

05 May 2014

**ASX ANNOUNCEMENTS**

**AUSTRALIAN STOCK EXCHANGE**

**RE: COMPANY PRESENTATION (NORTH AMERICA)**

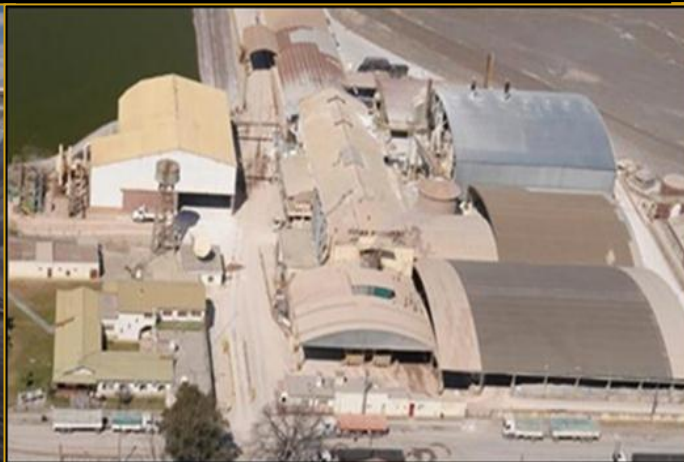
Attached is a company presentation to be given by Chairman James Calaway to institutional investors and brokers in North America during the period of 5-8 May 2014.

The Borax Argentina SA section of the presentation has been refined and now also includes a "Products & Markets" table.

Neil Kaplan  
Company Secretary

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# Orocobre Limited

**BUILDING A SUSTAINABLE INDUSTRIAL MINERALS COMPANY**

**Investor Update**  
May 2014

# Cautionary Notes

This presentation has been prepared by the management of Orocobre Limited (the 'Company') in connection with meetings with institutional investors, for the benefit of brokers and analysts and not as specific advice to any particular party or person. The information is based on publicly available information, internally developed data and other sources. Where any opinion is expressed in this presentation, it is based on the assumptions and limitations mentioned herein and is an expression of present opinion only. No warranties or representations can be made as to the origin, validity, accuracy, completeness, currency or reliability of the information. The Company disclaims and excludes all liability (to the extent permitted by law) for losses, claims, damages, costs and expenses of whatever nature arising in any way out of or in connection with the information, its accuracy, completeness or by reason of reliance by any person on any of it.

This presentation contains "forward-looking information" within the meaning of applicable securities legislation. Forward-looking information is often characterized by words such as "plan", "expect", "budget", "target", "project", "intend", "believe", "anticipate", "estimate" and other similar words or statements that certain events or conditions "may" or "will" occur. Forward-looking information may include, but is not limited to, the financing and profitability of the Olaroz Project, the drawing down of project finance from Mizuho Corporate Bank, the completion of construction at the Olaroz Project, the capital expenditure incurred at the time of completion of construction and the timing thereof, the commencement of commercial production at the Olaroz Project and the timing thereof, the design production rate for lithium carbon and potash at the Olaroz Project, the expected brine grade at the Olaroz Project, the expected operating costs at the Olaroz Project and the comparison of such expected costs to expected global operating costs, the ongoing working relationship between Orocobre and the Provinces of Jujuy and Salta, the future financial and operating performance of the Company, its affiliates and subsidiaries including Borax Argentina, the results of the Olaroz feasibility study, the estimation and realization of mineral resources at the Company's projects, the viability, recoverability and processing of such resources, timing of future exploration at the Company's projects, timing and receipt of approvals, consents and permits under applicable legislation, trends in Argentina relating to the role of government in the economy (and particularly its role and participation in mining projects), adequacy of financial resources, forecasts relating to the lithium, boron and potash markets, production and other milestones for the Olaroz project, the Olaroz project's future financial and operating performance including production, rates of return, operating costs, capital costs and cash flows, potential operating synergies between the Salinas Grandes and Cauchari projects and the Olaroz project, the potential processing of brines from the Cauchari Project and the incremental capital cost of such processing, expansion, growth and optimisation of Borax Argentina's operations, the integration of Borax Argentina's operations with those of Orocobre and any synergies relating thereto and other matters related to the development of the Company's projects and the timing of the foregoing matters.

Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause actual results to be materially different from those expressed or implied by such forward-looking information, including but not limited to the risk of further changes in government regulations, policies or legislation; the conditions to drawdown of project finance are not satisfied and drawdown is delayed or does not occur, that further funding may be required, but unavailable, for the ongoing development of the Company's projects; fluctuations or decreases in commodity prices; uncertainty in the estimation, economic viability, recoverability and processing of mineral resources; risks associated with construction and development of the Olaroz Project; unexpected capital or operating cost increases; uncertainty of meeting anticipated program milestones at the Olaroz Project or the Company's other projects; general risks associated with the feasibility and development of the Olaroz Project and the Company's other projects; risks associated with investments in publicly listed companies, such as the Company; risks associated with general economic conditions; the risk that the historical estimates for Borax Argentina's properties that were prepared by Rio Tinto, Borax Argentina and/or their consultants (including the size and grade of such resources) are incorrect in any material respect; the inability to efficiently integrate the operations of Borax Argentina with those of Orocobre; as well as those factors disclosed in the Company's Annual Report for the year ended June 30, 2013 filed at [www.sedar.com](http://www.sedar.com).

Forward-looking information is based on a number of assumptions and estimates that, while considered reasonable by the Company, may prove to be incorrect. Assumptions have been made regarding, among other things: the Company's ability to carry on its exploration and development activities at its projects and to continue production at Borax Argentina's properties, the timely receipt of required approvals, the prices of lithium, potash and boron, the ability of the Company to operate in a safe, efficient and effective manner and the ability of the Company to obtain financing as and when required and on reasonable terms. Readers are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been used. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such information. Accordingly, readers should not place undue reliance on forward-looking information. The Company does not undertake to update any forward-looking information, except in accordance with applicable securities laws.

# Investment Highlights

## Flagship Olaroz lithium project under construction

Fully funded to commercial production – stage 1 lithium carbonate post ramp up production of 17,500tpa to commence in Q3, 2014

- Construction is nearing completion and is projected to be on budget
- Low operating cost & high margin project: Forecast annual EBITDA of ~US\$70m for stage 1 post ramp up production rate
- Large world-class JORC/NI 43-101 resource (6.4mt LCE, 19.3mt KCL, 1.85mt B) enables significant expansion potential
- Sustainable long life project - Feasibility Study considered 40 yrs with only 15% resources extracted
- Battery grade lithium carbonate has been produced at the Olaroz pilot plant for approximately 3.5 years
- Key partnerships with Toyota Tsusho Corporation and Jujuy provincial government mining company

## Borax Argentina operations

- Acquired from Rio Tinto in August 2012: Over 40,000tpa of production of boron chemicals & mineral concentrates
- Large asset base of 3 mines, 2 concentrate plants and a refinery operation with significant upside from existing assets
- Boron used in fertiliser as a micronutrient, glass, ceramic frits, glazes and tile bodies, wood treatments, polymer additives, detergents, soaps and personal care products (buffering, source of active oxygen)
- Long-established Borax workforce in Jujuy and Salta Provinces provides valuable support in developing key lithium-potash assets
- Owner of mining properties of a number of lithium exploration projects with a royalty stream (Cauchari, Diablillos and Sal de Vida)

## Portfolio of Argentinian regional projects with attractive potential

- Proximity of Cauchari & Salinas Grandes brines to Olaroz provides expansion potential & execution flexibility

## Long-term lithium, borates and potash markets look very strong

- Annual lithium market demand growth of approximately 10% forecast
- Continued growth in electric transport and lithium battery use has the potential for large demand growth

# Capital Markets Snapshot (ASX:ORE,TSX:ORL)

## Capital Structure (30th April, 2014)

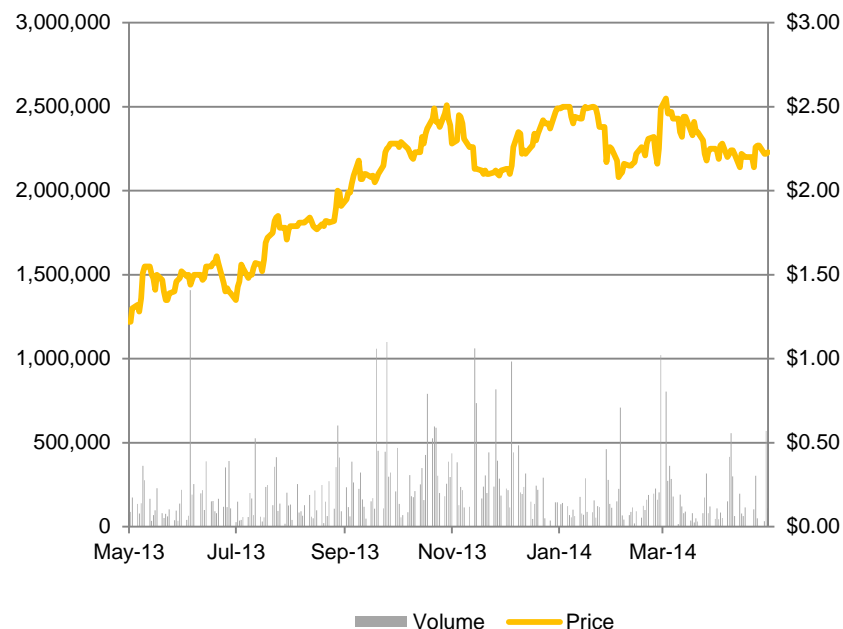
Shares on issue	132,041,911
Options on issue	1,901,092
Share price ASX/TSX	A\$2.23/C\$2.23
Market Capitalisation	A\$294.5m
Cash*	A\$28.7m
52 week share price range (close):	
ASX	A\$1.22-A\$2.55
TSX	C\$1.23-C\$2.60

\* Free cash net of all funding obligations for Olaroz as at 31 March 2014.

## Shareholders

Executives and Directors	11%
Acorn	7.2%
Institutions	~50%

## ORE - 1 year share price & volume chart



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Chairman

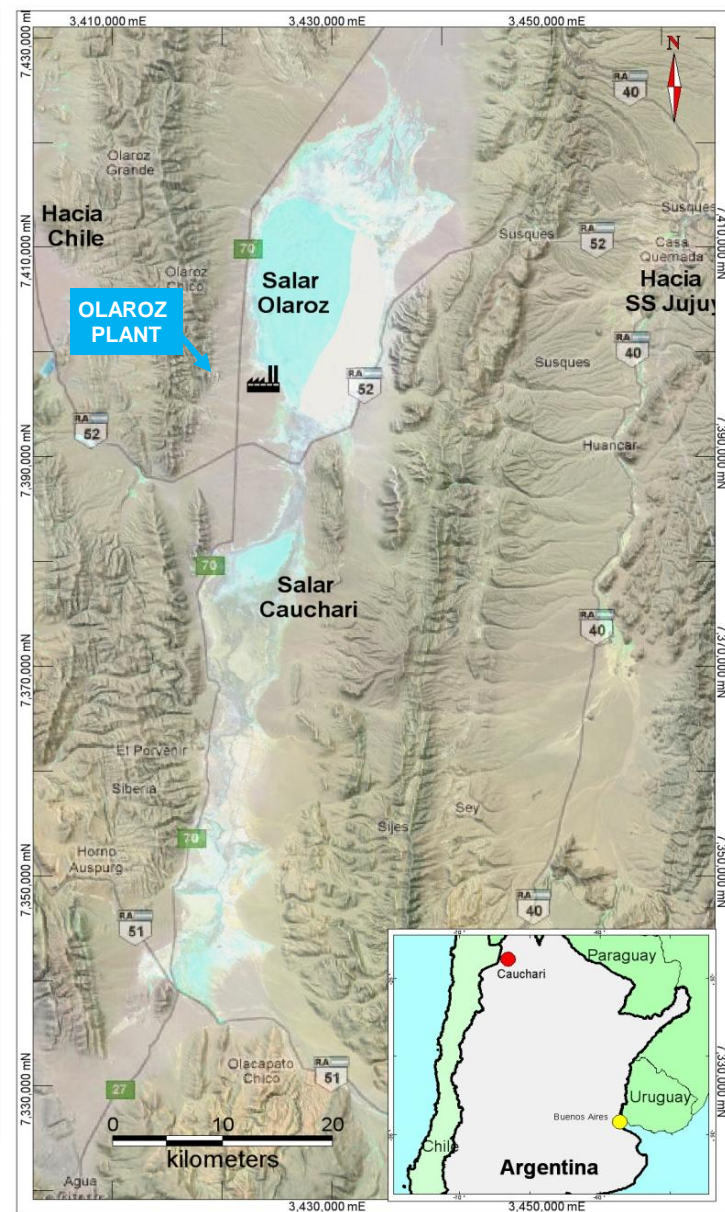
M: +1 (713) 818 1457  
jcalaway@orocobre.com



# Olaroz Project Summary

For more information on Olaroz

Location	<ul style="list-style-type: none"> <li>Salar de Olaroz, Argentina</li> </ul>
Large resource	<ul style="list-style-type: none"> <li>Large measured and indicated resource :                             <ul style="list-style-type: none"> <li>6.4 Mt LCE , 19.3 Mt KCl &amp; 1.85Mt B to 200m</li> <li>&gt;50m thick continuous sand sequence intersected in first hole drilled (to 300m) beneath the defined resource at Olaroz.</li> </ul> </li> <li>Depth potential of 600m</li> <li>High lithium resource grade of 690mg/l Li</li> <li>Low Mg/Li ratio of 2.4</li> </ul>
Capex	<ul style="list-style-type: none"> <li>Fully funded through to production</li> <li>Low US\$229.1m CAPEX</li> </ul>
Production	<ul style="list-style-type: none"> <li>Stage 1 of 17,500tpa battery-grade lithium carbonate</li> <li>Optional 20,000 tpa KCL</li> </ul>
Excellent economics	<ul style="list-style-type: none"> <li>Expected strong post ramp up EBITDA margins of ~US\$4,000/t LCE excluding potash credits</li> <li><b>Estimated annual EBITDA of US\$70m at post ramp up production of 17,500tpa lithium carbonate</b></li> <li>Operating cost \$/t LCE of &lt;US\$2,000/t (excluding any potash credits) vs expected LCE pricing of ~\$5,500-\$6,000/t</li> <li>Material operating cost advantage - hard rock operating costs are significantly higher than brine production costs</li> </ul>
High specification battery-grade LCE	<ul style="list-style-type: none"> <li>Lithium carbonate produced on-site for approximately 3.5yrs</li> <li>Product exceeds minimum battery-grade specification</li> </ul>
Life of mine and expansion	<ul style="list-style-type: none"> <li>40 year mine life utilises only ~15% of existing resources</li> <li>Sustainable long life project. Expandable production rates for lithium carbonate, potash and boron</li> <li>Expansion for Li at 40% discount per tonne of capacity compared to original capital cost</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <li>Excellent infrastructure: Road, gas pipeline, water</li> <li>Local workforce</li> </ul>



# Strong Partners - Government

## Government Agreements

- June 2012: The Olaroz Project was presented to the Argentine President along with the Governor of Jujuy and various Provincial and National Government officials
- It was announced that Orocobre had entered into an agreement with provincial government owned Jujuy Energía y Minería Sociedad del Estado ("JEMSE") and that the Olaroz Project had been approved. Key terms of the JEMSE agreement:
  - JEMSE granted 8.5% equity interest in Olaroz
  - JEMSE's share of construction financing to be loaned by Orocobre and repayable out of 33.3% of dividends received by JEMSE

## Mining Lease granted and EIS approved

- July 2012: Jujuy Government formally approved the Olaroz Project and the mining leases were issued
- The EIS Addenda was approved by the Director of Mines following recommendation by UGAMP in 2011



Ministerial approval for the Olaroz Project

# Strong Partners - Toyota Tsusho, JOGMEC, Mizuho - Fully Funded

<b>Project Capital Cost</b>	<ul style="list-style-type: none"> <li>US\$229.1 million including \$22.1m contingency</li> </ul>
<b>Equity Financing</b>	<ul style="list-style-type: none"> <li>Orocobre 66.5%, TTC 25%, JEMSE 8.5% (funded by Orocobre)</li> <li>Total project equity of US\$82.8 million</li> </ul>
<b>Debt Financing</b>	<ul style="list-style-type: none"> <li>US\$146.3 million based on US\$229.1 million CAPEX</li> <li>US\$45.6 million additional facilities</li> <li>~4.5% fixed rate, term of 10 years after grace period</li> <li>Dividends payable twice yearly after debt service</li> </ul>
<b>Guarantees / Commitments</b>	<ul style="list-style-type: none"> <li>JOGMEC guarantee for 82.4% of drawn debt post completion</li> <li>Additional guarantees from TTC</li> </ul>



## Toyota Tsusho partnership

- Toyota Tsusho Corporation ("TTC") is 22% owned by Toyota Motor Corporation & 11% owned by Toyota Industries, and is one of Japan's leading global trading houses
- Definitive Shareholders Agreement executed in October 2012 for a JV to develop the Olaroz Project
- The effective Olaroz Project equity interest by TTC is 25.0%
- Low cost financing package from Japan facilitated through TTC and arranged by Mizuho Corporate Bank ("Mizuho")
- Debt package covers 70% of CAPEX - guaranteed by the Japanese government's Japan Oil, Gas and Metals National Corporation ("JOGMEC")
- TTC has agency rights (on a commission basis) for lithium carbonate production from the first stage





# Strong Partners – Local Business and Community

## EPCM implementation

- International design and procurement with SKM
- Strong Jujuy based owners team
- Argentine construction management company



## “Jujuy First” strategy

- Working closely with local suppliers and contractors to provide the best results to maximise local involvement, employment and economic impact in the local economy
- Working with the community to provide health and education services

## Benefits of local focus

- Benefits of strong local management and utilisation of local companies include:
  - Knowledge of local laws, requirements and procedures expedites progress and ensures we minimise procurement and construction risks
  - Knowledge of local producers ensures the engineering design is suited to support local industry and reduces lead times for materials
  - Knowledge of local conditions and possible problems allows forward planning to occur to prevent delays



***Managing and partnering with local companies reduces our risk exposure and gives us greater confidence in achieving our goals of delivering the Olaroz project on budget and commencing production in Q3 2014***

# Olaroz Lithium Project Construction Progress

- Construction is 85% complete
- Brine pumping flow rates have achieved the required long term flow rate of 180l/s (with three wells offline)
- Peak flow rate of 220l/s for brine stock build is projected to be reached in May
- Gas Atacama branch line connection has been completed
- Construction is projected to be completed on budget with first commercial production of lithium carbonate projected for late August 2014





# Olaroz Project Construction Progress



# Lithium – Strong Market Fundamentals

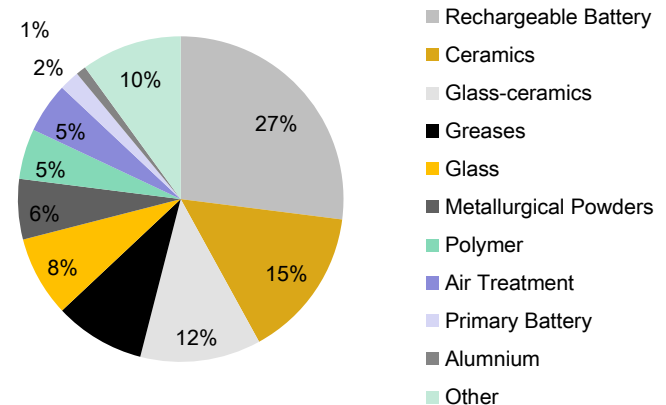
## Lithium uses – batteries, ceramics and glass driving growth

- Lithium has experienced significant market growth:
  - It is increasingly in demand for its electrochemical properties in batteries, however there has also been significant growth in other markets such as ceramics, glass and greases
  - The CAGR since 2000 has been 6.8% including the impact of the economic downturn of 2008-09
- Use of battery-grade lithium portable electronic devices has grown at ~20% per year since 2000
- Mass production of hybrid and electric vehicles represents the most significant “step change” for lithium demand

## Lithium supply is limited

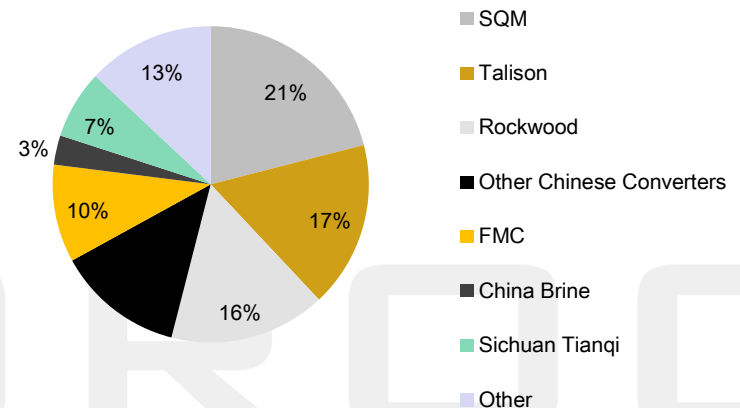
- Limited number of known economically extractable lithium resources
- Global production highly concentrated: ~80% of world supply comes from Chile (SQM and Rockwood), Argentina (FMC Corp) & Australia (Talison)
- Commercial lithium production comes from two sources:**
  - Brines & Minerals (Hard rock) - Production from brines is typically much lower in cost than hard rock (~half)
- Supply response from existing brine producers is constrained by development challenges and declining grades
- Orocobre will be the first developer of a large scale lithium brine mine in 20 years***
- Large end users are actively seeking supply alternatives to meet rapidly growing needs

Current Lithium Demand by Market



Source: Roskill Information Services Ltd, 2013 estimates

Current Lithium Supply by Company



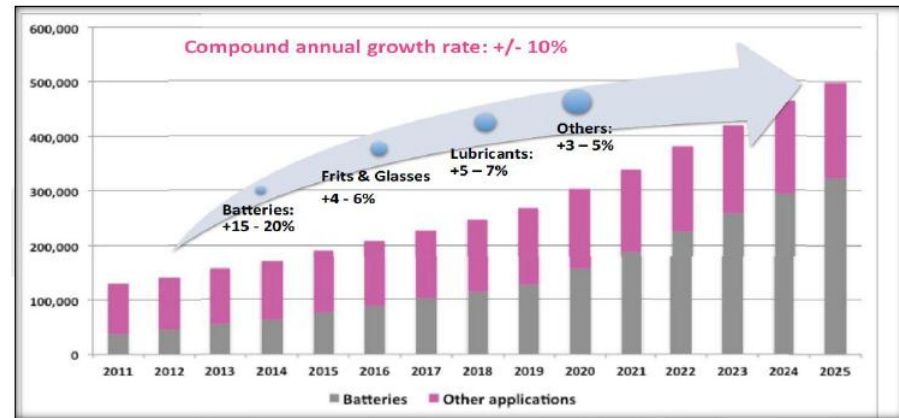
Source: Roskill Information Services



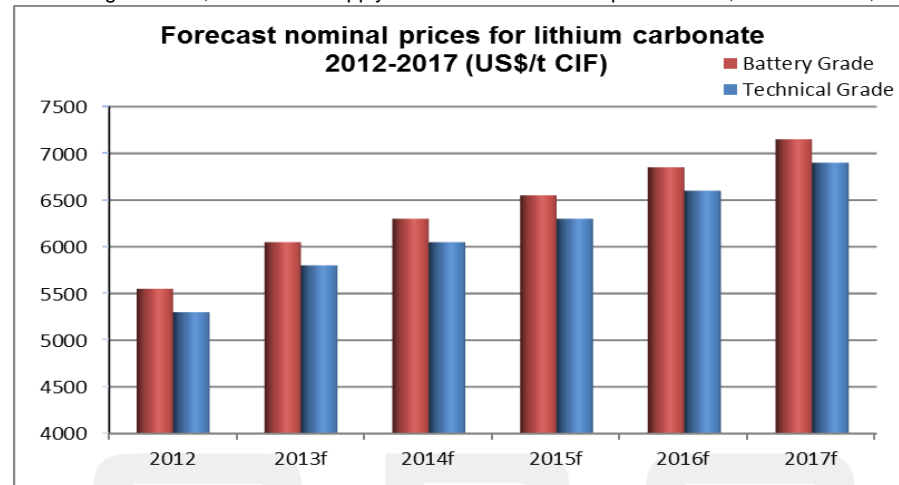
# Lithium – Strong Demand & Strong Pricing

## Lithium demand strong

- Lithium demand (t LCE) is forecast to grow from a 2012 level of 150,000 tpa to 238,000 tpa<sup>1</sup> by 2017 and 500,000 tpa by 2025<sup>2</sup>
- Future lithium demand is projected to grow at 9.7% pa with the battery market forecast to grow at 21% pa<sup>1</sup>
- Growth could be considerably higher depending on the uptake in demand from the electrification of the transportation sector<sup>1</sup>
- Substantially more supply capacity is required to meet the forecast rise in demand



Source: signumBOX, 4<sup>th</sup> Lithium Supply & Markets Conference presentation, Buenos Aires, January 2012

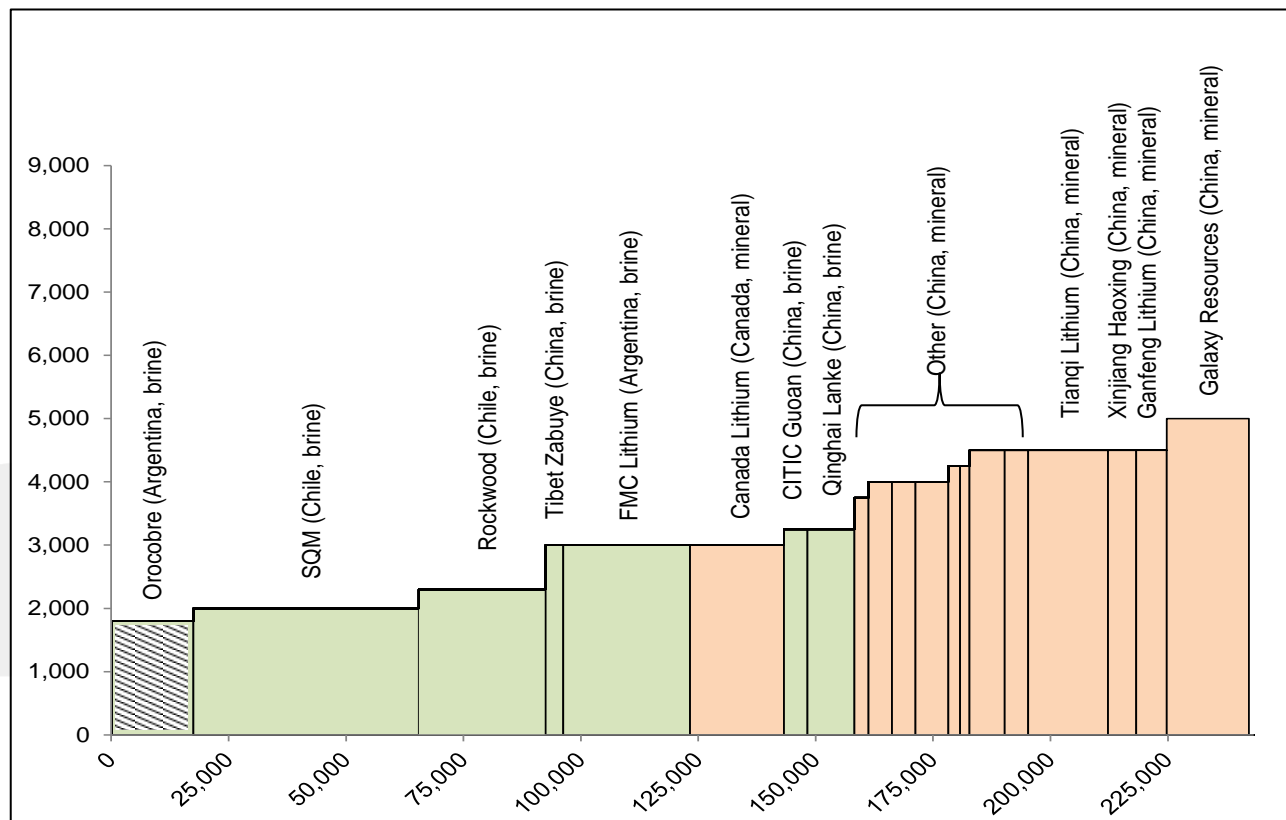


Roskill Forecast 3

- Roskill Information Services Lithium Market Outlook (LMO) Report 12<sup>th</sup> edition 2013
- Signum Box
- Roskill nominal technical grade data LMO Report 12<sup>th</sup> edition 2013 with assumption of US\$250/t premium for battery grade

# Operating cost comparison with existing producers

The Olaroz Project is forecast to have a bottom quartile unit cost of production



Source: Roskill estimates

Notes: Includes carbonate, hydroxide and chloride

Orocobre will not produce any significant volume of lithium compounds in 2013 and is included for comparative purposes only

# Borax Argentina Operations

[For more information on Borax Argentina](#)

- Acquired in August 2012 from Rio Tinto for US\$8.5m – Borax Argentina is a long established (50+ years) boron minerals & refined chemicals producer, and owns one of the few important borate deposits globally
- Three product streams: borax, boric acid and boron minerals
- Annual production in excess of 40,000t of boron chemicals & mineral concentrates
- Operations include three open pit mines and concentration plants in Tincalayu, Sijes & Porvenir
- Refinery operations at Campo Quijano have historically produced various boron chemical products including boric acid, borax decahydrate, borax pentahydrate and anhydrous borax
- Reliable supplier of high quality products with long-term relationships with key South American industrial and agricultural customers
- Historical resource estimates produced by Rio Tinto indicate significant boron mineralisation, including mineral deposits at Diablillos and Ratones which are essentially undeveloped



# Borax Argentina Operations

## Three main open-pit mining operations:

- Tincalayu
- Porvenir
- Sijes

## Tincalayu - Borax product stream

- Tincal mineral was previously mined and concentrated at Tincalayu and transported to Campo Quijano for refining
- Campo Quijano refining plant is being relocated to Tincalayu mine and modified to treat run of mine mineralisation
- Refining plant capacity is 25,000tpa of borax decahydrate equivalent - currently only 60% utilised

## Porvenir – Boric acid

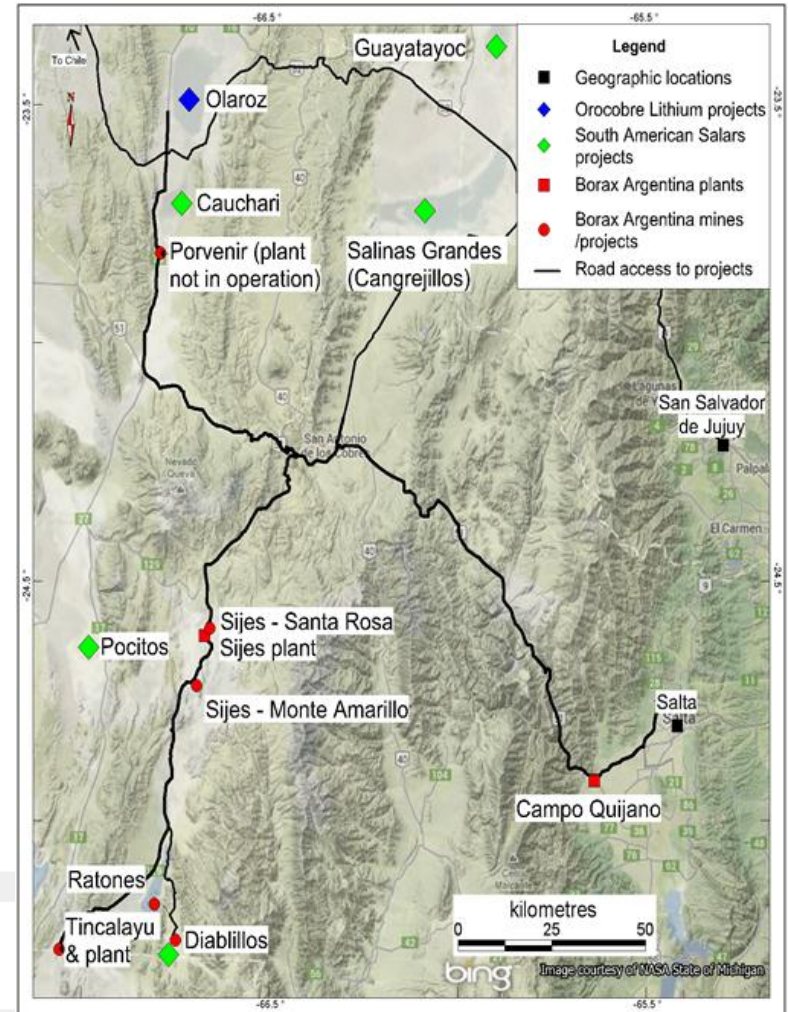
- Ulexite mineralisation mined at Porvenir
- High grade feed of ulexite mineralisation is upgraded by drying and hand sorting onsite before processing at the 9,000tpa Campo Quijano plant, 300km away
- PFS completed on construction of a new boric acid plant in Olacapato, 40km south of Porvenir, to produce up to 25,000tpa of boric acid

## Sijes – Borate minerals

- Principally produces hydroboracite and colemanite
- Two open cut mines (Santa Rosa & Monte Amarillo)
- A concentrator is located at Sijes

## Plants

- Borax refining plant currently being relocated from Campo Quijano to Tincalayu
- Boric acid plant located at Campo Quijano





# Borax Argentina Products & Markets

Product streams	Main products	Production per annum	Use	Pricing	Approx. Size of global market B2O3 equiv.	Key competitors
<b>Borax</b>	<ul style="list-style-type: none"> <li>• Borax Decahydrate</li> <li>• Borax Pentahydrate</li> <li>• Borax Anhydrous</li> </ul>	Plant capacity: 25,000tpa of borax decahydrate equivalent (currently 60% utilised)	Glass, ceramics, technical grade fibreglass, insulation grade fibreglass, fluxes & fertilisers	Different for each product. Price range approx. US \$550-1100/t FOB	1,578k t global trade in 2013	Eti RTM SVM Russian Bor
<b>Boric acid</b>	<ul style="list-style-type: none"> <li>• Boric acid</li> </ul>	Plant capacity: 9,000tpa PFS completed on a 25,000tpa plant at Olacapato	Glass, ceramics, fertilisers and wood preservatives	Price range approx. US\$750/t to \$1,250/t CIF over the past 5 years (industrial grade)	825k t global trade in 2013	Eti RTM Russian Bor MSR INKABOR QUI BORAX
<b>Borate minerals</b>	<ul style="list-style-type: none"> <li>• Hydroboracite</li> <li>• Colemanite</li> </ul>	25,000tpa processed borate minerals	Ceramics and agriculture	Price range approx. US \$200-\$600/t FOB dependent on quality/specification/application	803k t global trade in 2013	Eti Russian Bor

# Borax Argentina Initiatives

## Borax

- Relocation of refining plant from Campo Quijano (scheduled for completion June 2014)
- Relocation of the refining plant will result in more efficient mineral utilisation and lower cost per unit of production
- Plant being modified to treat run of mine mineralisation
- Intention to increase plant utilisation (currently only 60% utilised)
- Tincalayu JORC compliance project – conversion of “historical estimates” to JORC
- Tincalayu Life of Mine Study – post JORC compliance work

## Borate Minerals

- Upgrading the historical estimates of mineralisation to JORC compliant resources. Following JORC compliance at Tinacalyu, work will commence on the Sijes hydroboracite deposit and the other salar hosted ulexite deposits at Diablillos and Ratones
- Life of Mine Study planned

## Boric Acid

- The Porvenir Historical Estimate was recently upgraded to JORC compliance (refer announcement on 29<sup>th</sup> April 2014 & ref Appendix 1)
- The conversion program will focus on the additional ulexite resources at Diablillos and Ratones following the completion of the JORC conversion work at Tincalayu
- A pre-feasibility study (“PFS”) has been completed to investigate the construction of a new boric acid plant in Olacapato, only 40 km south of the Porvenir mining operations, to produce up to 25,000tpa of boric acid

***These initiatives will contribute to positioning the Borax Argentina operations for growth***

# Borax Argentina – Complements Lithium Focus

- Extensive operations and landholdings provide potential increased financial and production performance
  - ✓ Near-term – potential to materially improve performance via process recovery and asset utilization
  - ✓ Longer-term – potential to increase operational scale through use of available mineralisation
- Promising organic growth prospects given its large asset base, strong production infrastructure and capable management team
- Aligns with Orocobre's salar focused industrial minerals development strategy
- Boron minerals and chemicals production complements Orocobre's potential future production of boron chemicals from brines at Olaroz and elsewhere
- Well-established regional operating presence & local expertise complements existing Orocobre management in Jujuy and Salta provinces
- ***Demand growth outlook for boron products remains strong, both regionally and globally***



# Depth in additional mines and projects

## Cauchari (Li, K, B) - Exploration

- Lithium-potash-boron property immediately south of planned Olaroz plant
- Inferred Resource 470Kt LCE, 1.6Mt KCL & 122Kt B
- Incremental production for Olaroz

For more information on Cauchari

## Salinas Grandes/Cangrejillos (K, Li, B) - Exploration

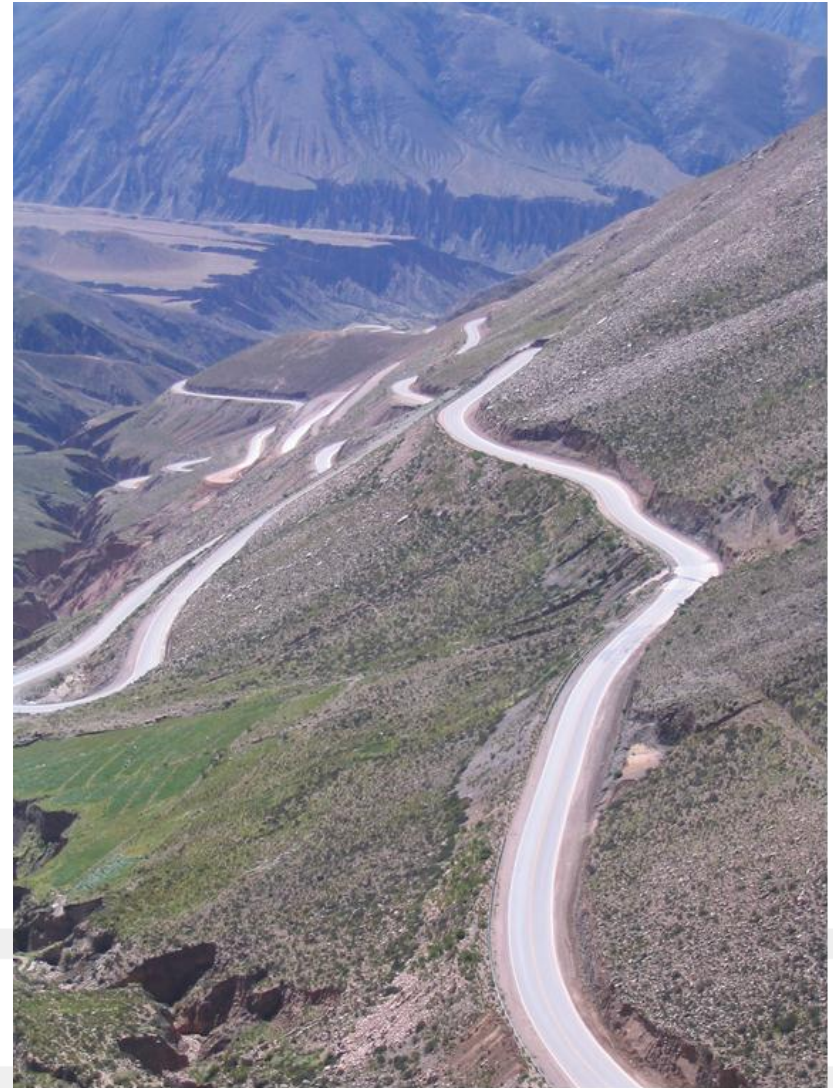
- Li-K project -Drilling shows excellent grades & chemistry
- Inferred Resource 240,000t LCE, 1.0Mt KCL & 12Kt B
- Synergies with nearby Olaroz

For more information on Salinas Grandes

## Guayatoyoc & Others (Li, K, B) - Exploration

- Includes “K” discoveries – not yet drilled

For more information on Guayatoyoc



The conversion rate used is 5.32 tonnes of lithium carbonate equates to 1 tonne of lithium metal and 1.91 tonnes of muriate of potash equates to 1 tonne of potassium metal.



# Conclusion

- Olaroz Project construction is on budget with first production projected for Q3 2014
- Strong long term partnerships
  - Government
  - TTC, JOGMEC, Mizuho Corporate Bank
  - Local Business and Community
- Minimising and managing risk through the Jujuy First strategy
- Olaroz is a high margin, sustainable, expandable, low cost business
- Attractive high growth markets for lithium carbonate
- Additional value/growth in Li, KCL and B in brines and minerals (Cauchari, Salinas Grandes, Borax Argentina)



## Tesla Model S

Range of 300 miles (480 km)

Recharge time:

- Battery swap in 90 seconds
- “Supercharge” 50% of battery capacity in 30 minutes
- “High Power” wall charge (240V, 80A) 4 hours 43 minutes

Source: Tesla Motors Website





## APPENDIX 1 – RESOURCE STATEMENTS

OROC

# Olaroz – Resource Estimate Summary

- Olaroz Project has very large resource base which has potential to support long project life
- Combined Measured and Indicated Resource of:
  - 6.4 million tonnes of lithium carbonate
  - 19.3 million tonnes of potash (potassium chloride)

Resource Category	Area	Thickness	Mean specific yield	Brine volume	Concentration			Tonnes of Contained Metal		
					Lithium	Potassium	Boron	Lithium	Potassium	Boron
	sq. kms	metres	%	cubic kms	mg/L	mg/L	mg/L	Million Tonnes	Million Tonnes	Million Tonnes
Measured Resource	93	54	8.4%	0.42	632	4930	927	0.27	2.08	0.39
Indicated Resource	93	143	10.0%	1.33	708	6030	1100	0.94	8.02	1.46
<b>Measured and Indicated Resource</b>	<b>93</b>	<b>197</b>	<b>9.6%</b>	<b>1.75</b>	<b>690</b>	<b>5730</b>	<b>1050</b>	<b>1.21</b>	<b>10.10</b>	<b>1.85</b>

The resource model and brine resource estimation on the Salar de Olaroz was undertaken by John Houston who is a Chartered Geologist and a Fellow of the Geological Society of London. John Houston has sufficient relevant experience to qualify as a competent person as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. He is also a "Qualified Person" as defined by Canadian Securities Administrators' National Instrument 43-101.

The conversion rate used is 1 tonne of lithium metal produces 5.32 tonnes of lithium carbonate and 1 tonne of potassium produces 1.91 tonnes of muriate of potash

# Salinas Grandes Resource Estimate Summary

- An inferred resource has been estimated for the shallow brine body to approximately 13 m as 56.5 million cubic metres of brine at 795 mg/L lithium and 9,550 mg/L potassium which is equivalent to 239,200 tonnes of lithium carbonate and 1.03 million tonnes of potash (potassium chloride) based on 5.32 tonnes of lithium carbonate being equivalent to 1 tonne of lithium and 1.91 tonnes of potash being equivalent to one tonne of potassium as shown in the table.

	Brine body parameters				Average resource concentrations			Tonnes contained metal		
Resource Category	Area km <sup>2</sup>	Average thickness m	Mean specific yield %	Brine volume Million m <sup>3</sup>	Lithium mg/l	Potassium mg/l	Boron mg/l	Lithium	Potassium	Boron
Inferred resource	116.2	13.3	4.1%	56.5	795	9,547	283	44,960	539,850	12,100

- The resource estimate was prepared by Murray Brooker. Murray Brooker is a geologist and hydrogeologist and is a Member of the Australian Institute of Geoscientists. Murray has sufficient relevant experience to qualify as a competent person as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. He is also a “Qualified Person” as defined by Canadian Securities Administrators’ National Instrument 43-101.

OROC



# Salar de Cauchari Resource Estimate Summary

- An inferred resource has been estimated in two adjoining areas of the salar, with a total 230 million cubic metres of brine at 380 mg/L lithium and 3,700 mg/L potassium. This is equivalent to 470,000 tonnes of lithium carbonate and 1.6 million tonnes of potash (potassium chloride) based on 5.32 tonnes of lithium carbonate being equivalent to 1 tonne of lithium and 1.91 tonnes of potash being equivalent to one tonne of potassium.

Inferred Resource Area	Brine body parameters				Average resource concentrations			Tonnes contained		
	Area km2	Average thickness m	Mean specific yield %	Brine volume Million m3	Lithium mg/l	Potassium mg/l	Boron mg/l	Lithium	Potassium	Boron
North 170 m deep	19.69	170	6.1%	204.5	399	3,833	547	81,497	783,829	111,901
South 50 m deep	11.35	50	4.6%	26.0	264	2,502	421	6,851	64,932	10,916
Combined	31.04			230.4	383	3,683	533	88,348	848,761	122,817
LCE/potash Equivalent								470,009	1,621,134	

- The resource estimate was prepared by Murray Brooker. Murray Brooker is a geologist and hydrogeologist and is a Member of the Australian Institute of Geoscientists. Murray has sufficient relevant experience to qualify as a competent person as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. He is also a "Qualified Person" as defined by Canadian Securities Administrators' National Instrument 43-101.

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# Porvenir Resource Estimate Summary

- A measured and indicated resource of 2.3 million tonnes at 20.4% B<sub>2</sub>O<sub>3</sub> is estimated at the current 16% mining cut off grade. The resource extends to a maximum depth of 2.9m and is easily exploited by low cost strip mining. A measured and indicated resource of 6.9 million tonnes of 14.9% B<sub>2</sub>O<sub>3</sub> is estimated at a 9% B<sub>2</sub>O<sub>3</sub> mining cut off grade.

Classification	Cut-off grade	Tonnes	Grade% B <sub>2</sub> O <sub>3</sub>	Tonnes B <sub>2</sub> O <sub>3</sub>
Measured	9%	4,907,877	14.5	710,672
Indicated	9%	1,942,433	16.0	310,517
<b>Measured &amp; Indicated</b>	<b>9%</b>	<b>6,850,000</b>	<b>14.9</b>	<b>1,020,000</b>
Classification	Cut-off grade	Tonnes	Grade% B <sub>2</sub> O <sub>3</sub>	Tonnes B <sub>2</sub> O <sub>3</sub>
Measured	16%	1,474,341	20.0	295,117
Indicated	16%	804,595	21.0	168,776
<b>Measured &amp; Indicated*</b>	<b>16%</b>	<b>2,278,937</b>	<b>20.4</b>	<b>463,992</b>

- The resource estimate was prepared by Murray Brooker. Murray Brooker is a geologist and hydrogeologist and is a Member of the Australian Institute of Geoscientists. Murray has sufficient relevant experience to qualify as a competent person as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. He is also a “Qualified Person” as defined by Canadian Securities Administrators’ National Instrument 43-101.

# Historical Borax Argentina resources (announced 21st August, 2012)

- The historical estimates are in equivalent categories to those used by the JORC and CIM reporting codes. However, these estimates did not satisfy either current JORC or CIM/NI 43-101 requirements for the reporting of resources and were considered to be historical resources (see Orocobre ASX/TSX announcement August, 2012).

Mine/Project	Material	Historical Estimate	Tonnes	Grade% B2O3	Tonnes B2O3	% Total Resource
<b>Current Soft Rock mines</b>						
<b>Tincalayu</b>	Tincal	Measured	1,459,201	17.9	261,197	
	Tincal	Indicated	395,519	14.8	58,537	
<b>Sijes - Hydroboracite</b>	Hidroboracite	Measured	3,099,998	22.8	706,800	
<b>Sijes - Colemanite</b>	Colemanite	Inferred	200,000	20.0	40,000	
<b>Total &amp; averages</b>			5,154,718	20.7	1,066,533	
<b>Current Ulexite Mine in Salt Lake Sediments</b>						
<b>Porvenir</b>	Ulexite	Measured	2,417,099	20.2	487,231	14.4%
<b>Undeveloped Ulexite Deposits in Salt Lake Sediments</b>						
<b>Diablillos</b>	Ulexite	Measured	9,435,732	18.8	1,772,893	
<b>Ratones</b>	Ulexite	Indicated	364,663	18.0	65,639	
<b>Total &amp; averages</b>			9,800,395	18.8	1,838,532	
<b>Grand Total</b>			17,372,213	19.5	3,392,297	

A qualified person did not do sufficient work to classify the historical estimates as current mineral resources or mineral reserves, and the Company did not treat the historical estimates as current mineral resources or mineral reserves. It is uncertain whether following evaluation and/or further exploration any of the historical estimates will ever be able to be reported as current estimates in accordance with the JORC code or NI 43-101. There is no new information that impacts on these historical estimates. However, Orocobre advises that during 2014 these resources and the information they were based on will be reviewed, re-assaying of historical pulp samples will be undertaken (together with QA/QC analysis) and the resources will be re-estimated, to bring them into compliance with JORC and CIM/NI43-101 requirements.

# Historical Borax Argentina Resources (announced 21st August,2012) (cont'd)

**In the case of Porvenir the 2004 historical resource is no longer relevant, and has been superseded entirely by the new 2014 resource discussed in the Company announcement dated 2<sup>nd</sup> April 2014.** Cut off grades for mining depend on the individual deposit and the borate mineral being mined. At Tincalayu the recent cut-off grade is approximately 12% B<sub>2</sub>O<sub>3</sub>. Note that material mined in 2012-2014 is not accounted for as depletion in the figures above, with approximately 85,000 tonnes at Tincalayu and 35,000 tonnes at Sijes and 30,000 tonnes at Porvenir the estimated annual production of mineralised material at the time this information was originally released in 2012. Relevant reports from which the above summary of historical estimates is drawn include the following:

## **Tincalayu:**

- July 2006 Estimation for Tincalayu Deposit, Recalculation and 20 years Mining Plan. Roberto Torres & Raúl Gutiérrez; U.S. Borax and Borax Argentina S.A.;
- August 2006. 9 Years Mining Plan based on July 2006 Recalculation, Roberto Torres, U.S. Borax; 2007 – 2012. Subsequent to these estimates Borax Argentina has carried out annual reconciliations of the material mined against the material predicted by the geological model and has thereby updated the historical estimate inventory for mining depletion. The estimate set out in Table 1 reflects these annual reconciliations as of December 2011. These are reported in the annual reports titled Tincalayu Deposit Update & Yearly Mining Plan by Raúl Gutierrez.

## **Sijes:**

- July 1998; Borax Argentina S.A.; Environmental and Operational Studies, Phase 1, Initial Geotechnical Appraisal; Knight Piesold Limited, England. Includes a Historical estimates Chapter;
- July 1998; Borax Argentina S.A.; Environmental and operational Studies, Phase 2; Geotechnical Appraisal; Knight Piesold Limited, England;
- May 1999; Borax Argentina S.A.; Hidroboracite Project, Raul Gutierrez Solis; August 1999, Borax Argentina S.A.; Sijes, Monte Amarillo 2 Mine. Historical Estimation, Mine Design & Planning Report. Knight Piesold Limited, England.



# Historical Borax Argentina Resources (announced 21st August,2012) (cont'd)

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## **Porvenir:**

- December 2004, Historical s Estimation for all Properties in Porvenir mines, Cauchari Salar. Raúl Gutiérrez Solís and Alejandro Carral Reconciliation of produced ulexite versus production planned from the historical estimates is not carried out, but the historical estimate is reduced when a block within the estimate have been mined out.

## **Diablillos:**

- December 2008, Historical estimates for all properties granted at Diablillos Salar. Raúl Gutierrez Solis and Eduardo Carral.

## **Ratones:**

- The project was acquired by Borax Argentina circa 1987. The previous owners had conducted an estimate of contained mineralised material. This has not been validated by Borax Argentina, who consider the status of this material to be of the indicated category.

## **Footnote applicable to all Resources Statements:**

The Company confirms that it is not aware of any new information or data that materially affects the information included in the references above and that all material assumptions and technical parameters underpinning the resource estimates continue to apply and have not materially changed. The Company also confirms that the form and context in which the Competent Person's findings are presented have not been materially modified.

# Competent Person's and Qualified Person's Statement & Technical Information

The resource estimate on the Olaroz Project described in this presentation was undertaken by John Houston who is a Chartered Geologist and a Fellow of the Geological Society of London. John Houston is a hydrogeologist and has sufficient relevant experience to qualify as a "Competent Person" as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. He is also a "Qualified Person" as defined by Canadian Securities Administrators' National Instrument 43-101("NI 43-101"). The Feasibility Study on the Olaroz project was prepared by Mr. Houston, Peter Ehren (Consulting Processing Engineer), Sinclair Knight Merz and the Orocobre technical group. Mr. Houston and Mr. Gunn prepared the technical report entitled "Technical Report – Salar de Olaroz Lithium-Potash Project, Argentina" dated May 30, 2011 (the "Olaroz Report") under NI 43-101 in respect of the Feasibility Study, and each of Messrs. Houston and Gunn was a Qualified Person under NI 43-101, and independent of the company, at the date such report was prepared. Additional information has since been prepared by Mr Peter Ehren who is a Member of the Australasian Institute of Mining and Metallurgy and a Charter Professional. Mr Ehren has sufficient relevant experience to qualify as a "Competent Person" as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. He is also a "Qualified Person" as defined in NI 43-101.

In addition, the information relating to the Olaroz Project has been reviewed by Mr Neil Stuart, who is a geologist and is a Fellow of Australasian Institute of Mining and Metallurgy and a Member of the Australian Institution of Geoscientists. Mr Stuart is a former Director of the Company and currently acts as a consultant to the Company. Mr Stuart has reviewed and approved the contents of this presentation relating to the Olaroz Project. Mr Stuart has sufficient relevant experience to qualify as a "Competent Person" as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. He is also a "Qualified Person" as defined in NI 43-101.

The technical information in this presentation relating to the Salinas Grandes Project, Cauchari Projects and the Porvenir Resource has been prepared by Murray Brooker. Mr. Brooker is a geologist and hydrogeologist and is a Member of the Australian Institute of Geoscientists. Mr. Brooker has sufficient relevant experience to qualify as a "Competent Person" as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. He is also a "Qualified Person" as defined in NI 43-101. Mr. Brooker has reviewed and approved the contents of this presentation relating to the Salinas Grandes Project, Cauchari Project and the Porvenir Resource.

Additional information relating to the Company's projects is available in the Olaroz Report; the "Technical Report – Salar de Cauchari Project, Argentina" dated April 30, 2010, which was prepared by John Houston, Consulting Hydrogeologist; and the "Technical Report on the Salinas Grandes Lithium Project" dated April 16, 2012, which was prepared by Mr. Brooker. These are available on SEDAR.com or the Company's website.

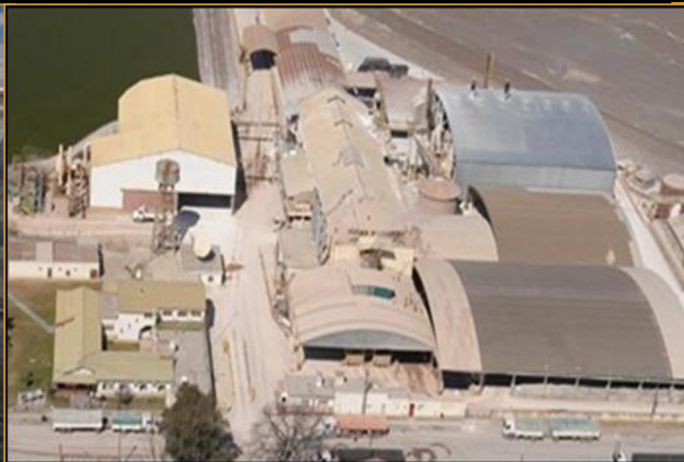
# Competent Person's and Qualified Person's Statement & Technical Information

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In relation to the Porvenir Resource, the source of the 2004 historical estimate, which has now been updated and is superseded by the new 2014 resource discussed in the announcement released on 2<sup>nd</sup> April 2014, was the December 2004 Resource Estimation Porvenir Properties, Cauchari Salar by Raúl Gutiérrez Solís and Alejandro Carral. The superseded historical estimate was in equivalent categories to those used by the JORC and CIM reporting codes. However, the superseded 2004 estimate did not satisfy either current JORC or CIM/NI 43-101 requirements for the reporting of resources and was considered to be a historical resource (see Orocobre announcement August, 2012). The superseded 2004 historical estimate for the Porvenir salar deposit was based on traditional polygonal resource estimation methods suitable for such geometries. A qualified person did not do sufficient work to classify the superseded 2004 historical estimate as a current mineral resource or mineral reserve, and the Company did not treat that superseded 2004 historical estimate as a current mineral resource or mineral reserve. The 2004 historical resource is no longer relevant, and has been superseded entirely by the new 2014 resource discussed in the Company announcement dated 2<sup>nd</sup> April 2014.

The information in this document that relates to mineralisation at Borax Argentina sites has been prepared by Mr Murray Brooker. Murray Brooker is a geologist and hydrogeologist and is a Member of the Australian Institute of Geoscientists. Murray has sufficient relevant experience 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. He is also a "Qualified Person" as defined in NI 43-101. The Company confirms that it is not aware of any new information or data that materially affects the information included in the references above and that all material assumptions and technical parameters underpinning the resource estimates continue to apply and have not materially changed. The Company also confirms that the form and context in which the Competent Person's findings are presented have not been materially modified. A previous announcement was made on the 21/08/12 regarding the superseded historical resource at Porvenir, which is the subject of re-estimation in the announcement dated 2<sup>nd</sup> April 2014. The company is not in possession of any new information or data relating to historical estimates that materially impacts on the reliability of the estimates or the company's ability to verify the historical estimates as mineral resources, in accordance with the JORC Code. The supporting information provided in the initial market announcement of 21/08/12 continues to apply and has not materially changed.

Additional information relating to the Company's projects is available in the Olaroz Report; the "Technical Report – Salar de Cauchari Project, Argentina" dated April 30, 2010, which was prepared by John Houston, Consulting Hydrogeologist; and the "Technical Report on the Salinas Grandes Lithium Project" dated April 16, 2012, which was prepared by Mr. Brooker. These are available on SEDAR.com or the Company's website.



# Orocobre Limited

**BUILDING A SUSTAINABLE INDUSTRIAL MINERALS COMPANY**

**Investor Update**  
**May 2014**