranges, Mg / SO4 from first drill hole*

Pump tests returned high flow rates of 45l/s from the upper halite and 25l/s from the volcaniclastics at the base of the current resource. Flow rates from the clay core have been not been assessed yet but are expected to be lower. In any case, the company guidance of 218l/s of brine for 20kt pa of Li_2CO_3 should be achievable with 5-10 wells which is consistent with the company guidance of 10 wells.

The company's corporate presentation contains detailed plans for the evaporation ponds. The plans show approximately 1,000ha of pond surface area placed just north of the salar. Based on the high lithium grades, and peer averages for evaporation, rainfall, and overall (pond + plant) recoveries, our internal estimates show that 1,000ha is more than sufficient to produce the targeted 20kt pa. We also understand the company has in excess of 7,000ha available so space will not be a limiting constraint. Unlike many peers, LPI will construct evaporation ponds off the salar, just to the north. The drawback of this is the gentle 2^o incline and the required terracing.

Processing and reagent consumption

The Maricunga brines will be treated by conventional processing methods. After halite and sylvinite are removed by solar evaporation, the enriched brine is treated with reagents to precipitate out Mg, Ca, SO_4 and lastly B. As each lithium salar has a different chemistry, reagent consumption and flow-sheets for the back-end plant vary from project to project. For example, high *magnesium* brines are typically treated with lime (CaO) and soda ash ($NaCO_3$) in a reactor, precipitating insoluble magnesium hydroxide and benign calcium carbonate. Then boron is removed by adding hydrochloric acid and producing boric acid. Conversely, high *calcium* brines such as at Maricunga can use sodium sulphate (glaubers salt) to precipitate calcium as insoluble calcium sulphate (gypsum). A detailed analysis of the chemical process flow is difficult at this stage given the data available (only flow sheet published to date), but preliminary economic rationalisations can be done from a 'tonne for tonne' mass balance for each reagent, benchmarked against well-known prices and logistics costs, once the PEA / scoping study is released.



Source: Lithium Power

Potential mine life

Applying a resource-to-reserve conversion factor of 50%, the value for nearby peer Neo Lithium, the 2,150kt LCE resource converts to a 1,075kt LCE reserve. At a combined pond and plant recovery of 50%, this reserve sustains a healthy 27-year mine life for a 20kt pa LCE operation. Even if we exclude the middle clay core, which has a low drainable porosity and no pump test data yet, we calculate a 780kt reserve supporting a 20-year mine life.

Pond + plant recovery (%)	Mine life (yrs)*	Resource to reserve conversion (%)				
		30%	40%	50%	60%	70%
	30%	10	13	16	19	23
	40%	13	17	22	26	30
	50%	16	22	27	32	38
	60%	19	26	32	39	45
	70%	23	30	38	45	53

Table 4. Mine life sensitized to pond + plant recovery and resource to reserve conversion (SCP estimates)

By-products: potassium / MOP (potash)

In addition to chemical or evaporative precipitation outlined above, crystallizers (typically titanium or high-quality steel reaction vessels) can utilize pressure-temperature variation to precipitate salts, with many designs ranging from multiple-effect through to mechanical and thermal vapor recycling. In this case, potassium can be recovered in the form of saleable MOP fertilizer (KCl). Phased evaporation is used in ponds to form initial K-rich harvest salts, before these are decomposed to pure KCl in a crystallizer. Peers have published ~US$1,000/t capital intensity (US$45m for 40ktpa), although Lithium Power aims to halve this, leading us to estimate perhaps US$30m for a 75ktpa MOP plant or US$400/t capital intensity. The next consideration is opex – putting even trucking to the coast with good back-haul (inbound reagents) could potentially cost over US$80/t (Antofagasta 560km, SQM lithium-permitted port Tocopilla 750km), albeit dropping to <US$25/t if the local Caldera port, 244km away, can be permitted for KCl. While these trucking costs are largely immaterial to +US$14,000t lithium carbonate, they will have a major impact on MOP given US$215/t spot prices. As such, even though the K-rich harvest salt is provided 'for free' as a by-product of the lithium precipitation, capex must be recouped.

Permitting and royalties

Permitting; Lithium Power's claims are split into the Litio 1-6 claims to the east, where the 2012 resource was defined, and the recently acquired western claims (Cocina, San Franciso, Despreciada and Salamina). The western claims were constituted under an older mining code and can readily be permitted for production. The eastern claims were permitted under the current mining code, in which lithium is a non-concessible "strategic" resource. We do not expect the permitting situation to have a negative impact on the Maricunga project because (i) the Chilean government has expressed support of domestic lithium and is developing a new mining code, expected in 2Q18, (ii) we estimate a 50/50 reserve split between the two blocks, so production can commence on the western block until the new legislation is implemented, and (iii) the current law only regulates well locations, not where the brine is drawn from, so Lithium Power could certainly access a portion of the eastern brines from the western claims if necessary.

Royalties; in the absence of a permitting framework, there is also no royalty regime in place for lithium production in Chile. We expect a typical royalty in the low single-digit percents to accompany the revised mining code. Lithium Power is not affected by the ongoing negotiations between the government agency CORFO and SQM/Albemarle, as these disputes are limited to the Salar de Atacama, which has particular contractual agreements in place.

Environmental; The southern end of the Salar de Maricunga belongs to the Nevado Tres Cruces National Park. Although this impacts peers on the southern side, it does not pose an obstacle to Lithium Power's project to the north. The company enlisted environmental contractor MWH Global for the environmental permitting process. MWH have submitted numerous applications of this type and to-date have not received a single rejection. The approval process is considered very professional in Chile and averages around 12 months.

M&A on the Maricunga salar

In the first half of 2017, Codelco initiated a bid process for their lithium-brine licenses on the southern part of the Salar de Maricunga. In our view, this does not pose a threat of introducing another competitor to the salar because (i) the licenses sit in a national park and (ii) Codelco issued a condition to only admit bidders with >2,220ha of ground on the salar. Thus, we conclude that any interested outside party would have to acquire LIP before being admissible to the bidding process.

Investment Case

1. One of the largest lithium brine resources held by junior companies
2. Upcoming PEA to show billion-dollar potential NPV
3. Highest grade salar after Atacama supportive of strong economics
4. Rapid move to FS in 2018

Catalysts

- 4Q17: PEA
- 1Q18: Environmental baseline data submission
- 2Q18: Potential permitting framework for Litio 1-6 licences
- 2Q18: Full FS
- 2Q19: Full permitting and government approvals

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