



**ASX Announcement**

**October 2015**

## **OXLEY POTASH PROJECT**

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General Manager

12<sup>th</sup> October 2015

The Company Announcements Office  
Australian Securities Exchange  
Electronic Lodgement System

Dear Sir/Madam

## **FURTHER POSITIVE ROAST RESULTS AT WA POTASH PROJECT**

### **Highlights**

- Second series of bench scale static roast and leach tests indicate up to 91% leach extraction of potassium from a weathered composite of potash feldspar bearing ultrapotassic lava at Oxley
- New exploration licence granted adjacent to potash project over brine lake system to potentially provide low cost salt for processing
- An optimisation test program has been initiated which will investigate optimal roast conditions, and the effect of agitation in roasting
- Results of metallurgical testwork to feed into a Scoping Study with focus on initial high-value potassium nitrate operation
- Resource definition drilling expected to commence once drilling approvals received from WA Government (land access already in place)

### **Summary**

Centrex Metals Limited (“Centrex”) has completed a second series of bench scale roast testwork on a weathered composite sample from its Oxley Potash Project (“Oxley”) near the port of Geraldton in Western Australia. Further experimentation of various combinations of salt flux mixtures, composed mainly of sodium chloride, has delivered a

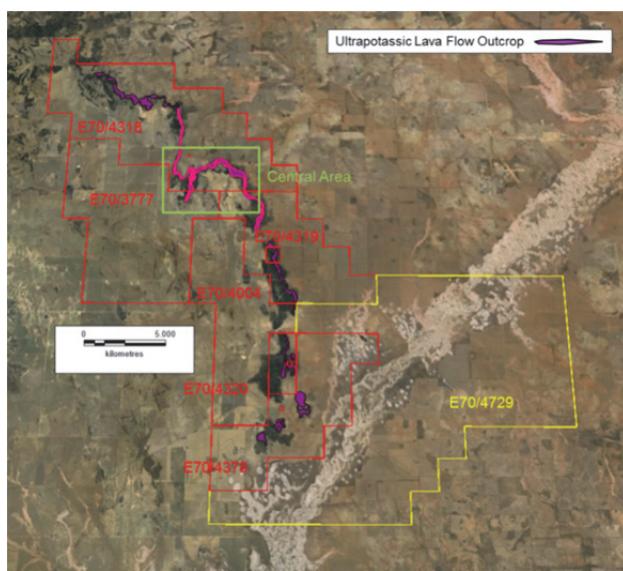


maximum 91% conversion and leach extraction of potassium from the potash feldspar bearing ultrapotassic lava flow that forms the basis of the project. Drawing from these results further optimisation testing is underway.



**Figure: Removing roast sample from static furnace.**

Centrex has successfully applied for and been granted a new exploration license (E70/4729) adjacent to the existing Oxley tenements covering a potential source of brine from a playa lake system for producing salts for the process. The exploration license provides the mineral rights to the mineral salts within the brine. Applications for water extraction licenses would be pursued in the future to recover the salts but also to produce water for the project via desalination. Government groundwater records within the tenement area show not only total dissolved salt ("TDS") levels far exceeding sea water but also that part of the salt mix comprises potassium, adding further upside to the Oxley process. Groundwater modeling and water bores will be required to further analyse this potential salt source.



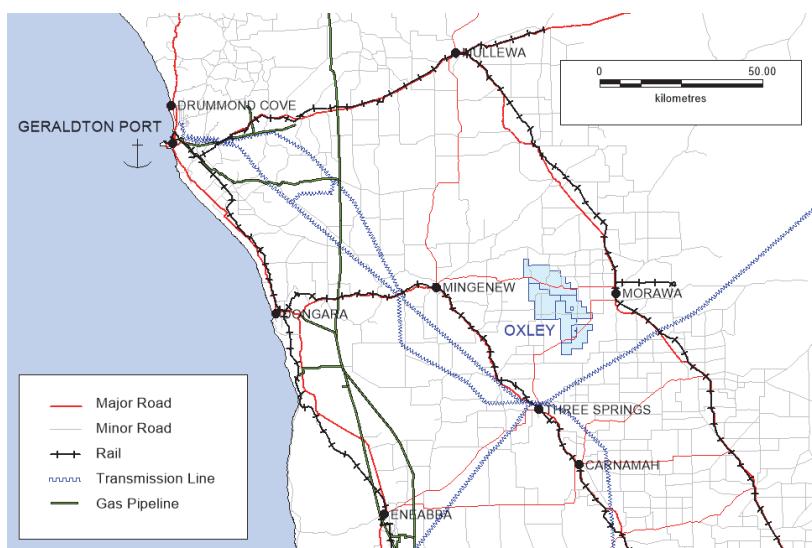
**Figure: Oxley tenement location map over satellite image.**

The second round of results are highly encouraging however further improvement is expected with agitation generated in laboratory scale rotary furnace trials currently underway. Centrex is currently awaiting refractory lined components for



the agitated roasts prior to finalising its testwork program. Current expectations are for full results to be received in November.

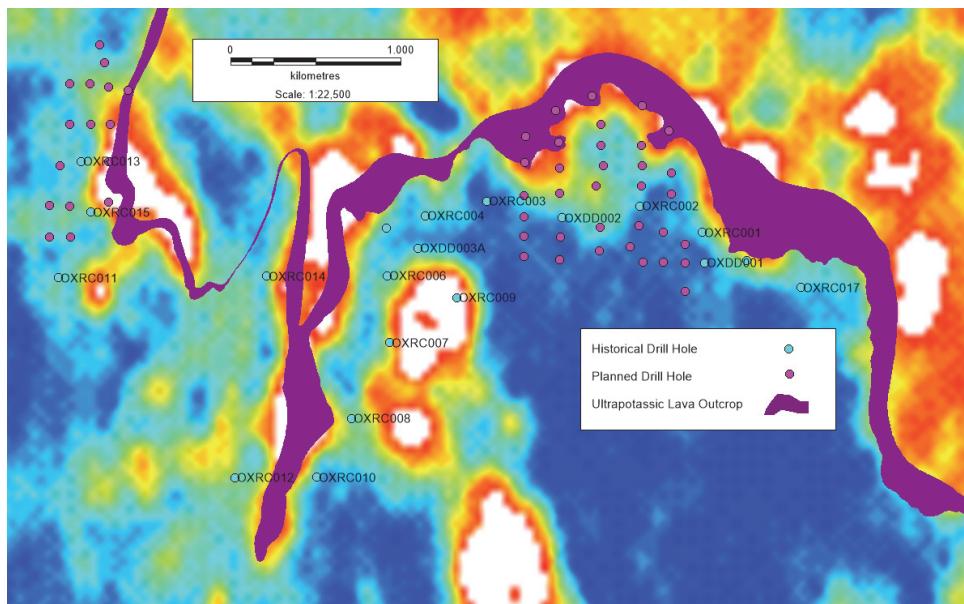
The results from the bench scale test program will support a Scoping Study planned for completion in the first half of 2016 that will consider an initial low-volume high-value potassium nitrate fertiliser start-up operation (assumed FOB price potassium nitrate range in 2015 of between \$US 700 to \$US 1,100 per tonne). Further expansion options including for potassium sulphate production will also be considered in the study. Centrex has previously announced a conceptual study showing an operating cost range of between \$US 148 and \$US 331 per tonne to produce 100% nitric acid equivalent at the Oxley site depending on the decision to make or buy ammonia. One tonne of potassium nitrate ( $\text{KNO}_3$ ) contains approximately 0.62 tonne of 100% nitric acid ( $\text{HNO}_3$ ) equivalent.



**Figure: Oxley infrastructure location map.**

Potassium nitrate is a highly soluble fertiliser used in horticulture, with large markets not only in Asia but also Australia currently importing it mainly from the Middle East and South America. Potassium sulphate is likely to be the second product targeted once a potassium nitrate operation is in production. There is further potential for a lower value but larger scale potassium chloride (standard potash) operation in the longer term.

Centrex is awaiting approval for a maiden 50 reverse circulation drill hole resource definition program at Oxley from the Western Australian Government, which it expects to commence late in the month or early next month. A program of works was lodged on the 16<sup>th</sup> of September, with the Government's target approval timeframe being 30 business days. The drilling will target two areas within the Central Area of the project with a combined 3km strike length out of the overall 32km of shallow dipping and outcropping rare ultrapotassic lava flow. Land access agreements for the drilling are already in place and the program is expected to be completed by the end of 2015.



**Figure: Drill hole locations and ultrapotassic lava outcrop map shown over air-borne radiometric potassium image.**

### Bench Scale Testwork Results

Centrex is currently developing a process route to produce high-value potassium fertiliser from potash feldspar ( $KAlSi_3O_8$ ), which comprises up to 90% of the ultrapotassic lava flow at Oxley. Bench scale roast and leach testwork has been ongoing using a 25kg composite sample (9.28%  $K_2O$  head grade) sourced from within the weathered horizon shown from previous drilling to average approximately down to 70m below surface. The program is aimed at analysing the optimal conditions of salt blends to convert potassium from the feldspar into a leachable form for subsequent processing.

The testing to date has been undertaken at Bureau Veritas Minerals laboratories in Perth using a bench scale muffle furnace to perform static roasts on samples of approximately 30g. The roast product is leached with hot water, with the liquor and leach residue analysed by ICP-MS and XRF respectively. Roast feed and product samples were analysed by ICP-MS. All testwork facilities, procedures and results are being reviewed by Amec Foster Wheeler.

Results to date from the static roasts have achieved up to a 91% leach extraction of potassium from the weathered potash feldspar bearing ultrapotassic lava flow. Testing indicates the roast conversion of potassium to a soluble form is not grind size dependent between P80 75 $\mu$ m and 150 $\mu$ m and occurs mostly within the first half an hour of roasting.

**Table: Potassium leach extraction results of static roast tests**

Trial	Roast Time (hours)	Grind Size (P80 $\mu$ m)	Overall K Leach Extraction (%)
OXSRT046	0.5	75	86
OXSRT047	1.0	75	89
OXSRT048	1.5	75	91
OXSRT049	1.0	150	88



Agitation during roasting is expected to improve performance and so prior to undertaking optimisation testwork based on the static test individual variable results, Centrex will repeat a number of the tests using a bench scale rotary furnace at the Simulus Group metallurgical facilities in Perth, with Bureau Veritas Minerals continuing to perform leaching and analysis. Based on this further set of agitated roast results the testwork will proceed to an optimisation phase, with the optimal results fed into the Scoping Study.

**Table: Oxley Phase 1 project schedule estimate.**

	2015				2016			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
Metallurgical Bulk Sample Drilling								
Process Route Scoping								
Bench Scale Testwork								
Scoping Level Process Design								
Conceptual Nitric Acid Plant Cost Estimate								
Resource Definition Drilling								
Resource Estimate								
Scoping Study								

Completed	
Commenced	
Pending	

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**Competent Persons Statement**

*The information in this report relating to Exploration Results is based on information compiled by Mr Ben Hammond who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Hammond is the CEO of Centrex Metals Limited. Mr Hammond has sufficient experience, which is relevant to the style of mineralization and type of deposit under consideration and to the activity, 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 Hammond consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*



## Oxley Project JORC Table 1 Report

## Section 1: Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"><li>• <i>Nature and quality of sampling.</i></li><li>• <i>Sample representivity.</i></li><li>• <i>Determination of mineralisation.</i></li></ul>	An approximately 25kg composite sample was utilised for the testwork comprised of RC reject sample chips from a single hole and diamond core - 3mm residue from a single hole from previous physical beneficiation test at Oxley. The composite comprised weathered material where leaching of calcium has resulted in a relative upgrade in overall potassium grades. This weathered zone has been shown from historical drilling to average approximately down to 70m below surface and is the target of the maiden resource definition program planned by Centrex.  The composite was crushed to -3mm and homogenised. A 10kg sub-sample was milled to the target grind size (Centrex trade secret) and further homogenised. The sub-sample head grade was analysed by XRF at 9.28% K <sub>2</sub> O thought to be approximately representative of the weathered ultrapotassic lava flow. Sub-samples of the ground feed were mixed with salt flux and again homogenised prior to roasting.
Drilling techniques	<ul style="list-style-type: none"><li>• <i>Drill type.</i></li></ul>	An approximately 25kg composite sample was utilised for the testwork comprised of RC reject sample chips from a single hole and diamond core hole -3mm residue from a single hole from previous physical beneficiation test at Oxley.
Drill sample recovery	<ul style="list-style-type: none"><li>• <i>Method of recording and assessing sample recoveries.</i></li><li>• <i>Measures taken to maximise sample recovery.</i></li></ul>	No drilling results being reported, sighter metallurgical testwork only.
Logging	<ul style="list-style-type: none"><li>• <i>Geological and geotechnical logging.</i></li><li>• <i>Whether logging is qualitative or quantitative.</i></li><li>• <i>Total length and percentage of the relevant intersections logged.</i></li></ul>	No drilling results being reported, sighter metallurgical testwork only.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"><li>• <i>Nature, quality and appropriateness of the sample preparation technique.</i></li><li>• <i>Quality control.</i></li><li>• <i>Sample representivity.</i></li><li>• <i>Sample sizes</i></li></ul>	The composite was crushed to -3mm and homogenised. A 10kg sub-sample was milled to the target grind size (Centrex trade secret) and further homogenised. The sub-sample head grade was analysed by XRF at 9.28% K <sub>2</sub> O thought to be approximately representative of the weathered ultrapotassic lava flow. Sub-samples of the ground feed were mixed with salt flux and again homogenised prior to roasting. Roast feed samples were on average 30g. All sample preparation was undertaken at Bureau Veritas Minerals in Perth.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"><li>• <i>Nature of quality control procedures.</i></li></ul>	Roast feed, roast product and leach liquor assays were undertaken by ICP-MS and leach residue by XRF at Bureau Veritas Minerals laboratories in Perth. Laboratory standards were utilised for analysis.
Verification of sampling and assaying	<ul style="list-style-type: none"><li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li></ul>	Roast feed, roast product and leach liquor assays were undertaken by ICP-MS and leach residue by XRF at Bureau Veritas Minerals laboratories in Perth. Laboratory standards were utilised for analysis. All testwork facilities,



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage protocols.</i></li> <li>• <i>Any adjustment to assay data.</i></li> </ul>	<p>procedures and results were reviewed by Amec Foster Wheeler senior process engineers.</p> <p>Specific data input sheets were created by Bureau Veritas Minerals and Amec Foster Wheeler for recording and reporting of results. Results calculations reported by Bureau Veritas Minerals were reviewed by Amec Foster Wheeler. Full mass balance was recorded including weights of equipment before and after roasting.</p>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>• <i>Accuracy and quality of surveys.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	No drilling results being reported, sighter metallurgical testwork only. The composite sample was derived from historic holes OXRC012 and OXDD002 previously reported by Centrex in the announcement on the 8 <sup>th</sup> March 2015: <a href="http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf">http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf</a>
<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.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	No drilling results being reported, sighter metallurgical testwork only. The composite sample was derived from historic holes OXRC012 and OXDD002 previously reported by Centrex in the announcement on the 8 <sup>th</sup> March 2015: <a href="http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf">http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf</a>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling.</i></li> </ul>	No drilling results being reported, sighter metallurgical testwork only. The composite sample was derived from historic holes OXRC012 and OXDD002 previously reported by Centrex in the announcement on the 8 <sup>th</sup> March 2015: <a href="http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf">http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf</a>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	All samples were packaged in tied sample bags within sealed boxes for transport to Bureau Veritas Minerals.
<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>	All testwork facilities, procedures and results were reviewed by Amec Foster Wheeler senior process engineers.

## Oxley Project JORC Table 1 Report

### Section 2: Reporting of Exploration Results

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.</i></li> <li>• <i>The security of the tenure held at the time of reporting.</i></li> </ul>	The Oxley ultrapotassic lava flow is located on Exploration Licences E70/4318, E70/3777, E70/4004, E70/4319, E70/4378 and E70/4320. All tenements are held by Centrex's 100% subsidiary Centrex Potash Pty Ltd and all are in good standing.



Criteria	JORC Code explanation	Commentary
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"><li><i>Exploration by other parties.</i></li></ul>	An approximately 25kg composite sample was utilised for the testwork comprised of RC reject sample chips from a single hole (OXRC015) and diamond core -3mm residue from a single hole (OXDD002) from previous physical beneficiation test at Oxley. The drilling was undertaken by Sheffield Resources Limited and previously reported by Centrex in the announcement on the 8th March 2015:  <a href="http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf">http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf</a>
<i>Geology</i>	<ul style="list-style-type: none"><li><i>Deposit type, geological setting and style of mineralisation.</i></li></ul>	The Oxley Potash Project comprises a series of ultrapotassic lava flows thought to have evolved from a failed intercontinental rift. The main target unit is a series of microsyenite lava flows that appear to have thickness controlled by the basement paleosurface. The microsyenite grades into an ultrapotassic trachybasalt at its base and an ultrapotassic tuff at its top.
<i>Drill hole Information</i>	<ul style="list-style-type: none"><li><i>A summary of all information material to the understanding of the exploration results.</i></li></ul>	No drilling results being reported, sighter metallurgical testwork only. The composite sample was derived from historic holes OXRC012 and OXDD002 previously reported by Centrex in the announcement on the 8th March 2015:  <a href="http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf">http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf</a>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"><li><i>Weighting averaging techniques and grade cuts.</i></li><li><i>Aggregation procedure.</i></li><li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li></ul>	The metallurgical testing program was designed with roast feed and product sub-sampling and analysis to enable checks of the K <sub>2</sub> O balance. In the tests reported high (or absolute % limit better) K <sub>2</sub> O accountabilities were demonstrated.
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"><li><i>Geometry of the mineralisation with respect to the drill hole angle.</i></li></ul>	No drilling results being reported, sighter metallurgical testwork only. The composite sample was derived from historic holes OXRC012 and OXDD002 previously reported by Centrex in the announcement on the 8th March 2015:  <a href="http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf">http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf</a>
<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>	No drilling results being reported, sighter metallurgical testwork only. The composite sample was derived from historic holes OXRC012 and OXDD002 previously reported by Centrex in the announcement on the 8th March 2015:  <a href="http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf">http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf</a>  A diagram of OXRC012 and OXDD002 locations against planned resource definition drilling is shown in the announcement.
<i>Balanced reporting</i>	<ul style="list-style-type: none"><li><i>Representative reporting of both low and high grades and/or widths.</i></li></ul>	No drilling results being reported, sighter metallurgical testwork only. The composite sample was derived from historic holes OXRC012 and OXDD002 previously reported by Centrex in the announcement on the 8th March 2015:  <a href="http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf">http://www.asx.com.au/asxpdf/20150309/pdf/42x4hkg86j6w1d.pdf</a>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"><li><i>Other exploration data.</i></li></ul>	No other exploration data is reported at this time.



Criteria	JORC Code explanation	Commentary
<i>Further work</i>	<ul style="list-style-type: none"><li>• <i>The nature and scale of planned further work.</i></li></ul>	Drilling approvals have been submitted for a maiden resource definition program. Metallurgical testwork is ongoing. Results from the studies will feed into a Scoping Study due for completion in 2016.