



**ASX Release**  
**20<sup>th</sup> February 2014**

**Listings Officer**  
**Company Announcements**  
**ASX Limited, Melbourne**

**ASX ANNOUNCEMENT**

**ASX CODE: RUM**

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Ammaroo Rock Phosphate

Karinga Lakes Brine Potash

Ross River: IOCGU

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**KARINGA LAKES POTASH RESOURCE UPGRADE AND PROJECT UPDATE**

**Highlights**

- Karinga Lakes brine potash resource estimate has increased to a total of 8.4 million tonnes K<sub>2</sub>SO<sub>4</sub> including over 70% in the Measured and Indicated category
- Karinga Lakes Project will move to 100% owned by Rum Jungle Resources Ltd as Reward Minerals Ltd has agreed in principle to sell their remaining 10% Joint Venture share to RUM in consideration for \$140,000 plus four million ordinary RUM shares subject to execution of documentation
- RUM Senior Management are presently in China for potash project meetings with CICCC, Sinochem Corporation, the National Investment Corporation, Luobopo Potash Corporation and a site visit to Qinghai Salt Lake brine potash operations

**Resource Upgrade**

**Table 1. Karinga Lakes Brine Resource (entries have been rounded)**

Resource Category	Potassium (tonnes)	K <sub>2</sub> SO <sub>4</sub> (tonnes)	Schoenite (tonnes)
Measured	2,600,000	5,800,000	13,000,000
Indicated	210,000	460,000	1,100,000
Inferred	950,000	2,100,000	4,900,000
<b>Total</b>	<b>3,800,000</b>	<b>8,400,000</b>	<b>19,000,000</b>

The Karinga Lakes Potash Resource is a brine hosted resource. The potassium is dissolved in brines that are contained in aquifers below the dry salt lake surface. The JORC code was not designed for use in connection with minerals that are dissolved in brines. It is generally accepted that geological uncertainties are greater when dealing with the estimation of brine resources.

The sulfate of potash tonnage represents the in-situ brine with no recovery factor applied. It will not be possible to extract all of the contained brine by pumping of trenching; the amount which can be extracted depends on many factors including the permeability of the sediments, the drainable porosity, and the recharge dynamics of the aquifers.

The brine resource has been estimated by Ben Jeuken, consulting hydrogeologist from Groundwater Science Pty Ltd.

Brine is hosted within two stratigraphic units:

- Modern lake bed sediments , and
- Devonian weathered siltstone of the Horseshoe Bend Shale

Potassium tonnage was calculated individually for each stratigraphic unit at each lake. Potassium tonnage was calculated as:

Bulk volume x porosity x brine concentration.

Ordinary kriging interpolation was used for resource estimation at a cut-off of 3,000 mg/L potassium. The average potassium grade of the lakes using this cut-off is 4,760 mg/L.

Porosity values were assigned to each stratigraphic unit on the basis of measured porosity in 142 samples obtained from the 2013 sonic drill core samples. 71 porosity samples were sent to E-Precision laboratory in Perth and 71 porosity samples were sent to the British Geological Survey Hydrogeological Properties and Processes Laboratory in Wales. Median porosity values for each stratigraphic unit were determined as follows:

Modern lake bed sediments – 33%

Devonian Horseshoe Bend Shale – 36%

The total resource is contained beneath 25 lakes with a total area of 132 km<sup>2</sup>. The average thickness of the identified resource is 17 m.

The potash brine resource is based on data acquired over four years, including:

- 93 brine samples from hand dug pits
- 4 small backhoe trenches which were pump tested
- 8 vibracore drill holes
- 73 sonic drill holes
- 200 aircore drill holes
- 42 installed 50 mm piezometers around drill holes and 48 piezometers around trenches
- 47 installed 100 mm wells
- 10 pumping tests from 100 mm wells
- 4 long term pump tests from 3 trenches and a well
- 142 porosity samples

The company is extremely pleased with the resource upgrade, which coincides with the commencement of the Karinga Prefeasibility study to be done by CICCC. Senior Management is currently meeting with CICCC representatives in Beijing. The CICCC study team will fly into Australia as planned on 9<sup>th</sup> March and will conduct a site visit and meet with the Rum Jungle Resources' technical team including geologists, hydrogeologists, environmental consultants and officials from NT Government including the NT Department of Mines and Energy.



**BM Jeuken BSc, MAusIMM, MIAH**  
**Principal - Groundwater Science**

*The information in this report that relates to the potash resources have been verified by Ben Jeuken from Groundwater Science Pty. Ltd. who is a member of the AusIMM, and the International Association of Hydrogeologists and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity to which he is undertaking 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".*

*Ben Jeuken consents to the inclusion in this report on the matters based on his information in the form and context in which it appears.*



**DW Muller BSc, MSc, MBA, FAusIMM**  
**Managing Director**

*The information in this report that relates to exploration results and economic potential is based on information compiled by Mr David Muller, who is a Fellow of the Australasian Institute of Mining and Metallurgy.*

*Mr Muller is Managing Director of Rum Jungle Resources Ltd and an employee of the Company. Mr Muller has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity to which he is undertaking 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".*

*Mr Muller consents to the inclusion in this report on the matters based on their information in the form and context in which it appears.*

*This document may contain forward-looking statements. Certain material factors or assumptions were applied in drawing a conclusion or making a forecast or projection as reflected in the forward-looking information. Actual values, results or events may be materially different to those expressed or implied.*

## JORC Code, 2012 Edition – Table 1 report template

### Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>• <i>Nature and quality of sampling (eg 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 (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Brine samples from trenches are taken daily from the trench near the suction hose inlet in 500 ml or 1 litre bottles</li> <li>• Brine samples from air core drilling are taken from the cyclone generally every 3 m down hole in 500 ml or 1 litre bottles</li> <li>• Sonic core samples for porosity and drainable porosity testing were selected from probable fracture zones or water flow zones and sampled in 15 cm lengths. Samples were wrapped in plastic to ensure no moisture loss during transport.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>• <i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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>• Drilling on the salt lakes is by air core and sonic techniques. All holes are vertical.</li> <li>• Core and/or chips are not oriented</li> <li>• Sonic core is wrapped in plastic tubing to preserve moisture and contained brine</li> <li>• Trenches are dug by an excavator</li> <li>• Air core bit size is 75 mm</li> <li>• Sonic drill rod outer diameter is 86 mm and inner diameter of inner tube is 75 mm</li> </ul>
<b>Drill sample recovery</b>	<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>• For air core drilling, samples collected are brine (water), not sediment or rock. If no water is intersected, then brine will not flow through the cyclone and a sample cannot be taken. Where sufficient water is intersected, air pressure forces water up the drill rods and sample hose into the cyclone. Water is</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>allowed to run for a few minutes to “clean up” and allow for a representative sample to be taken either in a 500ml or 1 litre bottle.</p> <ul style="list-style-type: none"> <li>For sonic drilling, samples collected during 2011 were sent for geochemical analysis, whilst in 2013, only geotechnical or hydrogeotechnical analysis was completed. Recovery is generally 100% but due to the nature of the drilling technique and sediment type (swelling clays), a 1 m drill run can result in recovery either smaller or larger than 1 m in length.</li> </ul>
<b>Logging</b>	<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> <li><i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>All drill holes are geologically logged, noting in particular moisture content of sediments, lithology, colour, structural observations and flow rates of brine from each 3 m interval. Log sheets were developed specifically for this project.</li> <li>Qualified geologists logged all samples</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<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>Air core sediment samples are generally discarded and not sampled. Brine is sampled from the rig cyclone, with duplicates taken periodically immediately following the previous sample. Sample bottles are rinsed with brine and discarded prior to sampling. Labelling is done on the shoulder of the sample bottle as well as the cap in a permanent marker or paint marker.</li> <li>Sonic core samples were cut into 15 cm long lengths using a spatula or knife and then double wrapped in plastic lay flat tube, labelled and stored in a core tray for transport</li> <li>Laboratories requested 15 cm lengths of core which is twice the diameter of the core</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Quality of assay data and laboratory tests</b>	<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, 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></li> <li><i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>The geochemical assay method used for analysis of brine is appropriate.</li> <li>The technique used is ICP-AES.</li> <li>Duplicates are submitted to the laboratory from the field and laboratory duplicates are routinely done at 1 in each 20 samples. Duplicate samples are also sent to a second laboratory for comparison. No standards are used.</li> <li>The laboratory is asked to check on any unusual results.</li> <li>Porosity measurements at E-Precision lab are done to Australian Standards AS1289 2.1.1, 3.5.1, 5.1.1 and an in-house technique</li> </ul>
<b>Verification of sampling and assaying</b>	<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>Brine geochemistry has been consistent over the last four years and the brine generally displays little variation over large areas. There is some variation noted in sulfate assays. Air core holes are generally not twinned but sonic holes were twinned against air core holes.</li> <li>Data entry and logging is done into excel spreadsheets and forwarded to Maxwell Geoscience for data verification and storage. Geochemical results are forwarded from the lab to Maxwell for addition to the database.</li> </ul>
<b>Location of data points</b>	<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>Drill hole co-ordinates and captured using hand held GPS.</li> <li>The grid system used in GDA 94. The project is located in both MGA Zone 52 and 53. Topographic control is not considered critical as the salt lakes are general flat lying and the watertable is taken to be a level plane within the confines of each lake.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Data spacing and distribution</b>	<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>Drill hole spacing is roughly at 1 km spacing on each side of salt lakes but generally restricted to within 100 m of lake edges due to soft surface conditions.</li> <li>Drill holes spacing is sufficient for Mineral Resource and Ore Reserve estimation</li> <li>Samples are composited each 3 m down hole whereby brine from up hole is mixed with brine from down hole ie a sample taken from 3 m represents 0-3 m whilst a sample taken at 12 m represents 0-12 m.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <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>	<ul style="list-style-type: none"> <li>All drill holes are vertical. Lithology is generally flat lying.</li> <li>Structures are present and control brine flow in the sub-surface but their orientations are unknown.</li> </ul>
<b>Sample security</b>	<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 are labelled and kept onsite before transport to Alice Springs where they are securely packaged and freighted with TNT Freight or Australia Post.</li> </ul>
<b>Audits or reviews</b>	<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>None conducted</li> </ul>

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<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>Exploration activities have taken place on EL 25080 EL 24987 and EL 28205 which were part of the joint venture between Rum Jungle Resources and Reward Minerals Ltd.</li> <li>The exploration tenements are granted and in good standing.</li> <li>The tenements are located on pastoral lease and have no current native title claims over them.</li> <li>Full details of the tenure are given in the previous Quarterly report.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Exploration done by other parties</b>	<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>The Karinga Creek salt lakes were explored for evaporites and other salts by NT Evaporites in the late 1980s to mid 1990s.</li> </ul>
<b>Geology</b>	<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 deposit type is salt lake brine potash.</li> </ul>
<b>Drill hole Information</b>	<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>Full information has been included in JORC Statement.</li> <li>All holes are vertical.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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>No cut-off grades have been applied to results reported during this period, unless stated otherwise.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<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 (eg 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>In this case the mineralisation is salt lake brine. Generally the salt lake boundary is the limit of higher grade brine but not always. There are also dry holes within salt lakes with brine flow restricted to near surface lake sediments and deeper fractured rock aquifers.</li> </ul>
<b>Diagrams</b>	<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>Addressed in the full JORC report</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Average geotechnical parameters have been reported for moisture content, porosity and density for sonic drill samples.</li> <li>Average daily geochemical values have been reported from trench pumping tests.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>An extensive program of hydrogeological testing has been undertaken including pumping tests at 10 bores in 2012, and long term pumping trials at 3 trenches and 1 bore in 2013. These are to be reported in separate documents.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Hydrogeological test work will be reported once all data has been collated and analysed.</li> </ul>