

ASX Release 10 November 2014 ABN 15 122 162 396 Level 7, BGC Centre, 28 The Esplanade Perth, Western Australia 6000 T: +61 8 9421 2107 F: +61 8 9421 2100 www.grcl.com.au

# **Mineral Resource Estimate for Mackay Project**

## Highlights

- Inferred Mineral Resource of 22.16 million tonnes of Sulphate of Potash ("SOP" or "K<sub>2</sub>SO<sub>4</sub>") for the Mackay SOP Project ("Mackay" or "the Project")
- Mineral Resource confirms Mackay as one of the largest known undeveloped brine-hosted SOP deposits in the world
- Mineral Resource Estimate is calculated on the basis of brine volume from surface to an average depth of only 2.7m, based on 24 shallow Vibracore holes drilled on the Project area in 2009
- Brine chemistry is similar in composition to other deposits in the East Pilbara region and is potentially suitable for the production of SOP
- Global is planning a 2015 drilling program to focus on infilling the current Mineral Resource and testing the extent of SOP mineralisation both at depth and laterally

The directors of Global Resources Corporation Limited (**ASX: GRM**) ("**Global**" or "**the Company**") are pleased to announce a Mineral Resource Estimate and Exploration Target for the 100% owned Mackay Project in Western Australia.

Resource Category	Brine Volume (m <sup>3</sup> )	SOP Grade (kg/m <sup>3</sup> )	Contained SOP (Mt)
Inferred	3,299,260,425	6.72	22.16

#### Table 1. Mineral Resource Estimate – November 2014

#### Table 2. Global Exploration Target – November 2014

Target Range	Brine Volume (m <sup>3</sup> )	SOP Grade (kg/m <sup>3</sup> )	Contained SOP (Mt)*
Lower	4,600,000,000	6.69	30.00
Upper	12,400,000,000	8.91	110.00
* Note: Lower and Upper Exploration Targets are inclusive of the Inferred Mineral Resource of 22.16Mt.			

#### **Cautionary Note**

The Exploration Target is based on a number of assumptions and limitations with the potential grade and quantity being conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource Estimate in accordance with the JORC Code and it is uncertain if future exploration will result in the estimation of a Mineral Resource.

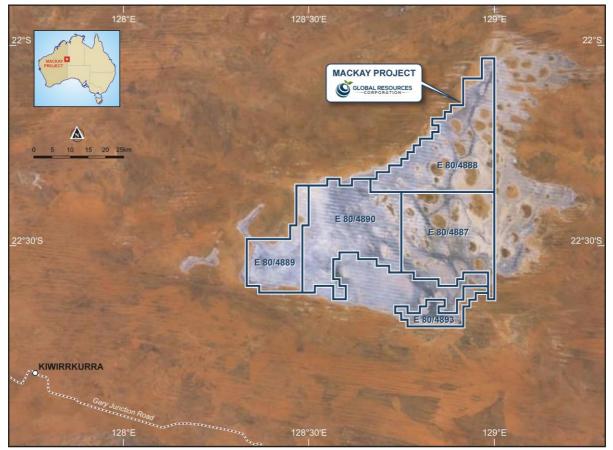


## **Project Background**

The Project covers a significant portion of Lake Mackay which is situated in the Great Sandy Desert of Western Australia. Lake Mackay is Western Australia's largest salt lake with a surface area of close to 3,500km<sup>2</sup>. The Project comprises five contiguous Exploration Licence applications, covering an area of 2,276km<sup>2</sup>.

The Project is located approximately 540km due north-west of Alice Springs. Site visits undertaken by the Company have confirmed favourable logistical conditions and the existence of well-maintain roads between the Project and Alice Springs.

The Company is targeting SOP mineralisation at the Project. Annual potash production is 64 million tonnes globally, predominantly comprising of 55 million tonnes of muriate of potash (MOP) and 6 million tonnes of SOP. SOP is a premium form of potash fertiliser that improves the yield, taste, colour and shelf life of crops. SOP contains low levels of chloride making its use essential for high value crops as well as areas affected by high salinity soils. SOP can be produced from primary and secondary sources. Primary production comes from brine-hosted deposits in China, USA and Chile. Secondary production comes from both sulphate salts reaction and the processing of MOP with sulphuric acid, known as the Mannheim Process.



### Figure 1. Map of the Mackay Project



### Geology and Mineralisation

The deposit type at Lake Mackay is brine-hosted potash in a closed-basin salt lake setting. The brine deposit is sedimentary in origin and composed of the natural concentration of mineral salts in the groundwater of the lakebed, also referred to as a playa. The brine is contained within the unconsolidated lakebed sediments composed primarily of clay and sands and development efforts at the Project will be focused on the mineral content found within the brine.

The chemical constituents of the brine have been leached and/or dissolved from local country rocks within the drainage catchment area of the lake. The brine has then been upgraded through solar evaporation. The most common evaporite minerals found on the lake are halite (NaCl) and gypsum (CaCO<sub>3</sub>). Major element concentrations in the brine include: sodium (Na), magnesium (Mg), calcium (Ca), potassium (K), chlorine (Cl), as well as the chemical compound sulphate (SO<sub>4</sub>). The natural concentration of these elements in the brine provides an opportunity to produce halite (NaCl), potash (K<sub>2</sub>SO<sub>4</sub> or KCl) and bitterns (MgCl<sub>2</sub> or MgSO<sub>4</sub>) by means of precipitation, harvesting and processing of crystallised salts from solar evaporation ponds located on the lake surface. The brine chemistry at Lake Makcay is suggested to be suitable for the production of SOP (K<sub>2</sub>SO<sub>4</sub>), the targeted mineral compound of the Project.

Recent palaeovalley reconstruction work completed by Geoscience Australia has proposed that Lake Mackay may represent an ancient salt lake basin composed of Bitter Springs Formation evaporites. It is proposed that a former diapir rose to the landscape surface where it dissolved and created a hydrologically-closed depression in which a large Cenozoic salt lake developed, which could have provided a major contribution to the lakes brine chemistry. Other contributing sources to the lakes brine chemistry could also be from broader regional palaeovalleys.

Lake Mackay overlies the Paleoproterozoic Arunta complex and Neoproterozoic Amadeus and Ngalia basins. The Proterozoic Bitter Springs Formation of the Amadeus Basin basal sequence crops out to the immediate south west of Lake Mackay, and may occur at shallow depth elsewhere beneath dunes of the Great Sandy Desert. These sequences are underlain at variable depth by members of the Neoproterozoic Redcliff Pound Group which comprises arenite, chert, conglomerate, limestone and siltstone. Underlying this group is the Mount Webb Granite which overlies the Arunta Complex, an Archaean suite of schists.

## **Past Exploration**

In September 2009, Reward Minerals Limited (ASX: RWD) ("Reward") undertook a drilling program on Lake Mackay to test for SOP. There is no known history of exploration having been conducted on Lake Mackay prior to this. The program was carried out using a small purpose built Vibracore rig and consisted of 24 shallow drill holes completed on an approximate 10km by 10km spacing. Drilling was limited to a maximum depth of only 4.8m, with vigorous brine flow reportedly encountered in all but two of the holes drilled. The drill core was collected in sealed tubes to recover the lakebed sediments as well as the entrained brine. Core and brine samples from the drilling were transported back to Perth for analysis, which included attrition testwork and assaying.

Global has exclusive ownership of all previous exploration and development data which was generated by Reward between 2007 and 2014. The key technical data relates to the drilling results and associated brine



analyses obtained from the 2009 drilling program. As part of the Company's QA/QC, samples of brine were dispatched for re-analysis to ALS Laboratories in Perth.

### Mineral Resource Estimate

The Mineral Resource Estimate for the Mackay Project has been prepared by an independent consultancy, as at 7 November 2014 and reported in accordance with the JORC Code, 2012 Edition.

The Inferred Mineral Resource stands at 3,299,260,425m<sup>3</sup> of brine volume at a SOP grade of 6.72kg/m<sup>3</sup> of brine for 22.16 million tonnes of contained SOP.

#### Table 3. Mineral Resource Estimate – November 2014

Resource Category	Brine Volume (m <sup>3</sup> )	SOP Grade (kg/m <sup>3</sup> )	Contained SOP (Mt)
Inferred	3,299,260,425	6.72	22.16

Drilling data used for the Mineral Resource Estimate consisted of 24 shallow Vibracore drill holes for 66.2m. The drilling program was undertaken between 12 and 17 September 2009. The holes were drilled on an approximate 10km by 10km spacing. The holes were limited to an average depth of 2.7m due to the capacity of the small Vibracore drill rig.

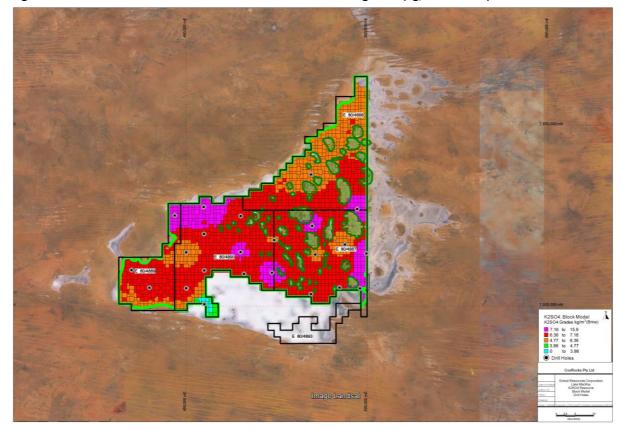


Figure 2. Mineral Resource Estimate – Block Model with K<sub>2</sub>SO<sub>4</sub> grades (kg/m<sup>3</sup> of brine)



## **Exploration Target Estimate**

The Exploration Target for the Mackay Project has been prepared by an independent consultancy, as at 7 November 2014 and reported in accordance with the JORC Code, 2012 Edition.

The target, which is inclusive of the current Inferred Mineral Resource, has been estimated to range between 4,600,000,000m<sup>3</sup> to 12,400,000,000m<sup>3</sup> of brine volume at a SOP grade of 6.69kg/m<sup>3</sup> to 8.91kg/m<sup>3</sup> of brine for 30.00 to 110.00 million tonnes of contained SOP.

Exploration undertaken on the Project to date has not tested the depth and lateral extensions included within the Exploration Target. The Company plans to carry out a future drilling program to test these extensions.

Target Range	Brine Volume (m <sup>3</sup> )	SOP Grade (kg/m <sup>3</sup> )	Contained SOP (Mt)*
Lower	4,600,000,000	6.69	30.00
Upper	12,400,000,000	8.91	110.00
* Note: Lower and Upper Exploration Targets are inclusive of the Inferred Mineral Resource of 22.16Mt.			

### Table 4. Global Exploration Target – November 2014

The target has been defined using three variable ranges: depth, porosity and brine grade, which are viewed as the key parameters to affect the definition of any future Mineral Resources at the Project. The target has also been calculated taking into account the additional tenement application E80/4893 (Figure 1), which covers a 90km<sup>2</sup> area of the lake not previously considered in the Mineral Resource Estimate.

The Exploration Target is based on a number of assumptions and limitations with the potential grade and quantity being conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource Estimate in accordance with the JORC Code and it is uncertain if future exploration will result in the estimation of a Mineral Resource.

## Exploration and Development Strategy

Global is currently planning a 2015 work program, which will include drilling to improve the characterisation of the brine resource and the collection of information for detailed development studies. Drilling will also test the extensions of the deposit which are the basis for the Company's Exploration Target.

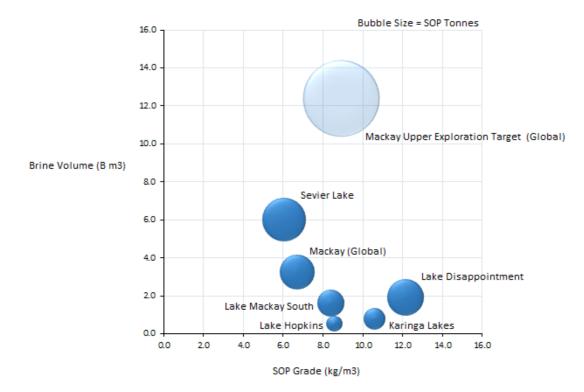
Hydrologic characterisation will be necessary to establish the extractable component of brine resources that can be recovered at sustainable rates over time to make a SOP operation commercially feasible. Additional hydrologic data collection will be required and it is likely that testing wells will be needed to target specific characterisation efforts. Key items that will need to be addressed in order to define a sustainable brine reserve include flow rates, recoverability, specific yield and fluid flow simulation models.



### **Brine-Hosted SOP Resources**

Global's strategic focus on SOP is motivated by the market fundamentals which remain very supportive for new production. Supply of SOP is constrained by the commodity's geological scarcity and the Company expects that SOP deposits throughout Western Australia will become an important source to meet world demand.

The Mineral Resource Estimate for the Mackay Project makes it one of the largest known undeveloped brinehosted SOP deposit in the world. There are only three developed brine deposits worldwide which include the Luobupo Salt Lake in China, the Great Salt Lake in the USA and Salar de Atacama in Chile. By virtue of being brine deposits and using low cost solar evaporation techniques, these three operations sit in the lowest quartile of the SOP industry cash cost curve.



#### Figure 3. Comparison of Brine-hosted SOP Resources Globally

Source: Company information

## For more information

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Or visit our website at www.grcl.com.au



Hole ID	Easting	Northing	Total Depth (m)	K (mg/l)	K₂SO₄ (mg/l)	Mg (mg/l)	SO₄ (mg/l)
LM001	434946	7510057	4.80	3248	7235	3762	24200
LM002	450094	7505025	2.40	3020	6727	3500	24067
LM003	450028	7514993	2.30	3330	7418	3420	20900
LM004	446858	7525163	2.60	3910	8710	4030	22150
LM005	455062	7500627	2.00	2505	5580	2795	22500
LM006	454840	7527516	3.70	3655	8142	3725	21350
LM007	455018	7509940	1.67	2990	6661	3150	23300
LM008	454952	7520040	4.70	-	-	-	-
LM009	465088	7525021	4.00	3037	6765	3020	19200
LM010	465050	7515026	4.00	3195	7117	3110	20175
LM011	473705	7509344	2.00	3150	7017	2970	21200
LM012	474320	7518369	2.00	2870	6393	3215	22700
LM013	475193	7500142	4.00	2763	6156	3003	18333
LM014	484491	7536462	3.00	2990	6661	3500	23867
LM015	484495	7503430	1.00	-	-	-	-
LM016	484816	7522292	4.00	3310	7373	2880	19200
LM017	485633	7514366	2.00	2870	6393	2790	20100
LM018	492360	7505227	1.00	2800	6237	3950	22100
LM019	493847	7517086	2.00	2645	5892	2850	21000
LM020	497331	7503622	1.57	3070	6839	3720	23900
LM021	497233	7526941	3.90	3077	6854	3417	19200
LM022	499784	7514641	1.60	3405	7585	3055	22750
LM023	450034	7505050	2.00	2945	6560	3555	24000
LM024	439891	7505199	3.00	2570	5725	3270	27800

#### Table 5. Vibracore Collar Locations and Brine Results – September 2009

Notes:

• All collar locations are in MGA GDA94 Zone 52.

• All holes were drilled vertical.

• Brine assays presented have been composited for each hole. Not inclusive of attrition assays.

The SOP (K₂SO₄) values quoted are in context of the brine samples having more than sufficient levels of SO₄ to produce SOP.

#### **Competent Person's Statements**

The information in this statement that relates to Exploration Results, the Mineral Resource Estimate and the Exploration Target for the Mackay Project is based on information compiled or reviewed by Mr Simon Coxhell who is a full-time employee of CoxsRocks Pty Ltd and an independent geological consultant to Global. Mr Coxhell takes overall responsibility for the Statement. Mr Coxhell is a Member of the Australian Institute of Mining and Metallurgy and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a Competent Person in terms of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code 2012 Edition). Mr Coxhell consents to the inclusion of such information in this statement in the form and context in which it appears.

#### Forward Looking Statements

Some of the statements contained in this report are forward looking statements. Forward looking statements include but are not limited to, statements concerning estimates of potash tonnages, expected costs, statements relating to the continued advancement of Global's projects and other statements which are not historical facts. When used in this report, and on other published information of Global, the words such as "aim", "could", "estimate", "expect", "intend", "may", "potential", "should" and similar expressions are forward-looking statements. Although Global believes that its expectations reflected in the forward-looking statements are reasonable, such statements involve risk and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements. Various factors could cause actual results to differ from these forward looking statements include the potential that Global's projects may experience technical, geological, metallurgical and mechanical problems, changes in product prices and other risks not anticipated by Global.



### JORC Code, 2012 Edition – Table 1

### Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul> <li>The program involved the drilling of 24 holes using a small, purpose built Vibracore rig.</li> <li>Core samples were retrieved in 2- inch diameter plastic tubes and sealed to ensure the unconsolidated sediments and entrained brine were recovered and to avoid moisture loss.</li> <li>Brine samples were also taken for every metre drilled using a downhole non-return sampler.</li> <li>Brine samples were allowed to settle and clear brine was decanted for analysis.</li> <li>The primary focus of the program was to ascertain core for attrition testwork to determine moisture content and brine to determine chemical composition, in order to characterise the brine aquifer and host sediments.</li> </ul>
Drilling techniques	<ul> <li>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).</li> </ul>	<ul> <li>Drilling was done by Vibracore method.</li> <li>Core was not orientated.</li> <li>Core/tube diameter was taken at 48mm or 60mm.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>Minimal core loss was evident due to the nature of drilling and the immediate air-tight sealing of the core tube upon extraction from the drill hole.</li> <li>Core container length and actual core length measurements were taken.</li> <li>Not all tubes were full so density measurements could be non- representative of that hole.</li> </ul>
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All drill holes were geologically logged, including descriptions of lithology, sediments, colour, and moisture.</li> <li>A qualified geologist logged all samples.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>As part of the drill core assessment, attritioning testwork was carried out.</li> <li>The core sections were cut in half lengthwise and a lengthwise pie segment sub-sample taken for moisture determination. Moisture was determined at 105°C and expressed as a fraction of the sample wet weight.</li> <li>The remainder of the core was mechanically repulped using sufficient water to ensure a clear supernatant was obtained by settling over several</li> </ul>



		days. The supernatant was sampled
		<ul><li>for elemental assay and TDS determination.</li><li>Following sampling the supernatant</li></ul>
		was decanted and the solids re- slurried. The slurry was weighed, agitated and sub-sampled. The one
		litre subsample was diluted with water, agitated and flocculated with a non-ionic flocculant to recover the solids. The solids were dewatered and dried at 105°C. Washed of the soluble salts, this dry solids mass was used to estimate the brine content of the core.
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> </ul>	<ul> <li>The samples collected (both brine and attrition) were analysed for elemental assay at Ultratrace Laboratories (a</li> </ul>
	<ul> <li>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.</li> </ul>	<ul> <li>subsidiary of Bureau Veritas) in Perth, a reputable independent laboratory. Internal standards are in place to calibrate equipment and maintain analytical procedures.</li> <li>The technique of analysis used was Inductively Coupled Plasma (ICP OES &amp; MS) and Colourimetric.</li> <li>Quality control procedures were in place throughout the analyses process,</li> </ul>
		<ul> <li>including the use of duplicates, repeats and standards.</li> <li>Quality control data indicates no discrepancies in the results.</li> <li>The assay method and results are suitable for the calculation of a resource estimate.</li> </ul>
Verification of sampling and	• The verification of significant intersections by either independent or alternative company personnel.	Results have been verified by an independent consulting geologist.
assaying	<ul> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data unification, data storage (churical and electronic) protocole.</li> </ul>	<ul> <li>Data entry was completed in the field in order to minimise transcription errors.</li> <li>A single drill hole was twinned as part</li> </ul>
	<ul> <li>verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>of the drilling program (LM002, LM023)</li> <li>Data stored in Excel and PDF formats on company server with regular backups.</li> <li>Some analytical results were corrected</li> </ul>
Location of data points	<ul> <li>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.</li> </ul>	<ul> <li>for dilution factors.</li> <li>Collars were located using a handheld Garmin GPS system, with accuracy of +/- 5m.</li> </ul>
	<ul> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	• The grid system used was GDA94 in MGA Zone 52.
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the</li> </ul>	<ul> <li>RL's were recorded for each collar.</li> <li>Drilling was completed at an approximate 10km spacing, with one hole twinned and another drilled at</li> </ul>
	<ul> <li>Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>5km spacing to assist in quantifying variability.</li> <li>The drill hole spacing is considered sufficient for reporting an Inferred Mineral Resource.</li> </ul>
Orientation of data in relation to geological	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	<ul> <li>All drill holes were drilled vertical as the aquifer host sediments are flat lying and considered one geological unit for the</li> </ul>
structure	<ul> <li>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</li> </ul>	<ul><li>calculation of the resource estimate.</li><li>No orientation or structural information was obtained.</li></ul>



	material.	
Sample security	The measures taken to ensure sample security.	<ul> <li>All samples were labelled and kept onsite prior to being transported to Perth for various analyses. Samples for assaying were submitted to Ultratrace Laboratories, an independent laboratory.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>A select number of brine samples were re-assayed at ALS laboratories in Perth during October 2014.</li> <li>The resource model was re-run as part of validating the 2009 results and updating the Inferred Mineral Resource to the JORC Code 2012 Edition.</li> </ul>

#### Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The Project is 100% owned by Global Resources Corporation Limited. The project tenure is held under Exploration Licence applications - E80/4887, E80/4888, E80/4889, E80/4890 and E80/4893.</li> <li>The area is subject to native title determination held by the Kiwirrkurra People.</li> </ul>
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	<ul> <li>No previous exploration has taken place at the Mackay Project prior to Reward Minerals in 2009.</li> </ul>
Geology	• Deposit type, geological setting and style of mineralisation.	<ul> <li>The deposit type is brine-hosted potash in a salt lake/playa.</li> </ul>
Drill hole Information	<ul> <li>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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	<ul> <li>Refer to drill collar table in the release.</li> <li>All holes were less than 4.8m deep and were drilled vertical.</li> <li>Approximate RL of the lake is 355m.</li> </ul>
Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Brine assay data has been averaged for each hole as grade is indicated to be consistent with depth.</li> <li>No cut-off grades have been applied to the results due to the consistent nature of the brine assay data.</li> <li>The K<sub>2</sub>SO<sub>4</sub> (SOP) values quoted are in context of the brine samples having more than sufficient levels of sulphate to produce SOP. SOP values are calculated as K x 2.23 (K to K<sub>2</sub>SO<sub>4</sub>).</li> </ul>
Relationship between mineralisation widths and	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> </ul>	The brine aquifer is considered to be contiguous throughout the sediment profile of the lake, which has been confirmed by analyses of depth profiles.



intercept lengths	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').	The lake sediments unit is flat lying and all holes have been drilled vertically so it is assumed that the true width of mineralisation has been intersected in each hole.
Diagrams	<ul> <li>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.</li> </ul>	Refer to figures within the release.
Balanced reporting	<ul> <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>	Results considered relevant have been reported.
Other substantive exploration data	<ul> <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> <li>No other exploration has been carried out within the Project area.</li> <li>Toro Energy (ASX: TOE) and Rum Jungle Resources (ASX: RUM) have conducted potash and uranium exploration on neighboring tenure at Lake Mackay.</li> </ul>
Further work	<ul> <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> <li>Refer to release. Further drilling and feasibility work is being planned for 2015. This will include infill and step-out drilling to increase confidence in the resource and test for extensions to the mineralisation, both laterally and at depth.</li> </ul>

### Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>Data has been statistically analysed, with outliers addressed and corrected.</li> <li>Duplicates and Standards have been used in the assay process.</li> <li>Attrition and Brine assays have been analysed and compared with relative consistency.</li> <li>Comparisons of original and current datasets were made to ensure no lack of integrity.</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>A site visit has not been completed by the Competent Person due to the simple nature of the deposit and the consistent, reliable state of the data.</li> </ul>
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>There is a high level of confidence in the geological model for the Project. The geology is simple, with brine-hosted in flat lying lakebed sediments.</li> </ul>
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	<ul> <li>The lateral extent of the resource has been defined by the boundary of the Company's tenements, which has then been trimmed to fit within the margins of the salt lake. Internal islands have also been excised. Refer to the figures in the release.</li> <li>The base of the resource has been</li> </ul>



Estimation and modelling techniques	<ul> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul> <li>defined by a basal DTM which has been created from the total depth of all the drill holes.</li> <li>The resource remains open laterally outside of the Company's tenements and at depth below the current drilling.</li> <li>Potassium tonnage was calculated as a function of bulk volume, potassium grade and brine density.</li> <li>Estimates of density and moisture content were taken from the drill core assessment process.</li> <li>Inverse Distance Squared was applied to the composited assay data, which was considered appropriate for the normally distributed dataset.</li> <li>A large search radius was applied to the interpolation to ensure that all drill sample points were influenced by at least two-three data points and hence high-level mapping of the limited variability was achieved.</li> <li>Block sizes of 1,000m by 1,000m were adopted for the modelling with subcelling on boundaries to ensure volumetric accuracy.</li> <li>Micromine Mining and MapInfo GIS software was used for the estimation and modelling.</li> <li>There are no mine production records for this resource.</li> <li>Recovery of by-products has not been considered.</li> <li>Selective mining units were not considered.</li> <li>Mo assumptions were made regarding correlation between variables.</li> <li>Geological interpretation was used to</li> </ul>
		<ul> <li>define the thickness of the orebody.</li> <li>No grade cut-offs or capping was undertaken due to the homogeneity of data.</li> </ul>
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Refer to Section 1.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	<ul> <li>No cut-off grades have been applied due to the homogeneity of the data.</li> </ul>
Mining factors or assumptions	<ul> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<ul> <li>The resource has been quoted in terms of brine volume and grade.</li> <li>No mining or recovery factors have been applied.</li> <li>The conceptual mining method is recovering brine from the salt lake via a series of trenches and/or bores.</li> <li>Detailed hydrologic studies of the lake will need to be undertaken to determine the amount of extractable resources and extraction rates possible for the Project.</li> </ul>
Metallurgical factors or	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic	<ul> <li>Brine chemistry at Lake Mackay is similar in composition to other SOP projects throughout Western Australia</li> </ul>



assumptions Environmental factors or assumptions	<ul> <li>extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</li> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul> <li>and elsewhere. These other projects have demonstrated that SOP can be produced via conventional brine processing techniques.</li> <li>No metallurgical testwork has been carried out on the Lake Mackay brines at this stage.</li> <li>Impacts of a potash operation at Lake Mackay would include; surface disturbance from the creation of extraction/processing facilities and associated infrastructure, accumulation of various salt tailings and extraction from saline and fresh water aquifers regionally.</li> </ul>
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>Density measurements were taken as part of the drill core assessment process described in section 1. This included wet core density, brine density and dry solids density.</li> </ul>
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>The Mineral Resource has been wholly classified as Inferred on the basis of the Competent Persons opinion/view.</li> <li>It is considered that all relevant factors for the reporting of an Inferred Resource have been taken into consideration.</li> <li>This view has been supported by a variography study completed by an external geological consultancy.</li> </ul>
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	The technical data was reviewed and resource model re-ran as part of validating the 2009 results and updating the Inferred Resource to the JORC 2012 code standards.
Discussion of relative accuracy/ confidence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul> <li>Refer to the above.</li> <li>The relative accuracy of the Mineral Resource is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code.</li> <li>The statement relates to global estimates of volume, tonnages and grades.</li> <li>No production data is available for this resource.</li> </ul>