ASX ANNOUNCEMENT

ASX: CXO

30 March 2017

Test work Produces High Quality 6% Spodumene Concentrate

HIGHLIGHTS

- **Initial metallurgical test work demonstrates the Grants Prospect at the Finniss Lithium Project can produce a high quality 6% spodumene concentrate**
- **Concentrate specification appears suitable to supply a chemical grade concentrate to the growing lithium battery market**
- **Several potential processing routes identified to produce a spodumene concentrate product of 6% Li_2O at recoveries of 80% or higher**
    - **Whole-of-Ore Flotation achieved excellent results with a concentrate grade of 6.2% Li_2O achieved at very high lithium stage recovery (from flotation head) of 93%**
    - **HLS (Heavy Liquid Separation) results give calculated concentrate grade of 5.9% Li_2O at a high stage recovery (from HLS head) of 80%**
    - **Various configurations of DMS and Flotation combined are interpolated to produce 6.0% Li_2O concentrate at 80% recovery or better**
- **Simple spodumene mineralogy of Core's pegmatites responds well to a range of industry standard concentration techniques**
- **A Direct Shipping Ore (DSO) pricing model has been developed with estimated operating margins presenting a strong case to progress further economic studies on an early DSO development option**
- **It has also been identified that a lower capex single stage, Dense Media Separation (DMS) process may produce a 4.5% Li_2O concentrate product at acceptable recoveries as an alternative early development option**

Core Exploration Ltd (ASX: CXO) ("**Core**" or the "**Company**") is pleased to announce outstanding results from its initial metallurgical test work for the Grant's Pegmatite at the Finniss Lithium Project (the Finniss Project) near Darwin in the Northern Territory.

The test results are very encouraging, with a number of potential processing routes identified to produce a spodumene concentrate product of 6% Li_2O at recoveries of 80% or better.

The test work indicates a 6% spodumene concentrate can be produced at coarse 6.3mm crush size with a high overall recovery utilising standard whole-of-ore Flotation or several variations of combined Dense Media Separation (DMS) and Flotation.

The concentrate specification produced from Core's spodumene pegmatite appears suitable to supply a chemical grade concentrate to the growing lithium battery market.

Como Engineers Pty Ltd (Como) managed the metallurgical test work program at Nagrom Laboratories. Wave International Pty Ltd (Wave) have also been engaged to undertake an initial commercial assessment of the potential products from the Finniss Project.

Figure 1. 8.10% Li_2O Spodumene from HLS Testwork (SG 3.1 Sink).

In addition with these positive metallurgical results, a DSO pricing model, and a Lithium Carbonate (LIC) production cost model have been developed based on current 6% Li_2O concentrate pricing input costs. It is estimated that operating costs to produce a DSO product presents a strong economic case to progress further scoping level studies on fast-start DSO options at Grants.

Discussions with potential DSO and concentrate customers is ongoing.

A review of the metallurgical testwork has also confirmed that sufficient data exists to be used as the basis for a scoping study, encompassing preliminary flowsheet design and financial modelling (including first-pass capital and operating cost estimates) to examine the optimum flowsheet configuration for a large scale concentration plant at Finniss based on the bulk sample from Grants.

Calculations from test work data indicate a high overall Li_2O recovery of >80% may be obtained from one variation of a combined DMS, fines flotation flowsheet as follows (refer Table below):

STREAM	**Wt Dist (%)**	**Li_2O Dist (%)**	**Li_2O Grade (%)**
DMS Concentrate	12.76	39.26	6.00
Flotation Concentrate	7.05	43.12	6.00
DMS + Flotation Concentrate	**19.80**	**82.39**	**6.00**
Flotation Tails	21.14	6.44	1.39
DMS Tails	49.82	5.23	0.19
Slimes	7.05	5.43	2.36
Mica	2.20	0.51	0.39
Total	**100.00**	**100.00**	**1.75**

Several similarly-configured flowsheets, differing from the above in the proportion of coarse (DMS) and fine (flotation) material produced, are calculated to give similar results; these circuits will be assessed on a cost/benefit basis for incremental Li production.

Summary of Key Results

A summary of the key metallurgical test work results from the program follows.

Flotation

Flotation testwork on whole of ore samples crushed to minus 1mm and deslimed at 25µm achieved excellent results with a concentrate grade of **6.2% Li_2O being achieved at 93.2%** stage recovery, (i.e. recovery based on flotation head).

Heavy Liquid Separation (HLS)

HLS test results on spodumene pegmatite core crushed to minus 6.3mm (and screened at 0.5mm to remove fines) indicated **5.9% Li_2O concentrate at a high stage recovery** (i.e. based on HLS head) **of 80%** at a cut of SG 2.9. Higher concentrate grade of 6.3% was achieved at a cut of SG 2.95 at 64% stage recovery.

HLS results combined with Flotation of fines is calculated to produce 6.0% Li_2O concentrate at high 82% overall recovery, subject to confirmatory test work.

Dense Media Separation (DMS)

Initial small scale continuous DMS cyclone testing data of spodumene pegmatite core crushed to minus 6.3mm (and screened at 0.5 mm to remove fines) gave 6.3% Li_2O concentrate grade at 41% stage recovery at 2.95sg, and 4.5% Li_2O concentrate grade at 94% stage recovery at 2.70sg cut point. Interpolation of these results gave 48% stage recovery for a 6.0% Li2O concentrate (41% overall recovery).

Figure 2. DMS Cyclone, Nagrom Laboratories, Perth WA.

Comminution

A composite sample was prepared from 141m of half HQ drill core from holes identified at FRCD001, FRCD002 and FRCD003 from Grants Prospect at the Finniss Lithium Project. The composite sample weighed 341kg and assayed 1.70% Li_2O and 0.85% Fe_2O_3.

Comminution test work was conducted on the sample to enable comminution circuit sizing estimates to be undertaken at scoping study level. The ore characteristics are considered similar to most other lithium pegmatite ores; being fairly abrasive and hard.

Mineralogical investigations indicated that the crush size required to produce adequate liberation for a 6% Li_2O concentrate at acceptable recoveries is approximately 6.3mm.

The comminution results and liberation characteristics indicate a simple Primary, Secondary and Tertiary Crushing circuit consisting of jaw and cone crushers should suffice to prepare the feed to minus 6mm prior to DMS.

Magnetic Separation

The Fe_2O_3 grade of the DMS concentrate was lowered to approximately 0.6% by dry High Intensity Magnetic Separation (Rapid Disc Magnetic Separator) at 7000G, classifying the concentrate as chemical grade specification.

The Fe_2O_3 grade of the flotation concentrate was lowered to 0.55% by WHGMS (Wet High Gradient Magnetic Separation) at 3000G, but at unacceptable Li loss. However, it is thought that LIMS (Low Intensity Magnetic Separation) may result in similar Fe_2O_3 reduction with lower Li_2O rejection.

QEMSCAN

A comparison between the assayed lithium grade and the calculated lithium grade indicates that the spodumene is likely to account for most of the lithium in the composite for most size fractions.

Spodumene, Quartz, Albite, K-feldspar and Muscovite are the dominant minerals with the relative abundances of these minerals being fairly consistent across the size fractions.

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The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Stephen Biggins (BSc(Hons)Geol, MBA) as Managing Director of Core Exploration Ltd who is a member of the Australasian Institute of Mining and Metallurgy and is bound by and follows the Institute's codes and recommended practices. He has sufficient experience which is relevant to the styles of mineralisation and types of deposits under consideration and to the activities being undertaken 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. Biggins consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to metallurgy and metallurgical test work has been reviewed by Mr Terry Brittliffe (BSc (Tech) (Metallurgy), BSc (Chemistry and Maths), MAusIMM. Mr Brittliffe is not an employee of the company, and is employed by Wave International. Mr Brittliffe is a Member of the Australasian Institute of Mining and Metallurgy, and has sufficient experience with the style of processing response and type of deposit under consideration, and to the activities undertaken, 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. Brittliffe consents to the inclusion in this report of the contained technical information in the form and context as it appears.

Finniss Lithium Project Background

Core's Finniss Lithium Project covers a large portion of the Bynoe Lithium-Tantalum-Tin Pegmatite field (Figure 3).

Core's drilling at Finniss has intersected high lithium grades and spodumene mineralisation within a number of pegmatites at Finniss.

The Bynoe Field is a 15-20 kilometre wide belt of more than 90 tin and tantalum prospects and mines and lithium rich pegmatites which stretches over a distance of 75 kilometres south from Port Darwin and is one of the most prospective areas for lithium in the NT.

Core's Finniss Lithium Project has substantial infrastructure advantages being close to grid power, gas, and rail and services infrastructure and within easy trucking distance by sealed road to the multi-user port facility at Darwin Port - Australia's nearest port to Asia.

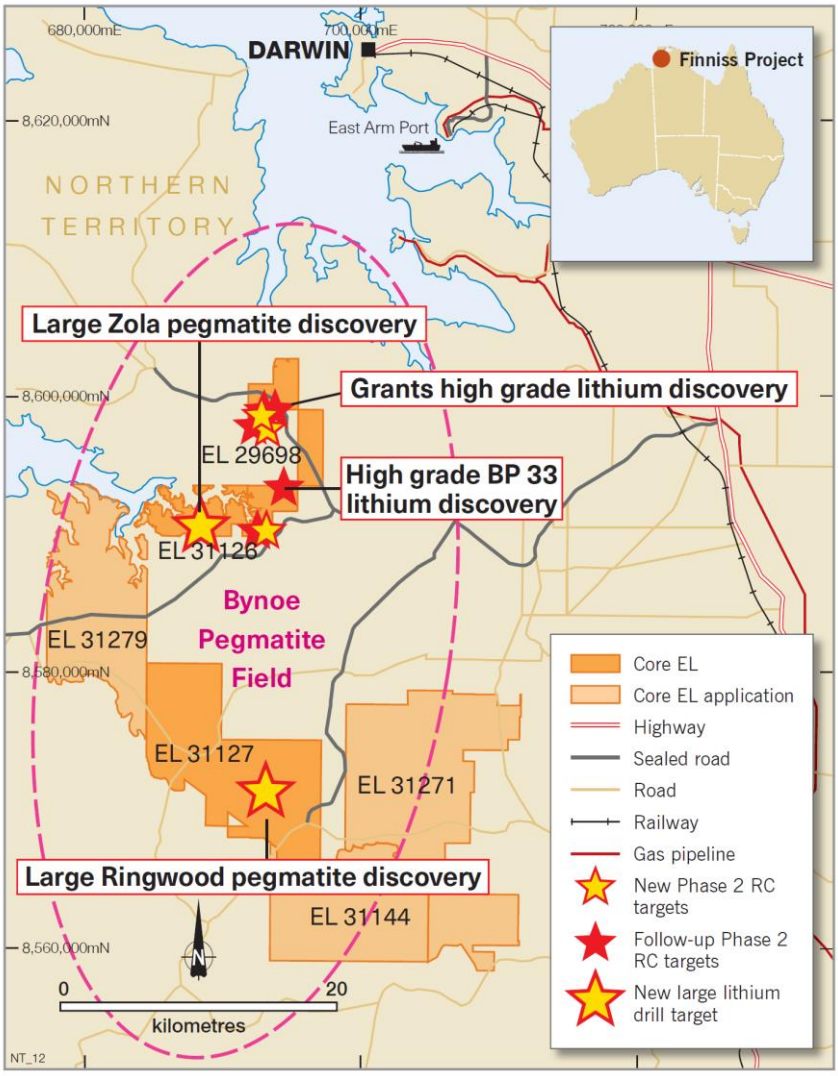

Figure 3. Finniss Lithium Project near Darwin in the NT.