

29 April 2009

## ASX ANNOUNCEMENT

### MAIDEN RESOURCE ESTIMATE OLARAZ LITHIUM – POTASH PROJECT

Orocobre Limited (ASX: ORE) is pleased to report a maiden resource estimate at its Orocobre Lithium – Potash project in Jujuy province in north-west Argentina.

Independent resource specialists Geos Mining of Sydney, Australia have reported an Inferred Mineral Resource of:

**350 million kL of brine at 800g/kL lithium and 6,600 g/kL potassium.**

This is equivalent to 1.5 million tonnes of lithium carbonate and 4.4 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.

Further details are given in the table below together with lower and higher estimates of brine volume.

	Brine Kilolitres (kL) (millions)	Lithium (g/kL)	Potassium (g/kL)	Lithium Carbonate equivalent (million tonnes)	Potash (KCl) equivalent (million tonnes)	Zone 1 Average Specific Yield	Zone 2 Average Specific Yield
Preferred Estimate	350	800	6,600	1.49	4.40	11.5%	8.3%
Higher Estimate	415	800	6,600	1.76	5.22	13.3%	9.9%
Lower Estimate	255	800	6,600	1.09	3.23	9.0%	6.0%

The resource estimate extends to an average depth of 55m and is based on data collected from a 22 hole core drilling program (including 6 hydrogeological test work monitoring bores) and brine sampling program completed between September and December 2008. Drillhole locations are shown in Figure 1. A second brine sampling program from the wells was undertaken in January and February 2009.

A geological model, constructed by Geos Mining, divided the deposit into three zones:

- Zone 1 - a near-surface layer, from surface to the base of a halite-rich unit, which occurs predominantly in the centre of the salar to a maximum depth of 19m and averaging 11m depth.
- Zone 2 - an interbedded sequence of sands, silts and clays to a maximum depth of 64m and an average depth of 55m.
- Zone 3 - an underlying clay layer with minor sand, silt and halite interbeds.

The geological interpretation of the stratigraphic sequence within each zone was based on the drill core and recovery logs, downhole geophysical logging (natural gamma) on seven holes and data collected during hydrogeological test work.

An average specific yield (the amount of free draining brine) was estimated for each zone in each hole, based on accepted engineering parameters and porosity measurements of core for the individual stratigraphic components that comprise each zone, as set out in the following table.

	<b>Sand</b>	<b>Silt</b>	<b>Halite</b>	<b>Clay</b>
<b>Preferred Estimate</b>	<b>22%</b>	<b>5%</b>	<b>10%</b>	<b>1%</b>
Higher Estimate	27%	5%	10%	1%
Lower Estimate	17%	1%	10%	1%

The estimates have been compared with the specific yield estimates from the hydrogeological constant flow rate drawdown tests. The average specific yields used for the Preferred Estimate were found to be within 5% of the hydrogeological parameters interpreted by Australasian Groundwater and Environmental Consultants.

Brine density has been estimated based on density test work on the samples used for grade analysis. The average of brine densities was 1.2 g/mL.

Analytical test work was undertaken by UK-owned international laboratory, Alex Stewart S.A. at its facilities in Mendoza, Argentina, using ICP techniques (Induced Coupled Plasma). Quality control involved blind standards, duplicates and blanks together with check analyses of all samples at another laboratory using AAS (Atomic Absorption Spectrometry).

Grade estimates and specific yields were interpolated throughout the deposit using a minimum curvature method and reported for the salar area within the company's properties only. As potential extraction (e.g. brine pumping and conventional lime soda evaporation) may not allow selectivity of brines, no cut-off was applied.

It is noted that the reported Li grade is similar to the Hombre Muerto Operation in Argentina and approximately double the grade of the Silver Peak Operation in the United States of America. However, the Olaroz Mg:Li ratio is higher than for these deposits, at around 2.8:1 compared to 1.4:1, but is still considered relatively low compared to other salar deposits, such as Atacama and Rincon at 6.4 and 8.6 respectively. (High Mg:Li ratio is less desirable in the production process).

## **Geology**

Olaroz is not typical of other salars in the region that have been reported. These other salars are characterised by thick halite sequences that are relatively easy to assess using conventional coring techniques and downhole geophysical logging. The Olaroz sequence is dominated by poorly consolidated fluvial and lacustrine clastic sediments and contains less halite.

The drilling program at Olaroz experienced difficult coring conditions that resulted in low core recoveries at 50%. Hole stability was also affected by the unconsolidated nature of the sediments and flowing fine sands blocked a number of holes, limiting downhole geophysical gamma logging to depths of 27m to 45m. Although there is a reasonable understanding of the overall geological model, further drilling is required to improve the confidence in the interpretation of the detailed sedimentary sequence and, hence, improve the confidence in the estimates of brine volumes.

## **Exploration Potential**

Typical halite-dominated salar sequences have highly predictable hydrogeological properties. Specific yield within the near-surface (0-15m) in recently deposited halite is in the range of 8-12%, but declines rapidly beneath this, due to overburden pressure and crystallisation, to values of around 3-5% at 40-50m depth. This results in halite-rich salar deposits having an overall specific yield of around 6-8% in the top 40-50m.

Olaroz is different as it is not dominated by halite. The specific yield of sand (and sandstones) do not decline nearly as rapidly with depth and thus the zone beneath the clay layer (used as a lower boundary in the current resource estimate) is an exciting exploration target. The zone has already been intersected by three drill holes that have intersected a number of potential sandy aquifer horizons.

## **Managing Director Richard Seville commented:**

*“Our strategy has been to rapidly progress the Olaroz project. In the past year we have completed two field programs and delivered our maiden resource estimate. Our scoping study is almost complete and will be reported shortly.*

*We have learnt a huge amount in the past year and will be employing this knowledge in our approaches in our next programs. Although we were initially surprised by the different geology of Olaroz compared to other salars in production or investigated, we believe this geology may offer us additional exploration targets beneath the normal 50m depth cut-off in halite dominated salars.*

*We have also built an excellent team of employees and consultants who are well equipped to advance the Olaroz project through the resource upgrade process and feasibility study phase of the project, which will be based on the near surface resource area”.*

For and on behalf of the Board

Paul Crawford  
Company Secretary

**For further information contact:**  
**Richard Seville – Managing Director**  
**Mob: +61 419 916338**  
**Phone: (07) 3871 3985**

**E-Mail: [admin@orocobre.com.au](mailto:admin@orocobre.com.au)**  
**Website: [www.orocobre.com.au](http://www.orocobre.com.au)**

#### **“COMPETENT PERSONS STATEMENT”**

*Information in this announcement relating to the Salar de Olaroz resources is based on information compiled by Sue Border, who is a Fellow of the Australasian Institute of Mining and Metallurgy and is Principal of Geos Mining. She 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. Sue Border consents to the inclusion in this announcement of this information in the form and context in which it appears.*

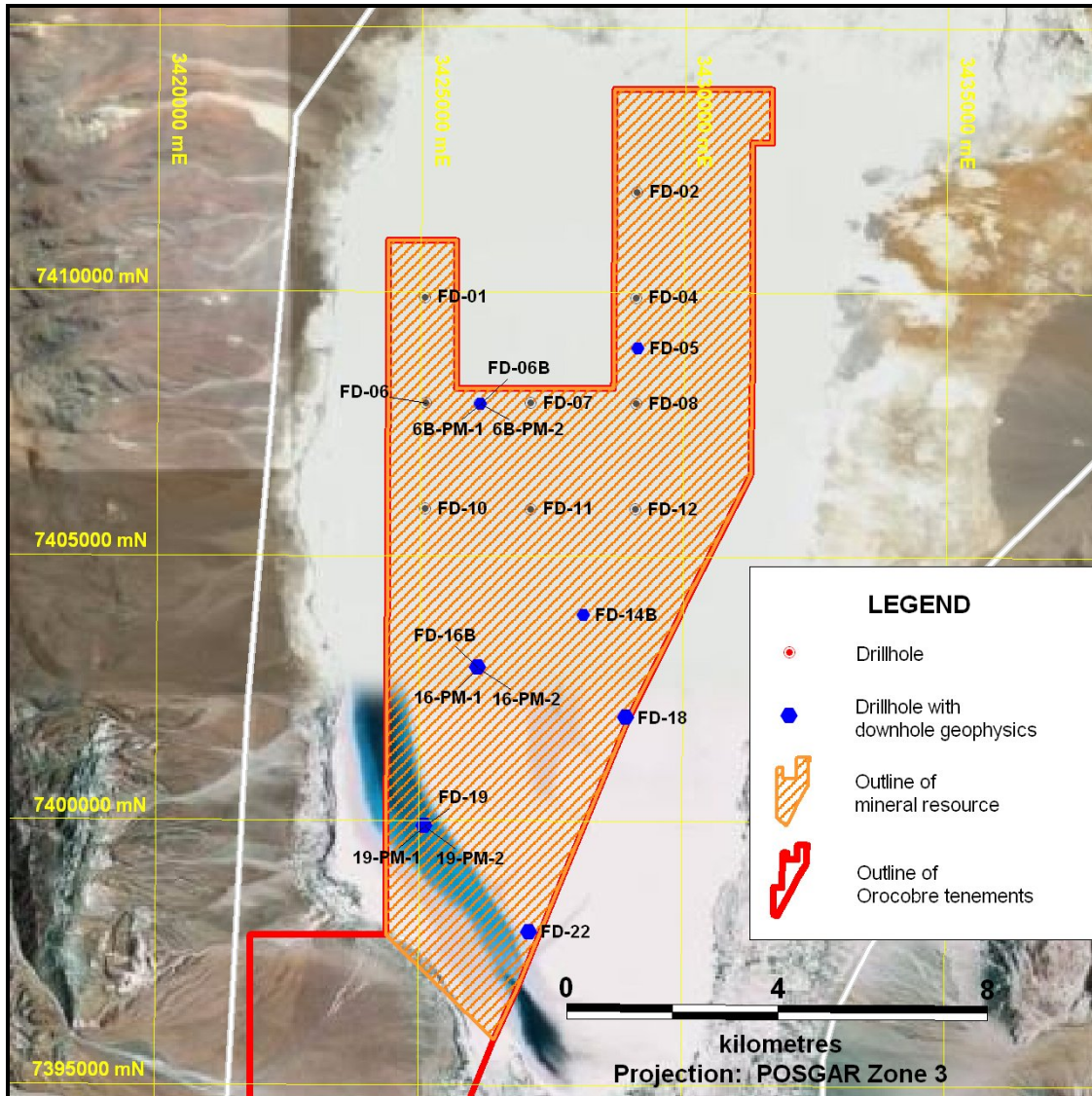


Figure 1 : Drillholes and Outline of Resource