

18 July 2011

## ASX/TSX ANNOUNCEMENT

# Orocobre Completes Phase 1 Drilling at Salinas Grandes Lithium-Potash Project

### Highlights

- **Initial drilling program completed at the Salinas Grandes Lithium-Potash Project**
- **Drilling confirms the presence of two brine bodies with significant exploration potential**
- **Brine chemistry is attractive, with a low magnesium to lithium ratio, high potassium to lithium ratio and low sulphate and calcium levels**
- **High recoveries of both potassium and lithium could be expected using a simple, low operating cost, process route**
- **Next step is to complete the resource estimate when porosity test work is available and a shallow auger program is completed.**

### Overview

Orocobre Limited (ASX: ORE; TSX: ORI) (the Company or Orocobre) is pleased to announce the completion of the initial core drilling program on the Salinas Grandes Lithium-Potash project (“Salinas Grandes”) in Salta Province, North West Argentina.

Orocobre Managing Director, Richard Seville, stated that he was delighted to deliver drilling results which provide an encouraging outlook for the Salinas Grandes project.

“We are very pleased to have completed this first drilling program at Salinas Grandes and to receive analytical results that show the presence of two brine bodies with good grades and significant exploration potential,” Mr Seville said.

“The brines have very attractive chemistry including a low magnesium to lithium ratio, high

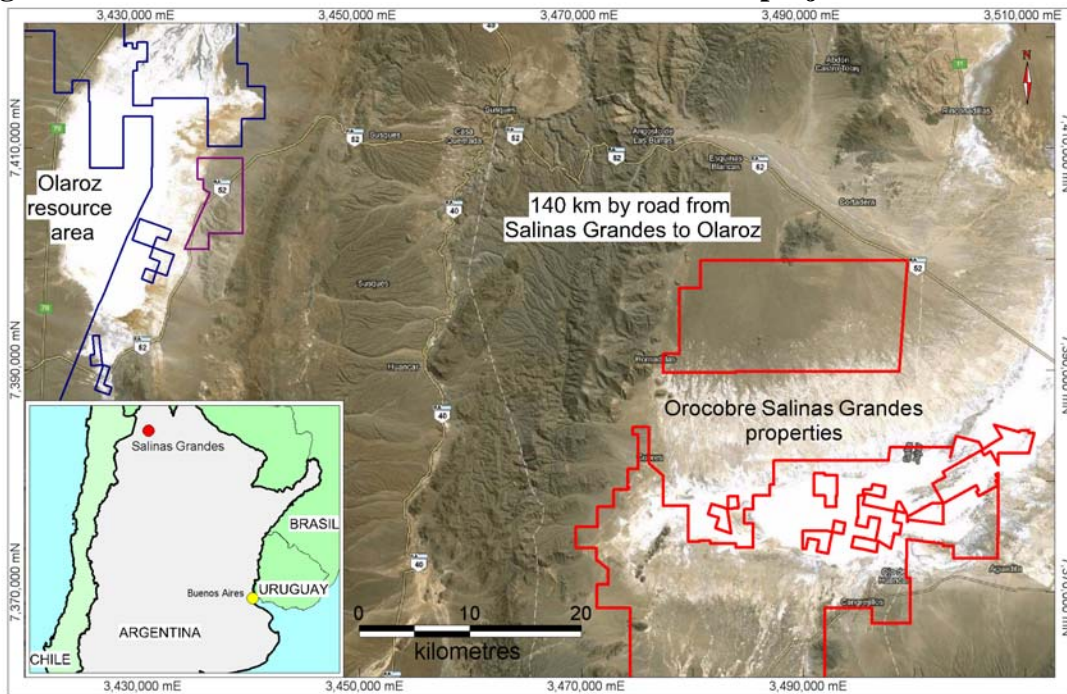
potassium to lithium ratio and very low sulphate levels. Brines with these chemical characteristics are amenable to simple processing techniques, with high recoveries and low operating costs.

“In fact, these very low sulphate levels mean potash recovery would be very high in an operation, with potentially eight tonnes of potash for every one tonne of lithium carbonate production.

“Also, the close proximity to our flagship Olaroz Project (Figure 1, below) could lead to potential operating synergies, including the option to process concentrated Salinas Grandes lithium brine at an expanded lithium carbonate plant at Olaroz after completing potash recovery at Salinas Grandes.

“The key thing now is to complete the resource estimate and get some idea of the extractability of the brine. We are awaiting the results of the porosity determinations from the British Geological Survey laboratories and from a shallow auger drilling program which will allow us to undertake a resource estimate. We have also started a program of pump testing to assess extractability from the shallow body.”

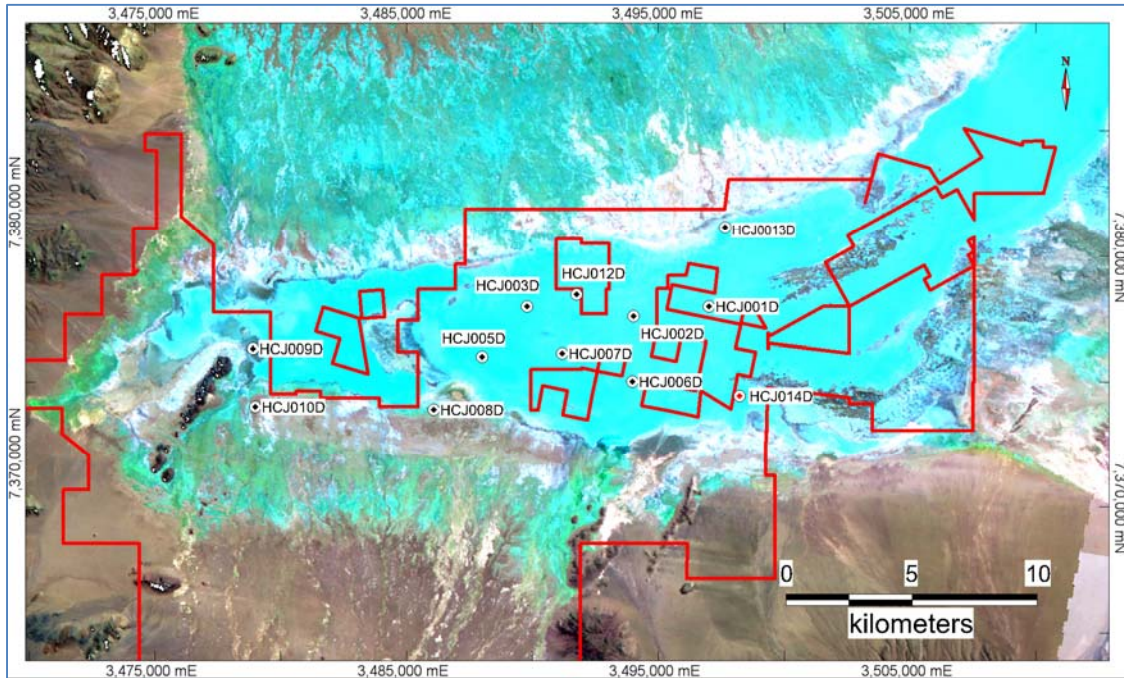
**Figure 1: The location of the Salinas Grandes and Olaroz projects in northern Argentina**



## Drilling Results

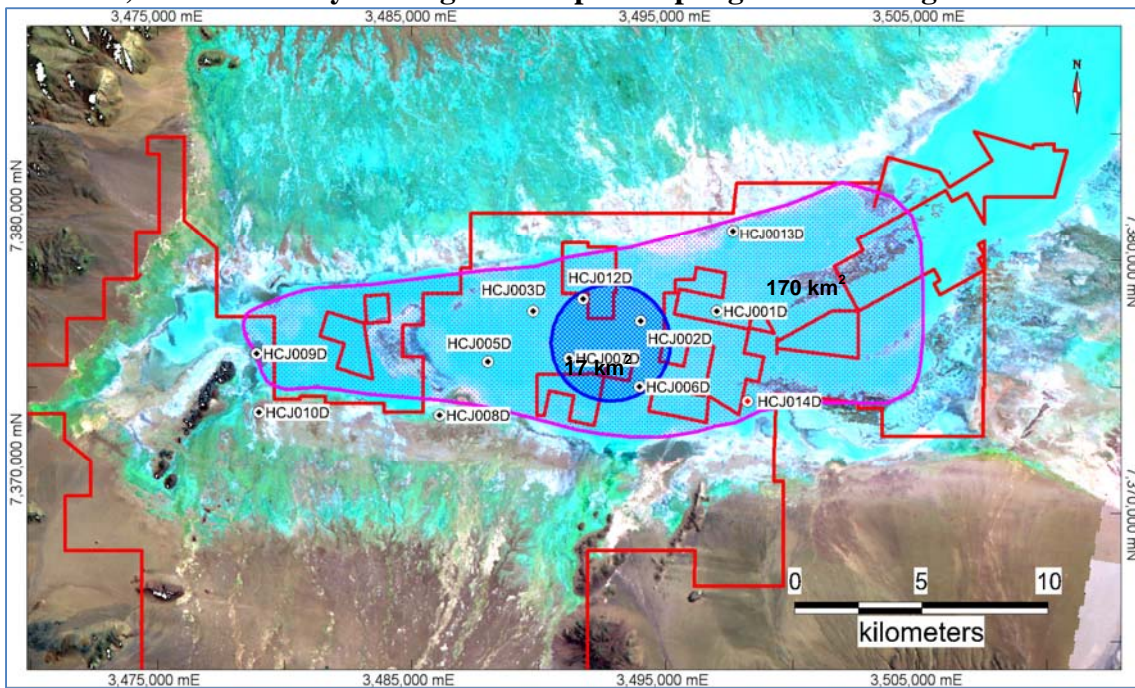
A total of 12 triple-tube diamond core holes were drilled with an average spacing of 3.3 km between drill holes in the east of the salar, where most drilling was carried out. Holes were drilled vertically to between 60 and 75 m depth, with one hole (HCJ007D) drilled to 71 m with diamond core and to 180 m total depth with a tricone. Down hole geophysical logging was conducted on six of the holes, including HCJ007D. Locations of these holes are shown in Figure 2 below.

**Figure 2: The location of drill holes at Salinas Grandes within the Orocobre tenements**



The drilling has highlighted the occurrence of two brine bodies. The first is a continuous shallow brine body from surface to approximately 20m. It occurs over an extensive area of approximately 170 square kilometres of which approximately 110 square kilometres are located within Orocobre’s properties (Figure 3).

**Figure 3: The extent of the deeper brine body (blue hatch) and the shallow brine body (pink outline) constrained by drilling and the pit sampling with >750 mg/l lithium**



Drilling results in the shallow brine body give average\* values of 741mg/l lithium and 10,000mg/l potassium which represents a significant exploration target. Drilling shows that brackish water underlies this shallow brine body through much of the salar. A deeper brine body, extending to 50-80m depth, occurs over approximately 17 square kilometres in the centre of the salar, of which 13 square kilometres are in the Company's properties with the aforementioned brackish water surrounding the brine body. Drill intercepts for the two brine bodies are presented in Table 1.

*\*Excluding results from drill holes HCJ008D, 9D and 10D on the margins of the salar.*

**Table 1: Drilling results in the shallow and deeper brine bodies, showing average values\*.**

<b>Table 1 - Intersection Results from the Shallow and Deeper Brine Bodies</b>								
<b>Drill hole</b>	<b>Brine body</b>	<b>From</b>	<b>To</b>	<b>Intersection</b>	<b>K mg/l</b>	<b>Li mg/l</b>	<b>Mg mg/l</b>	<b>Mg/Li</b>
HCJ001D	Shallow	0	12	12	5,715	385	739	1.9
HCJ006D	Shallow	0	24	24	9,931	881	2,440	2.8
	Deeper	24	66	42	13,940	1,280	3,874	3.0
HCJ002D	Shallow	0	24.7	24.7	7,669	496	1,178	2.4
	Deeper	24.7	60.7	36	5,737	398	1,043	2.6
HCJ012D	Shallow	0	24	24	8,806	532	1,738	3.3
	Deeper	24	53	29	2,021	175	484	2.8
HCJ007D	Shallow	0	19	19	13,129	940	2,348	2.5
	Deeper	19	84	65	2,118	183	507	2.8
HCJ005D	Shallow	0	7	7	19,342	1,524	4,086	2.3
HCJ003D	Shallow	0	17	17	5,649	429	968	2.3
<b>Average shallow body</b>					<b>10,034</b>	<b>741</b>	<b>1,928</b>	<b>2.5</b>
<b>Average deeper body</b>					<b>5,954</b>	<b>509</b>	<b>1,477</b>	<b>2.8</b>

\*HCJ008D, 9D and 10D drilled around the periphery of the salar.

Samples in both brine bodies exhibit attractively low Mg/Li ratios, averaging 2.8 for all samples where lithium values are above detection. Sulphate levels are very low, ranging from 98 mg/l on the margins of the salar to a maximum of 5030 mg/l in the centre of the salar, with an average of 1480 mg/l.

The shallow and deeper brine bodies are hosted in a sequence of sand, silt and clay units, with an increase in sand content in the north east of the salar. No halite units were intersected in drilling beneath the surface halite layer, however silt and sand units can be correlated between drill

holes. The diamond drilling and electrical geophysics (AMT) previously undertaken by the company suggests that lithological units dip shallowly towards the south of the salar.

Specific yield porosity determinations of cores samples are currently being undertaken by the British Geological Survey. This data will allow a resource estimate to be completed based on an estimate of the potentially extractable brine. A program of 48 auger drill holes is also being undertaken to increase definition of the lithium and potassium distribution in the shallow brine body target prior to undertaking the resource estimate. A program of pump testing has also commenced to assess the potential extractability of the near surface brine.

The recently completed drilling program was designed to follow up the results of pit sampling carried out by the company during 2009 and 2010 and to define an inferred resource. Pit sampling previously showed there to be high lithium and potassium concentrations at surface (>1000 mg/l lithium over an area of approximately 60 square kilometres and >20,000 mg/l potassium over 40 square kilometres).

### **Process Development**

The Salinas Grandes brine is very attractive for processing with very low Mg/Li and high K/Li ratios. Additionally, the low sulfate and low calcium concentrations makes the brine an excellent candidate for conventional brine processing. The brine chemistry is similar to the low sulfate brine at the Salar de Atacama, but with a much lower Mg/Li ratio, which means that less magnesium has to be removed by fractional crystallization with a consequential reduction in overall lithium losses.

The brine requires a simple processing route of solar evaporation applying fractional crystallization of halite, silvinit, carnalite and finally bischofite before producing a 4 to 6% lithium brine suitable for transport, potentially to the future Olaroz lithium carbonate plant for further processing. The silvinit and the carnalite salts would be the feedstock for the potash production.

Solar evaporation testwork has been undertaken at Salinas Grandes for over 6 months with 3 lines of ponds with slightly different chemistry. Brines have been concentrated to over 2% lithium and additional ponds will be installed to concentrate the brine to between 4 to 6% lithium. The pilot ponds are producing silvinit salts with potassium concentrations between 12-16 %. Flotation testwork for potash recovery is due to start this month at the University of Jujuy.

### **Quality Assurance/ Quality Control**

Cores were drilled using PQ and HQ equipment. Core samples were collected using Lexan tube liners as the triple tube. These tubes were capped immediately following recovery of the core at surface. Sections of core were cut from the Lexan tubes for porosity measurements in the Orocobre porosity laboratory and by the British Geological Survey porosity laboratory. Correlations between the porosity measured in geophysical logs and the laboratory total and effective porosities will be evaluated when laboratory core measurements are completed.

Samples of brine were taken during drilling by bailing water samples from the base of each hole at 3 or 6 m intervals vertically (although sample recovery depended on the rate of formation

inflow, with brine samples not recovered in some intervals). Drilling was conducted without injecting water, where this was possible. A biodegradable tracer dye was added to water used for drilling, to detect any brine samples that were contaminated with drilling water.

Two litres of brine were collected during sampling, with field parameters and sample density measured at the drill site. The samples were analyzed by Alex Stewart Assayers (ASA) of Mendoza, Argentina, using the Inducted Coupled Plasma spectrometry (ICP) method for the elements reported. This ASA laboratory has extensive experience analyzing lithium bearing brines. They are ISO 9001 accredited, and operate according to Alex Stewart Group standards consistent with ISO 17025 methods at other laboratories.

In sample batches a standard sample was included for every five primary samples, with a duplicate sample included for every 10 primary samples. Overall the analyses are considered to be of acceptable quality, based on the results of the QA/QC samples. The results have been verified by Murray Brooker, Geological and Hydrogeological Consultant, who is a Qualified Person as defined in NI 43-101.

Duplicate samples were also submitted to the chemistry laboratory at the University of Antofagasta, which has extensive experience analysing salar brines. The results of these duplicate samples are expected during July. Protocols were in place to ensure the security of the samples during collection and transportation to the laboratories.

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**About Orocobre Limited**

Orocobre Limited is listed on the Australian Securities Exchange and Toronto Stock Exchange (ASX:ORE, TSX:ORL) and is the leading lithium-potash developer in the lithium and potassium rich Puna region of Argentina. For further information, please visit [www.orocobre.com](http://www.orocobre.com).

### **Competent Person's and Qualified Person's Statement**

*The technical information in this announcement has been 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. Murray Brooker consents to the inclusion in this announcement of this information in the form and context in which it appears.*

*Additional information relating to the Company's Salinas Grandes project is available in the existing technical report entitled "Technical Report – Salinas Grandes Project, Argentina" dated April 30, 2010, which was prepared by John Houston.*

### **Caution Regarding Forward-Looking Information**

*This report contains "forward-looking information" within the meaning of applicable securities legislation. Forward-looking information contained in this report may include, but is not limited to, the estimation and realization of resources at the Salinas Grandes project, the viability, recoverability and processing of such resources, potential operating synergies between the Salinas Grandes project and the Olaroz project, and other matters related to the development of the Salinas Grandes project.*

*Such 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 that further funding may be required, but unavailable, for the ongoing development of the Company's projects; changes in government regulations, policies or legislation; fluctuations or decreases in commodity prices; the possibility that required permits may not be obtained; uncertainty in the estimation or economic viability of mineral resources; general risks associated with the feasibility and development of the Salinas Grandes project; unexpected capital or operating cost increases; the risk that a definitive joint venture agreement with Toyota Tsusho Corporation in respect of the Company's Olaroz project may not be completed; uncertainty of meeting anticipated program milestones; as well as those factors disclosed in the Company's Annual Information Form for the year ended June 30, 2010 filed at [www.sedar.com](http://www.sedar.com).*

*The Company believes that the assumptions and expectations reflected in such forward-looking information are reasonable. Assumptions have been made regarding, among other things: the Company's ability to carry on its exploration and development activities, the timely receipt of required approvals, the prices of lithium and potash, 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.*

*There can be no assurance that forward-looking 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.*