

## ASX / TSX ANNOUNCEMENT

1 February 2019

### Cauchari Drilling Update – Pumping Test Results

Orocobre Limited (**ASX: ORE, TSX: ORL**) (“Orocobre” or “the Company”) is pleased to provide the following update on the completion of pumping test activities at the Cauchari JV property located in Jujuy Province, Argentina.

The exploration program is being managed by JV partner **Advantage Lithium Corp. (“Advantage Lithium”)** (**TSX Venture: AAL**) (**OTCQX: AVLIF**) who hold 75% of Cauchari. Orocobre owns 33.5% of Advantage Lithium’s issued capital and 25% directly in the joint venture.

#### Highlights:

- CAU07 30 day constant rate pumping test was carried out at a rate of 22 l/s throughout the test; the pumping rate was limited by the construction of the well
- Results of brine analyses over the 30 days averaged 650 mg/l Li and 4,970 mg/l K with Mg/Li of 2.2:1
- The 30 day test showed no drawdown in piezometers located above and at the top of the brine body. The dynamic level in the pumping well showed 40 m of drawdown over the test.
- An updated resource estimation is underway and will incorporate the significantly greater drilling depths of the Phase III program just completed
- Preliminary design of production wellfields is underway for the Feasibility Study, using the results of the long-term CAU07 and CAU11 pumping tests.

Orocobre Managing Director and CEO Mr Martín Pérez de Solay commented, “The CAU07 test results confirm the excellent characteristics of the NW Sector for future brine production, both in terms of lithium concentration and pumping characteristics. The joint venture is currently conducting an update of the project resource estimate with results from the recently completed drilling, concurrently with preliminary design of production well fields for the project Feasibility Study. We look forward to providing this information to shareholders once it is completed.”

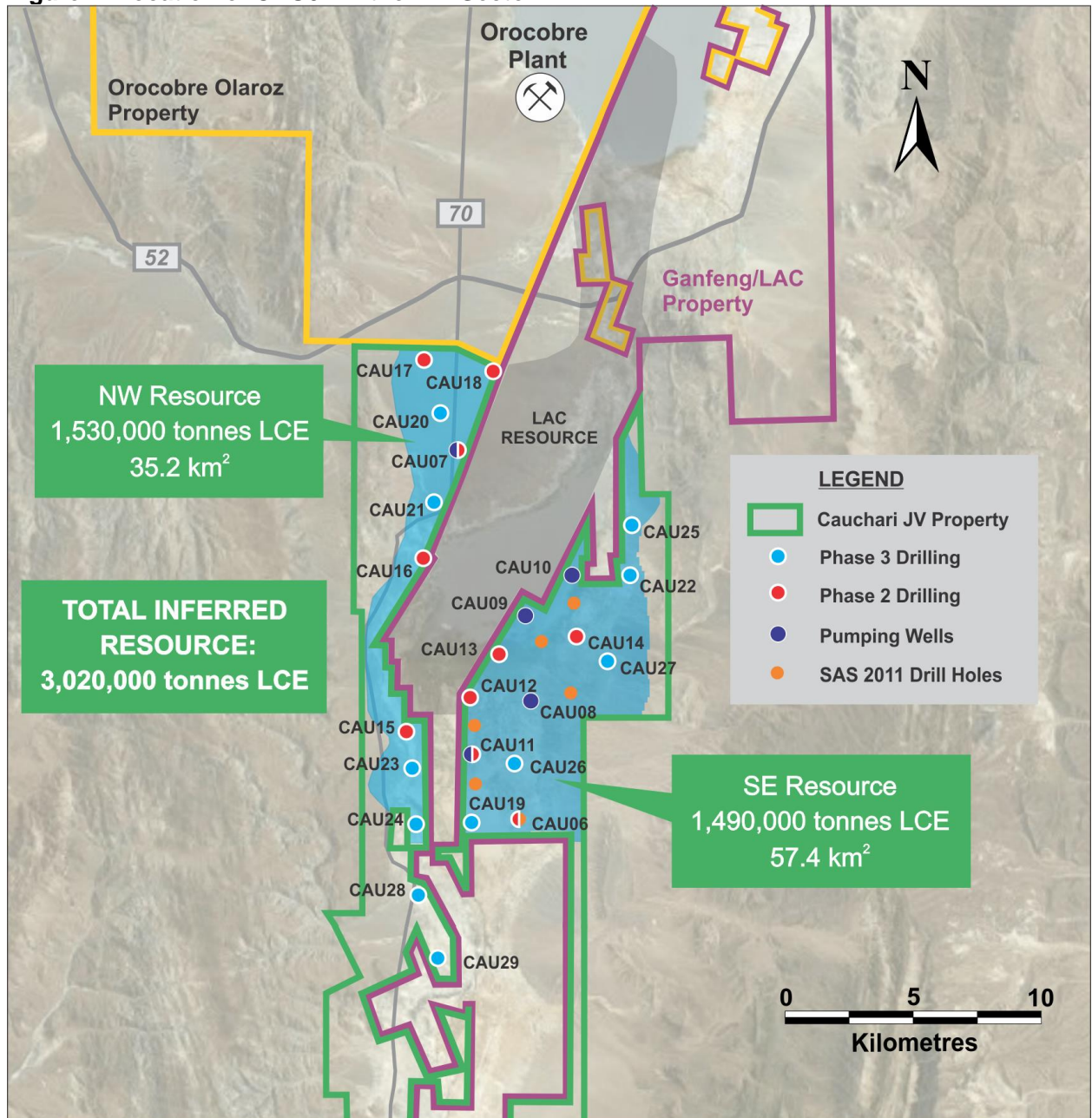
#### CAU07 Pumping Test

The 30 day constant rate pumping test was completed on test production well CAU07 in the NW Sector (Figure 1) in mid-January. The pumping test was carried out at a constant rate of 22 l/s with a drawdown of 40 m. Assays received for the 30 days of the test averaged 650 mg/l Li and 4,970 mg/l K, with a Mg/Li ratio of 2.2:1. The CAU07 pumping rate is limited by well construction constraints and higher pumping rates are expected in future production wells based on the observed aquifer conditions. Brine samples were collected at regular intervals during the test and showed no significant variation over the test, with concentrations of between 642 and 659 mg/l lithium.

## Updated Resource Estimation and Preliminary Wellfield Design

An update to the project resource estimate is currently underway and incorporates all the information from the 26 exploration and test production wells that were drilled as part of the Phase II and Phase III exploration programs. During the Phase III program the resource area was extended to the south and in depth to a maximum of 617 m. These are some of the deepest holes drilled in the Cauchari-Olaroz basin to date. The Cauchari resource remains open at depth and to the south. By point of comparison the June 2018 resource estimate extended to only 300 m deep (with the exception of the deep sand intersections at that time).

**Figure 1: Location of CAU07 in the NW Sector**



\*Note that CAU26 was drilled in a revised location compared to that shown in previous announcements

**Table 1: Location of CAU07 production well**

Exploration Hole Number	Sector	Total Depth (m)	Drilling Method	Coordinates Gauss Kruger Argentine*		Elevation Mean Sea Level (m) <sup>+</sup>	Azimuth	Dip
				Easting	Northing			
CAU07R	NW	343	Rotary	3,421,200	7,383,987	3964	0	-90

**JORC Table 1 – Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li><i>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li><i>In cases where ‘industry standard’ work has been done this would be relatively simple (e.g. ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</i></li> </ul>	<ul style="list-style-type: none"> <li>Tricone drilling was used to drill this test production hole.</li> <li>Brine samples were collected systematically during the pumping test from the hole. Additional samples of brine were taken at depth specific intervals using a bailer device in the diamond hole drilled on the same platform as CAU07R.</li> <li>The brine samples were collected in clean plastic bottles and filled to the top to minimise air space within the bottle. Each bottle was marked with the time and date of sampling and the well number and relabeled with a sample number before sending the sample to the laboratory.</li> </ul>
<i>Drilling techniques</i>	<ul style="list-style-type: none"> <li><i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i></li> </ul>	<ul style="list-style-type: none"> <li>Tricone drilling was used to install the test production well in a sequence of sand, gravel and interbedded clays.</li> <li>Fresh to brackish water has been used as drilling fluid for lubrication during drilling to minimise the possibility of contamination of natural formation brine with lithium-bearing fluids. Biodegradable additives are used to minimise the development of thick wall cake in the holes that could reduce the inflow of brine to the hole and affect brine quality.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>Rotary drilling was also undertaken to install the pre-collars for this hole. This was done to separate fresh to brackish water in the upper part of the sediments from underlying brine, to prevent any dilution of brine samples from this fluid during sampling.</li> </ul>
<p><i>Drill sample recovery</i></p>	<ul style="list-style-type: none"> <li><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li><i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></li> </ul>	<ul style="list-style-type: none"> <li>During the rotary drilling samples of the cuttings were collected and described and stored for reference.</li> <li>Brine samples were collected from a diversion pipe with tap, installed on the well head to allow the taking of representative brine samples.</li> <li>Brine samples were collected at discrete depths during the drilling of the adjacent diamond hole, using a bailer device over an interval of typically 1 to 3 m at the base of the hole during drilling (sampling the brine inflow at the base of the hole where the drill rods were raised to allow brine inflow, following purging of the standing water – drilling fluid – in the hole). The simple bailer device was used for purging brine from the holes and for sampling once an appropriate volume of fluid had been purged from the holes. Samples were taken at nominal 12 m intervals, although brine samples were not always obtained during sampling, due to the requirements for purging drilling fluid from the hole.</li> <li>As the lithium brine (mineralisation) samples are taken from inflows of the brine into the hole during pumping they are largely independent of the quality (recovery) of the cutting samples. However, the permeability of the lithologies where samples are taken is related to the rate and potentially lithium grade of brine inflows.</li> </ul>
<p><i>Logging</i></p>	<ul style="list-style-type: none"> <li><i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></li> <li><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> </ul>	<ul style="list-style-type: none"> <li>Cuttings are logged by a senior geologist who also supervised taking of samples for laboratory porosity analysis.</li> <li>Logging is qualitative in nature, due to the quality of the samples (cuttings) collected. The relative proportions of different lithologies which have a direct bearing on the overall porosity,</li> </ul>

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	<ul style="list-style-type: none"> <li><i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<p>contained and potentially extractable brine are noted, as are other characteristics of the cuttings.</p>
<p><i>Sub-sampling techniques and sample preparation</i></p>	<ul style="list-style-type: none"> <li><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li><i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>1 litre brine samples were collected from the well head when samples were taken. A back up duplicate sample was also taken and duplicate samples were analysed from throughout the pumping test.</li> <li>Cutting samples are not analysed for mineralisation as the mineralisation is hosted in the brine, which was sampled during the pumping test conducted over 30 days.</li> <li>The samples taken during the pumping test were taken at the well head throughout the test and are considered to be representative of the brine pumped, which is homogenized as it is pumped from the hole.</li> <li>Quality control procedures consisted of analysing duplicate samples and samples of known concentration (standards) and samples without lithium mineralisation (blanks).</li> <li>Brine samples were collected during the pumping test following development of the well, flushing fine material from the gravel pack installed between the steel filters and casing and the walls of the hole. Once the well was fully developed the brine samples show consistency and suggest the well has been adequately developed and that the samples are representative of the brine contained in the host sediments.</li> <li>The brine samples were collected in new unused one-litre sample bottles which were filled with brine from the well head. Each bottle was marked with the well number and details of the sample. Prior to sending samples to the laboratory they were assigned unique sequential numbers.</li> </ul>
<p><i>Quality of assay data and laboratory tests</i></p>	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><i>For geophysical tools,</i></li> </ul>	<ul style="list-style-type: none"> <li>The Norlab/Alex Stuart laboratory in Jujuy, Argentina is used as the primary laboratory to conduct the assaying of the brine samples collected as part of the drilling program. They also analyzed</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p><i>spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></p> <ul style="list-style-type: none"> <li>• <i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i></li> </ul>	<p>duplicates and standards, with blind control samples in the analysis chain. The laboratory is a commercially accredited laboratory specialised in the chemical analysis of brines and inorganic salts. QA/QC check samples have been sent to another independent laboratory but these sample results have not yet been received.</p> <ul style="list-style-type: none"> <li>• The quality control and analytical procedures used at the Norlab laboratory are considered to be of high quality and the laboratory is affiliated with the Alex Stuart international group of laboratories.</li> <li>• Duplicate and standard analyses are considered to be of acceptable quality.</li> </ul>
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Accuracy, the closeness of measurements to the “true” or accepted value, was monitored by the insertion of laboratory certified standards.</li> <li>• Duplicate samples in the analysis chain were submitted as part of the laboratory batch and results are considered acceptable.</li> <li>• Laboratory data (from spreadsheets) is loaded directly into the project database, to be verified periodically by the independent QP.</li> </ul>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>• <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The holes were located with a hand held GPS in the field and were subsequently checked by a surveyor. The location is in zone 3 of the Gauss Kruger coordinate system, with the Argentine POSGAR.</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Lithological data was collected throughout the drilling.</li> <li>• Compositing of samples has not been applied, as the brine is taken at a discrete period in time and is considered homogenized by the pumping process.</li> </ul>
<i>Orientation of data in relation</i>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to</i></li> </ul>	<ul style="list-style-type: none"> <li>• The salar deposits that host lithium-bearing brines consist of sub-horizontal</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>to geological structure</i>	<p><i>which this is known, considering the deposit type.</i></p> <ul style="list-style-type: none"> <li><i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></li> </ul>	beds and lenses of sand, silt, halite, clay and minor gravel, depending on the location within the salar. The vertical holes are essentially perpendicular to these units, intersecting their true thickness.
<i>Sample security</i>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>Samples were transported to the laboratory (primary, duplicate and QA/QC samples) for chemical analysis in sealed rigid plastic bottles with sample numbers clearly identified.</li> <li>The samples were moved from the drill site to secure storage at the camp on a daily basis. All brine sample bottles are marked with a unique label.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>No audits or reviews have been conducted at this point in time.</li> </ul>

## Section 2 - Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li><i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i></li> <li><i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i></li> </ul>	<ul style="list-style-type: none"> <li>The Cauchari JV properties are located approximately 20 km south of the Olaroz lithium project (operated by Orocobre/Sales de Jujuy) in the province of Jujuy in northern Argentina at an elevation of approximately 3,900 masl.</li> <li>The property comprises 28,000 ha in 22 mineral properties in Jujuy province in Argentina. Exploration activities are currently focused in the northern properties within the larger property package. The properties consist of exploitation properties (minas).</li> <li>The tenements/properties are believed to be in good standing, with payments made to relevant government departments.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li><i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>Exploration was previously carried out in the SE Sector properties by Orocobre subsidiary SAS in 2011, with the drilling of 6 holes (5 diamond, 1 rotary), several of which were abandoned well short of the target depth due to problems with the drilling equipment. An initial resource was defined in accordance with</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>the JORC code at the time of exploration.</p> <ul style="list-style-type: none"> <li>• Immediately to the north of the Cauchari project Orocobre Limited has developed the Olaroz lithium project, which is the first new lithium brine project to produce lithium in 20 years.</li> <li>• Significant exploration has been conducted immediately to the east and west of the JV properties by the company Lithium Americas Corp, who has defined a large resource and related reserve and who has completed a DFS on the project. This company is moving forward to project development with Industry major Ganfeng.</li> </ul>
<p><i>Geology</i></p>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The sediments within the salar consist of halite, clay, silt, sand and gravel which have accumulated in the salar from terrestrial sedimentation and evaporation of brines within the salar. These units are interpreted to be essentially flat lying, with unconfined aquifer conditions close to surface and semi-confined to confined conditions at depth</li> <li>• Brine within the salar is formed by solar concentration, with brine hosted within the different sedimentary units</li> <li>• Geology was recorded during drilling of all the holes.</li> </ul>
<p><i>Drill hole Information</i></p>	<ul style="list-style-type: none"> <li>• <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> </li> <li>• <i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Lithological data was collected from the holes as they were drilled. Detailed geological logging of cuttings and cores has also been completed, with cores split to facilitate this.</li> <li>• Brine samples were collected from the pumping and sent for analysis to the Norlab laboratory, together with quality control/quality assurance samples</li> <li>• All drill holes are vertical, (dip -90, azimuth 0 degrees). The hole intersected lithium-bearing brine. The hole is located at approximately 3964 m above sea level.</li> </ul>



Criteria	JORC Code explanation	Commentary
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>• <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li>• <i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> <li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Brine samples taken from the hole were analysed individually and the results averaged (arithmetic average) without weighting.</li> </ul>
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li>• <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>• The lithium-bearing brine in CAU07 is interpreted to underlie an upper zone of less concentrated brine not sampled, as the upper part of the hole was cased off at the commencement of drilling. The sediments hosting brine are interpreted to be essentially flat lying (and perpendicular) to the vertical drill holes.</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>• <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A diagram is provided in the text showing the location of the properties and drill hole. A table is provided in this announcement shows the location of the drill hole.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>• <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Representative data from drilling and sampling in the Cauchari JV project is provided, such as brine concentrations and information on the thickness of mineralisation (previous announcements).</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>• <i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Refer to the information provided in Technical report on the Cauchari Lithium Project, Jujuy Province, Argentina, dated effective 31<sup>st</sup> August, 2018.</li> </ul>

Criteria	JORC Code explanation	Commentary
Further work	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The company has recently completed the Phase III diamond drilling program to upgrade inferred resources to higher certainty resource classification. Additional work includes geotechnical assessment for future infrastructure and ongoing monitoring of water levels in monitoring wells.</li> </ul>

**For more information please contact:**

**Andrew Barber**

Investor Relations Manager

Orocobre Limited

T: +61 7 3871 3985

M: +61 418 783 701

E: [abarber@orocobre.com](mailto:abarber@orocobre.com)

W: [www.orocobre.com.au](http://www.orocobre.com.au)



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**Qualified Person's/Competent Person's Statement**

The information in this report that relates to exploration reporting at the Cauchari JV project has been prepared by Mr Murray Brooker. Mr Brooker is a geologist and hydrogeologist and is a Member of the Australian Institute of Geoscientists. Mr Brooker is an employee of Hydrominex Geoscience Pty Ltd and is independent of Orocobre. Mr Brooker 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. Mr Brooker consents to the inclusion in this announcement of this information in the form and context in which it appears.

**About Orocobre Limited**

Orocobre Limited (Orocobre) is a dynamic global lithium carbonate supplier and an established producer of boron. Orocobre is dual listed on the Australia and Toronto Stock Exchanges (ASX: ORE), (TSE: ORL). Orocobre's operations include its Olaroz Lithium Facility in Northern Argentina, Borax Argentina, an established Argentine boron minerals and refined chemicals producer and a 33.5% interest in Advantage Lithium. For further information, please visit [www.orocobre.com](http://www.orocobre.com).