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ASX Announcement

8<sup>th</sup> August 2016

# Oxley Potassium Project

## POSITIVE SCOPING STUDY

### Highlights

- ▶ Scoping Study for a start-up potassium nitrate fertiliser operation at Oxley demonstrates globally competitive economic potential
- ▶ Start-up operation based on current Inferred Mineral Resources that includes 38 million tonnes at 10% K<sub>2</sub>O (9% cut-off), from the total of 155 million tonnes at 8.3% K<sub>2</sub>O (6% cut-off)
- ▶ Resources to date defined from just a 3km section of the 32km striking rare ultrapotassic lava flow
- ▶ Prefeasibility Study commenced with targeted completion in 2017 for a start-up potassium nitrate operation and second stage large-scale expansion into bulk potassium fertilisers
- ▶ Preliminary engineering studies to begin immediately to decide go forward option for Prefeasibility Study and associated small-scale pilot testwork program

### Summary

Centrex Metals Limited (“Centrex”) has received the results of a Scoping Study on a start-up potassium nitrate fertiliser (“NOP”) operation at its Oxley Potassium Project southeast of the Port of Geraldton in Western Australia. Scoping level engineering design along with initial capital and operating cost estimates were prepared by Amec Foster Wheeler. The estimates show the start-up operation to have globally competitive economic potential, with further upside for large-scale expansion from the extensive deposit.

The start-up NOP operation and cost estimates were based on only a fraction of the current Inferred Mineral Resources that includes 38 million tonnes at 10% K<sub>2</sub>O (9% cut-off), from the total of 155 million tonnes at 8.3% K<sub>2</sub>O (6% cut-off). Inferred Mineral Resources to date cover just 3kms of the overall 32km striking rare ultrapotassic lava flow that forms the basis of the project.

For full details of the Inferred Mineral Resource please see announcement 8<sup>th</sup> March 2016:

<http://www.asx.com.au/asxpdf/20160308/pdf/435nrchjm48mjm.pdf>

The results were reported under JORC 2012 and Centrex is not aware of any new information or data that materially affects the information contained within the release. All material assumptions and technical parameters underpinning the estimates in the announcement continue to apply and have not materially changed.

Centrex has been advised that it may not release the cost estimates or financial results of the study currently based on Inferred Mineral Resources, until Indicated Mineral Resources have been defined for the project. The Centrex Board have considered the study results and are pleased to progress to a Prefeasibility Study that will include further resource drilling to allow publication of comprehensive results.

The Prefeasibility Study will consider not only a start-up NOP specialty fertiliser operation, but also cover second stage expansion into the bulk potassium fertiliser market.

Preliminary engineering studies are to begin immediately to further review the numerous design options considered and costed in the Scoping Study, and choose the go forward option that will be underpinned by a small-scale pilot testwork program during the Prefeasibility Study. The Prefeasibility Study is targeted for completion by the end of 2017.

### **Potassium Nitrate (“NOP”) Market**

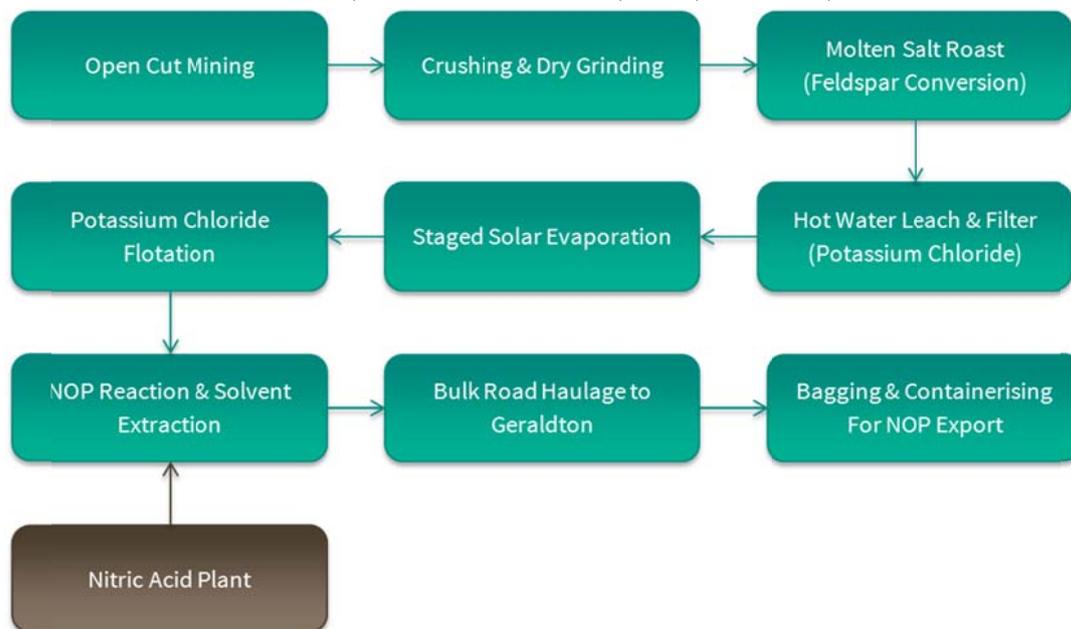
NOP is the third largest potassium fertiliser market. It is most commonly used in the horticultural sector, although has other major uses in pyrotechnics, and the solar industry as a heat transfer medium. NOP is the preferred potassium fertilizer for fertigation in the horticulture market. This is given most crops in the sector are chloride intolerant or in salt affected areas so cannot use potassium chloride (“MOP”), and as the alternate chloride free product potassium sulphate (“SOP”) has far lower solubility that can cause blocked lines. NOP provides a source of nitrogen as well as potassium unlike the other two products, hence its significantly higher value. With water resources becoming more critical in many parts of the world, the significant growth of micro-irrigation is also driving matched growth in the NOP market, particularly in developing countries. Rising middle classes in these same countries are driving demand for superior horticultural product quality where use of NOP as source of potassium can provide advantages over the other major potassium fertilisers.

Primary production for NOP in terms of potassium is currently restricted to Chile and Far Western China. At present primary production operational scale starts at 200,000 tonnes per annum. The dominant supply to Asia and Oceania outside of China is from secondary production in Israel (external MOP feedstock supply), providing Oxley not only a cost advantage as a primary producer, but also a large freight advantage. China is both a large consumer and producer of NOP however supply outside of Far Eastern China is restricted to high-cost low-quality secondary production, importing MOP feedstock from outside Asia. Exports from China are limited given the quality sensitive nature of horticultural operations throughout Asia. An opportunity exists for Oxley to be the dominant low-cost high-quality primary NOP producer in Asia and Oceania. Australia itself is a significant NOP importer at >30,000 tonne per annum, and has no current domestic potassium production.

External analysis commissioned by Centrex for export of containers comprising 1t bagged product from Geraldton showed achievable average pricing of \$US 870/t on a FOB basis, with upside as the commodity markets recover over the long-term.

## Scoping Study Basis

The Scoping Study was based on a vertically integrated primary producer NOP operation, with both potassium chloride and nitric acid feedstock produced on site. A simplified production process flow is shown below.



**FIGURE:** Simplified NOP production process flow.

Potassium feldspar ore would be mined via open cut from a series of shallow pits; selectively mining higher grade ore from the larger scale deposit using a small fleet of 90 tonne haul trucks. The ore would be crushed and then ground to P80 150 $\mu$ m via a dry circuit to reduce moisture into the furnace. The ore along with salt would be roasted to convert the potassium feldspar to soluble potassium chloride for hot water leaching and filtration.

The resulting potassium rich brine (order of magnitude higher potassium concentration than naturally occurring brines) would be staged crystallised in solar evaporation ponds to provide a potassium chloride and sodium chloride concentrate. The concentrate would be fed to a standard potash flotation plant to produce a pure potassium chloride product. The potassium chloride product would then be reacted with nitric acid produced on site to form potassium nitrate product. Both make onsite and buy ammonia options for nitric acid production were considered in the study, and both continue to be assessed for their relative merits. The final NOP product would be hauled by road in bulk to Geraldton where it would be bagged and placed into containers for export using existing third party facilities.

For the start-up operation shipping would be proposed fortnightly out of Geraldton, making use of existing container ship traffic routes between Singapore, Fremantle and the East Coast of Australia. For international sales, product could be distributed in container load sizes out of Singapore to the target market.

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