

23<sup>rd</sup> May 2018



# **ASX ANNOUNCEMENT**

ASX: CXO

## MAIDEN ESTIMATE AT BP33 INCREASES LITHIUM RESOURCES AT FINNISS PROJECT BY 70%

### HIGHLIGHTS

- Maiden Lithium Resource estimate for BP33 grading at 1.4% Li<sub>2</sub>O
- Lithium Resources at Finniss expanded by 70% to 3.45Mt @ 1.4% Li<sub>2</sub>O, with addition of BP33
- BP33 Resource open directly south of 75m @ 1.68% Li<sub>2</sub>O drill intersection
- Resource extension and exploration drilling to recommence at BP33 next month aimed at increasing the size of the maiden resource
- Significant potential to grow Finniss Project Resources as BP33 and Grants are only two of many lithium rich pegmatites identified within Core's large 400km<sup>2</sup> of tenure at Finniss
- PFS for development of Grants deposit expected next month

Emerging Australian lithium developer, Core Exploration Ltd (ASX: CXO) ("**Core**" or the "**Company**"), is pleased to announce a maiden Mineral Resource estimate for the BP33 Lithium Deposit, which has further increased the overall Mineral Resources of the Finniss Lithium Project in the Northern Territory to 3.45 million tonnes @ 1.4% Li<sub>2</sub>O.

The Maiden Mineral Resource estimate defined by drilling to date within the BP33 Prospect, comprises an Inferred Resource of **1.4Mt at 1.40% Li<sub>2</sub>O** and this grows the total Mineral Resources at Finniss to 3.45Mt @ 1.4% Li<sub>2</sub>O (Tables 1 and 2).

The potential to expand the maiden BP33 Mineral Resource is considered high as the resource is currently extended only 20m south of the most recent drill intersection of 75m @ 1.68% Li<sub>2</sub>O (refer ASX announcement 11 April 2018) at the southern end of BP33. Resource extension and exploration drilling is recommencing next month at BP33 to test directly south of this outstanding high-grade lithium drill intersection (Figures 1 and 2).



The BP33 Mineral Resource is open to the south and south-west in a 300m long target area between pegmatites identified at surface at BP32 Prospect and BP32W Prospect. Core's next drilling at BP33 is planned to immediately define south and south west extensions to the BP33 Resource and undertake exploration drilling in the target area between the BP33 Resource and BP32 and BP32W prospects.

The Company will also be recommencing aggressive exploration and resource expansion drilling campaigns in coming weeks over the larger Finniss Lithium Project area (Figure 5), with the aim of substantially growing the Mineral Resource base for the Finniss Lithium Project to underpin a potential long-life lithium mining and production business.

Core's Managing Director, Stephen Biggins commented:

"We see the addition of resources at BP33 as highly valuable addition to the Finniss Project, and a first step in demonstrating strong potential for incremental growth to potential mine life that can be delivered by the highly prospective ground position over the Bynoe Pegmatite Field near Darwin in the Northern Territory.

We strongly believe that the BP33 deposit remains open to the south based on previous drilling delivering wide and high grade intersections of lithium mineralisation, and we look forward to expanding the resources at BP33 and the Finniss Project through our ongoing exploration and resource drilling."

Core is in the final stages of completing a Pre-Feasibility Study ("**PFS**") for the development of a spodumene concentrate and/or direct shipping ore operation from the Grants Lithium Deposit and expects to deliver the PFS next month.

Subject to positive results from the PFS, the Company then expects to complete a full Feasibility Study for the development of mining and processing lithium from the Finniss Lithium Project and is aiming to complete regulatory approvals, financing and internal approvals, and commence production at Grants at the end of 2019.

The Finniss Lithium Project has substantial infrastructure advantages supporting the Project's development - being close to grid power, gas and rail and within easy trucking distance by sealed road to Darwin Port - Australia's nearest port to Asia.





*Figure 1*. Lithium Grade (% Li<sub>2</sub>O) of BP33 Resource, Finniss Lithium Project.

### **BP33 Lithium Resource**

The results of the Mineral Resource Estimate for the Finniss Lithium Project including BP33 and Grants are provided in Table 1 and 2. The Mineral Resources are reported at a high cutoff of 0.75% Li<sub>2</sub>O.

Mineral Resource Summary - Finniss Lithium Project			
Resource Category Tonnes Li <sub>2</sub> O % Contained Li <sub>2</sub> O (t)			
Grants Indicated	1,130,000	1.5	17,000
Grants Inferred	900,000	1.4	13,000
BP33 Inferred	1,420,000	1.4	20,000
Total	3,450,000	1.4	50,000

**Table 1**. Mineral Resource Summary for the Finniss Lithium Project (0.75% Li<sub>2</sub>O Cut-off).

Dr Graeme McDonald (BSc PhD MAusIMM) was contracted by Core to undertake the Mineral Resource estimate for the BP33 Lithium Deposit. As part of the preparation of the Mineral Resource estimate, Dr McDonald developed a geological interpretation based on cross sections, generated a 3D geological interpretation from interpreted cross sections, created domain interpretations for lithium, developed a block model of the deposit, undertook a geostatistical analysis of the data and estimated lithium grades.



Dr McDonald's report notes that fresh pegmatite at BP33 is composed of coarse spodumene, quartz, albite, microcline and muscovite (in decreasing order of abundance). Spodumene, a lithium bearing pyroxene (LiAl(SiO<sub>3</sub>)<sub>2</sub>), is the predominant lithium bearing phase and displays a diagnostic red-pink UV fluorescence. The pegmatite is not strongly zoned, apart from a thin (1-2m) quartz-mica-albite wall facies and some barren internal quartz veins.



**Figure 2.** BP33 Main Pegmatite (green) and Resource (red/brown) open along strike to the south and at depth, Finniss Lithium Project.

BP33 has a flat Grade-Tonnage curve at the 1.4% Li<sub>2</sub>O "sweetspot" for spodumene production (Figure 3). A high 0.75% Li<sub>2</sub>O cut-off grade results in no significant reduction in the contained tonnes, demonstrating the consistent high-grade nature of the Resource.





*Figure 3* – Grade tonnage (GT) curve for the BP33 Mineral Resource estimate.

Mineral Resource Estimate - BP33 Deposit				
Resource Category Tonnes Li <sub>2</sub> O % Contained Li <sub>2</sub> O (t)				
Inferred	1,420,000	1.4	20,000	
Total 1,420,000 1.4 20,000				

Table 2. Mineral Resource Estimate for BP33 Lithium Deposit (0.75% Li<sub>2</sub>O Cut-off)

### Summary of Resource Estimate and Reporting Criteria

#### Geology and geological interpretation

The BP33 Lithium Deposit is hosted within a rare element pegmatite that is a member of the Bynoe Pegmatite Field. The Bynoe Pegmatite Field is situated 15km south of Darwin and extends for up to 70km in length and 15 km in width. Over 100 pegmatites are known within clustered groups or as single bodies. Individual pegmatites vary in size from a few metres wide and tens of metres long up to larger bodies tens of metres wide and hundreds of metres long.

The pegmatites are predominantly hosted within the early Proterozoic metasedimentary lithologies of the Burrell Creek Formation and are usually conformable to the regional schistosity. The Bynoe pegmatites are classified as LCT (Lithium-Caesium-Tantalum) type and are believed to have been derived from the ~ 1845 Ma S-Type Two Sisters Granite which outcrops to the west.

Fresh pegmatite at BP33 is composed of coarse spodumene, quartz, albite, microcline and muscovite (in decreasing order of abundance). Spodumene, a lithium-bearing pyroxene (LiAl(SiO<sub>3</sub>)<sub>2</sub>), is the predominant lithium-bearing phase and displays a diagnostic red-pink UV



fluorescence. The pegmatite is not strongly zoned, apart from a thin (1-2m) quartz-mica-albite wall facies and some barren internal quartz veins (Figure 4).

*Figure 4.* BP33 Spodumene Pegmatite in drillcore (79m-120m FRCD004) BP33, Finniss Lithium Project.

#### Drilling techniques and hole spacing

The BP33 drill hole database used for the MRE contains a total of 33 holes for 3,669.2m of drilling. Comprising 27 RC holes and 6 DD holes.



The majority of holes have been drilled at angles of between 55° - 60° and approximately perpendicular to the strike of the pegmatite.

The 11 RC holes drilled by Greenbushes were only used to assist with the interpretation of the geology and depth of the weathering profile, due to the fact that they are all relatively shallow and were not assayed for lithium. Geological and assay data for all other drill holes was used in the geological interpretation and MRE.

#### Sampling and sub-sampling

Samples were collected from RC drilling and when submitted for assay typically weighed 2-5kg over an average 1m interval. RC sampling of pegmatite for assays is done on a 1 metre basis. 1m sampling continued into the barren wall-zone of the pegmatite and then a 3m composite was collected from the immediately surrounding barren phyllite host rock. RC samples were homogenised and subsampled by cone splitting at the drill rig.

Drill core was collected directly into trays, marked up by metre marks and secured as the drilling progressed. Core was cut firstly into half longitudinally along a consistent line, ensuring no bias in the cutting plane. Again, without bias, half core was then cut into two further segments. A quarter was then collected on a metre basis where possible but not less than 0.3m in length, determined by geological and lithological contacts.

#### Sample analysis method

Sample Preparation - The samples have been sorted and dried. Primary preparation has been by crushing the whole sample. The samples have been split with a riffle splitter to obtain a sub-fraction which has then been pulverised to 95% passing  $100\mu$ m.

A 0.3 g sub-sample of the pulp is digested in a standard 4 acid mixture and analysed via ICP-MS and ICP-OES methods for the following elements: Li, Cs, Rb, Sr, Nb, Sn, Ta, U, As, K, P and Fe.

In the 2016-2017 drilling, all samples were also analysed via the fusion method - a 0.3 g subsample is fused with a Sodium Peroxide Fusion flux and then digested in 10% hydrochloric acid. ICP-OES is used for the following elements: Li, P and Fe. Exhaustive checks of this data suggested an excellent correlation exists, so in 2018 a 3000 ppm Li trigger was set to process that sample via a fusion method.

Selected drill core samples were also run for the following additional elements to provide a broader suite: Al, Ca, Mg, Mn, Si, LOI, SG (immersion), SG (pychnometer) and various trace elements.



Standards, blanks and duplicates have all been applied in the QAQC methodology. Sufficient accuracy and precision have been established for the type of mineralisation encountered and is appropriate for QAQC in the Resource Estimation.

#### **Cut-off grades**

The current Mineral Resource Inventory for the BP33 Deposit has been reported at a cut-off grade of 0.75% Li<sub>2</sub>O which, based on current modelling for the nearby Grants Deposit, approximates the current break even operating cost estimate for an open pit development. No top cuts were applied.

#### **Estimation methodology**

Geology and mineralisation wireframes were generated in Micromine software using drill hole data supplied by Core. Resource data was flagged with unique lithology and mineralisation domain codes as defined by the wireframes and composited to 1m lengths.

Grade continuity analysis was undertaken in Micromine software for Li<sub>2</sub>O for the mineralised domain and models were generated in all three directions. Parameters were used in the block model estimation. A block model with a parent block size of 5x10x10m with sub-blocks of 1.25 x 2.5 x 2.5m has been used to adequately represent the mineralised volume, with sub block estimated at the parent block scale.

Density data was supplied by Core and is consistent with expected values for the lithologies present and the degree of weathering. Within the block model, density has been assigned based on lithology.

#### **Classification criteria**

Resource classification has been applied to the Mineral Resource Estimate based on the drilling data spacing, grade and geological continuity, and data integrity. All of the Mineral Resource satisfies the requirements to be classified as an **Inferred Mineral Resource**. The classification reflects the view of the Competent Person.

#### Mining and Metallurgy

It has been assumed that the traditional open cut mining method of drill, blast, load and haul will be used. No other mining assumptions have been made.

No metallurgical recoveries have been applied to the Mineral Resource Estimate.

#### **Eventual Economic Extraction**

It is the view of the Competent Person that at the time of estimation there are no known issues that could materially impact on the eventual extraction of the Mineral Resource





*Figure 5.* BP33 Resource within the larger Bynoe Pegmatite Field and Core's 100%-owned Finniss Lithium Project

For further information please contact:

Stephen Biggins Managing Director Core Exploration Ltd +61 8 7324 2987 info@coreexploration.com.au For Media and Broker queries:

Andrew Rowell Director - Investor Relations Cannings Purple Ph +61 400 466 226 arowell@canningspurple.com.au





#### **Competent Persons Statements**

This Report is based on and fairly represents, information and supporting documentation prepared by Mr Stephen Biggins. 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) an employee 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. This report includes results that have previously been released under JORC 2012 by Core.

This Report is based on and fairly represents, information and supporting documentation prepared by Dr David Rawlings. The information in this report that relates to Exploration Results is based on information compiled by Dr David Rawlings (BSc(Hons)Geol, PhD) an employee 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". Dr Rawlings consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. This report includes results that have previously been released under JORC 2012 by Core.

This Report is based on and fairly represents, information and supporting documentation prepared by Dr Graeme McDonald. The information in this release that relates to the Estimation and Reporting of Mineral Resources has been compiled by Dr Graeme McDonald. Dr McDonald acts as an independent consultant to Core Exploration Limited on the Grants Deposit Mineral Resource estimation. Dr McDonald is a member of the Australasian Institute of Mining and Metallurgy and has sufficient experience with the style of mineralisation, deposit type 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" (The JORC Code). Dr McDonald consents to the inclusion in this report of the contained technical information relating to the Mineral Resource Estimation in the form and context in which it appears.

Core confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters underpinning the estimates in the announcement "Grants Lithium Resource Upgrade" dated 8 May 2018 continue to apply and have not materially changed.





### 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
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. 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 (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Drilling geology, assays and resource estimation results reported herein relate to Reverse Circulation (RC) and Diamond Drill Hole (DDH) drilling at the BP33 Deposit on EL29698 and EL30015. Assay data was derived from 22 holes for 3,129.2m. A further 11 holes for 540m were used exclusively for geological data. These comprise 27 RC holes and 6 DDH holes. A full list of hole collars that includes coordinates, azimuth, dip, depth and significant intercepts can be found in Drillhole Information section below. A chronological summary is provided below, but there have effectively been 5 drilling campaigns at BP33, two by CXO and 2 by Liontown Resources Ltd ("LTR") and 1 by Greenbushes:         <ul> <li>October to November 1995 (the "1995 Greenbushes Drilling program")</li> <li>June 2016 (the "2016 LTR Drilling program")</li> <li>October 2016 (the "2016 LTR Drilling program")</li> <li>August 2016 to January 2017 (the "2017 CXO Drilling program")</li> <li>November 2017 to February 2018 (the "2017 CXO Drilling program")</li> <li>November 2017 to February 2018 (the "2017 CXO Drilling program")</li> </ul> </li> <li>Shallow drilling targeting tin/tantalum mineralization that was not assayed for lithium.</li> </ul>





• RC drillholes by Liontown in June 2016 (2 holes) and October 2016 (3 holes) using Schram 450 rig

#### 2016 CXO Drilling program

- RC and DDH by CXO. WDA RC and DDH. by WDA Drilling using DE811 rig.
- RC holes FRC001 to FRC004 were drilled by Core in August 2016.
- DDH drillhole (with RC precollar) FRCD004 (1 holes for 134.6m HQ) was drilled in October 2016 by WDA Drilling using Alton rig.

#### 2017 CXO Drilling program

- RC holes FRC106 to FRC108 were drilled by Core in December 2017 by WDA Drilling using UDR1000 rig and DE811 rig.
- DDH drillholes (with RC or mud rotary precollar) FMRD002, FMRD003, FMRD004, FMRD005 and FRCD007 were drilled in December 2017 to February 2018 by WDA Drilling using DE811 and Alton rigs.

#### Sampling methods

- RC drill spoils over all programs were collected into two sub-samples:
  - 1 metre split sample, homogenized and cone split at the cyclone into 12x18 inch calico bags. Weighing 2-5 kg, or 15% of the original sample.
  - 20-40 kg primary sample is collected in 600x900mm green bags and retained until assays have been returned and deemed reliable for reporting purposes.
- RC sampling of pegmatite for assays is done on a 1 metre basis. 1msampling continued into the barren wall-zone of the pegmatite and then a 3m composite was collected from the immediately surrounding barren phyllite host rock. Liontown RC sampling occurred on a 1m basis only of pegmatite intersections and zones of interest.
- Drill core was collected directly into trays, marked up by metre marks and secured as the drilling progressed. Geological logging and sample interval selection took place soon after.
- DDH Core was transported to a local core preparation facility and cut firstly into half longitudinally along a consistent line between 0.3m and 1m in length, ensuring no bias in the cutting plane. Again, without bias, half core





		<ul> <li>was then cut into two further segments. A quarter was then collected on a metre basis (where possible), bagged and sent to the North Australian Laboratory in Pine Creek, NT, for analysis. The remaining half and quarter core is retained at Core's storage shed in Berry Springs.</li> <li>DDH sampling of pegmatite for assays is done over the sub-1m intervals described above. 1m-sampling continued into the barren phyllite host rock.</li> </ul>
Drilling techniques	<ul> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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 technique used by Core and Liontown that are reported herein comprises:         <ul> <li>DE811 rig (RC): Standard Reverse Circulation (RC) 4 and ¾ inch face sampling hammer (5 inch diameter bit). The rig used is a wheel mounted Sandvik DE811 multi-purpose rig and running a 1150 CFM 500/1000 psi compressor/booster combo. The rig is operated by WDA Drilling Services, Humpty Doo NT (CXO RC in 2016).</li> </ul> </li> </ul>
		<ul> <li>UDR1000 rig: Standard Reverse Circulation (RC) 4 and ¾ inch face sampling hammer (5 inch diameter bit). The rig used is a wheel mounted UDR1000 multi-purpose rig and running a 1150 CFM 500/1000 psi compressor/booster combo. The rig is operated by WDA Drilling Services, Humpty Doo NT. (CXO RC in 2017)</li> </ul>
		<ul> <li>Schram 450 rig: Standard Reverse Circulation (RC) 4 and ¾ inch face sampling hammer (5 inch diameter bit). The rig used is a wheel mounted Schram T450 rig and running a 900 CFM 350 psi compressor/booster combo. The rig is operated by Geo Drilling, NT. (Liontown 2016)</li> <li>Alton rig: Standard track-mounted Alton MD600 or HD900 DDH rig using HQ or PQ core assembly (triple tube), drilling muds or water as required, wireline setup. The rig is operated by WDA Drilling Services, Humpty Doo NT.</li> <li>Oriented core was obtained for DDHs drilled in the 2017 CXO Drilling program using the Longyear TruCore tool.</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>1995 Greenbushes Drilling program</li> <li>There is no record of sample recoveries for the Greenbushes RC drilling.</li> <li>2016 LTR Drilling program</li> <li>Sample recoveries for the Liontown RC drilling were recorded as a percentage of the expected recovery as estimated by the rig geologist. The majority of the recoveries are &gt;90%.</li> <li>2016 CXO Drilling program</li> <li>The geologist noted and documented the recovery (0-100%) and sample quality (Wet, Moist, Dry) for each metre, according to a SoP. Recovery was generally &gt;95% and samples were dry apart from certain drillholes, and then only the first sample after a rod change. The drilling contractors took great care to maintain a dry sample, even if this meant long periods of airlifting water at the start of a rod.</li> <li>The rigs splitter is emptied between 1m samples by hammering the cyclone bin with a mallet. The set-up of the cyclone varied between rigs, but a gate mechanism was used to prevent inter-mingling between metre intervals. The cyclone and splitter were also regularly cleaned by opening the doors, visually checking, and if build-up of material is noted, the equipment cleaned with either compressed air or high-pressure water. This process was in all cases undertaken when the drilling first penetrated the pegmatite mineralization, to ensure no host rock contamination took place.</li> <li>Drill collars are sealed to prevent sample loss and holes are normally drilled dry to prevent poor recoveries and contamination caused by water ingress. Wet intervals are noted in case of unusual results.</li> <li>No material bias has been recognised.</li> <li>DDH core recoveries were measured using conventional procedures utilising the driller's markers and estimates of core loss, followed by mark up and measuring of recovered core by the geologist or geotechnician.</li> <li>RC sample recoveries were visually estimated in the field and recorded by Core geologists for each metre drilled. RC recoveries are monitored</li> </ul>





		<ul> <li>qualitatively as the hole progresses, the principle aim being to identify bags that have significantly less spoil than expected for the metre.</li> <li>A semi-quantitative estimate of % recovery is subsequently made after completion of the hole, once the average volume of material can be gauged for a metre of drilling.</li> <li>Core Exploration has weighed most of the primary "green" RC sample bags from 2016 and 2018 drilling programs that included holes from the Grants and BP33 deposits. From this data it is possible to quantify recovery better than by visual estimation. Core undertook a QAQC exercise and constructed a report concluding that: <ul> <li>RC recovery of RC spoils varies according to the presence or absence of groundwater, and according to the tolerances of the RC hammer-bit shroud assembly.</li> <li>There was no relationship identified between recovery and grade.</li> <li>Wet and moist samples readily reflect the grade of the drilled interval, as much as the dry sample.</li> </ul> </li> <li>The rigs splitter is emptied between 1m samples by hammering the cyclone bin with a mallet. The set-up of the cyclone varied between rigs, but a gate mechanism was used to prevent inter-mingling between metre intervals. The cyclone and splitter were also regularly cleaned by opening the doors, visually checking, and if build-up of material is noted, the equipment cleaned with either compressed air or high-pressure water. This process was in all cases undertaken when the drilling first penetrated the pegmatite mineralization, to ensure no host rock contamination caused by water ingress. Wet intervals are noted in case of unusual results.</li> <li>No material bias has been recognised.</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,</li> </ul>	<ul> <li>Standard sample logging procedures are utilised by Core and Liontown, including logging codes for lithology, minerals, weathering etc.</li> <li>A chip tray for the entire hole is completed. A sub-sample is sieved from the large RC bags at site into chip trays over the pegmatite interval to assist in</li> </ul>





	<ul> <li>channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>geological logging. These are photographed and stored on the Core server.</li> <li>Geology of the RC drill chips were logged on a metre basis with attention to main rock forming minerals within the pegmatite intersections.</li> <li>Geology of the drill core is logged on a geological basis with attention to main rock forming minerals and textures within the pegmatite intersections.</li> <li>Entire drilled interval of RC and DDH logged.</li> <li>Pegmatite sections are also checked under a single-beam UV light for spodumene identification on an ad hoc basis. These only provide indicative qualitative information.</li> <li>Estimation of mineral modal composition, including spodumene, is done visually. This will then be correlated to assay data when they are available.</li> <li>Core trays and RC chip trays are photographed and stored on the Core server.</li> <li>DDH drillholes that CXO have drilled in the 2017 Drilling program are oriented and can be geotechnically logged in future if needed.</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>RC samples referred to in this report have been collected on a 1m-basis utilising the cone splitter mounted under the drill rig's cyclone or on a trailer (rotary type).</li> <li>Where the sample was too wet for the cone splitter to operate effectively, 1m samples were collected from the 1m bulk bags using a spear. This was a rare occurrence.</li> <li>The type of sub-sampling technique and the quality of the sub-sample was recorded for each metre. The quality of the samples was assessed prior to their inclusion in calculated interval averages.</li> <li>Quarter Drill Core sample intervals were constrained by geology, alteration or structural boundaries, intervals varied between a minimum of 0.3 metres to a maximum of 1 m. The core is cut along a regular Ori line to ensure no sampling bias.</li> <li>Field RC duplicates</li> <li>A field duplicate sample regime is used to monitor sampling methodology and homogeneity of RC drilling at BP33. During the LTR and CXO Drilling</li> </ul>





programs at BP33, 32 duplicates were collected out of the 941 original RC samples. The typical procedure was to collect Duplicates via a spear of the green RC bag, having collected the Original in a calico bag via a rotary split. Trying to split the 2-3kg calico bag into an Original and a Duplicate has inherent dangers, least of all reducing the sample mass. However, comparing rotary split sample with a spear sample also has some element of incompatibility. The expectation would be a high degree of variability in the spear sample, because of the heterogenous and stratified RC bag, but overall it should statistically match the split original sample.

- The duplicates cover a wide range of Lithium values up to 10,000 ppm.
- Results of duplicate analysis show an acceptable degree of correlation given the heterogeneous nature of the pegmatite.

#### Sample heterogeneity

- Given the pegmatite minerals, including spodumene, are very coarse grained, there is expected to be an issue of heterogeneity. The sample size for NQ drill core is borderline, and this is why CXO have drilled using HQ diameter. Assaying of coarse rejects as part of the Umpire process in 2017 showed that there is good correlation between the original and duplicate samples at that scale. However, there is assay variability from one metre to the next that reflects the heterogeneity. This is evident when comparing assays profiles twinned DDH and RC holes. RC tend to exhibit a flatter more consistent trend. This is because RC samples a larger volume of material for each metre and flattens out the fluctuations. Further discussion of twins can be found in section below.
- Quarter core is cut as described above, bagged and sent to the laboratory for analysis. As discussed, the heterogeneity of pegmatite core material means it is not suitable for "second-half" or "second-quarter" duplicate analysis.

#### Sample preparation

#### CXO drilling

 Sample prep occurs at North Australian Laboratories ("NAL"), Pine Creek, NT.





		<ul> <li>DDH samples are crushed to a nominal size to fit into mills, approximately - 2mm. RC samples do not require any crushing, as they are largely pulp already.</li> <li>A 1-2 kg riffle-split of DDH crushed material and RC Samples are then prepared by pulverising to 95% passing -100 um. In the 2016 Drilling program, samples were pulverised in a Vertical Spindle Pulveriser (Keegormill).</li> <li>In mid-2018, Steel Ring Mills were installed at NAL to reduce the iron contamination that was recognised in the 2016 Drilling program assays.</li> <li>LTR drilling</li> <li>Sample prep occurred at ALS in Perth, WA.</li> <li>RC Samples were rifle split to a max of 3kg and then prepared by pulverising to 85% passing -75 um.</li> </ul>
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> <li>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.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>CXO drilling</li> <li>Sample analysis also occurs at North Australian Laboratories, Pine Creek, NT.</li> <li>A 0.3 g sub-sample of the pulp is digested in a standard 4 acid mixture and analysed via ICP-MS and ICP-OES methods for the following elements: Li, Cs, Rb, Sr, Nb, Sn, Ta, U, As, K, P and Fe. The lower and upper detection range for Li by this method are 1 ppm and 5000 ppm respectively.</li> <li>In the 2016 Drilling program, all samples were also analysed via fusion method - a 0.3 g sub-sample is fused with a Sodium Peroxide Fusion flux and then digested in 10% hydrochloric acid. ICP-OES is used for the following elements: Li, P and Fe. The lower and upper detection range for Li by this method are 10 ppm and 20,000 ppm respectively. Exhaustive checks of this data suggested an excellent correlation exists (see chart below), so in the 2017 Drilling program a 3000 ppm Li trigger was set to process that sample via a fusion method.</li> <li>Selected drill core samples were also run for the following additional elements to provide a broader suite: Al, Ca, Mg, Mn, Si, LOI, SG (immersion), SG (pychnometer) and various trace elements. Na was also analysed using a 4 acid digest and ICP-OES method.</li> </ul>





- A barren flush is inserted between samples at the laboratory.
- The laboratory has a regime of 1 in 8 control subsamples.
- NAL utilise standard internal quality control measures including the use of Certified Lithium Standards and duplicates/repeats.
- CXO-implemented quality control procedures include:
  - One in twenty certified Lithium ore standards are used for this drilling.
  - One in twenty duplicates are used for this drilling (RC only).
  - Blanks inserted at a rate of roughly one in twenty.

#### Liontown drilling

• A sub-sample of the pulp was assayed by sodium peroxide fusion ICPMS using method codes ME-ICP89 (K, Li, P) and ME-MS91 (Cs, Nb, Rb, Sn, Ta) at ALS in Perth.

#### QAQC of CXO Drilling data

- One in 20 certified Lithium reference standards were used at BP33. Core used four standards roughly between 1700 ppm and 10000 ppm Li, covering the range of expected Li values in the mineralized pegmatite.
- The standards reported back with an excellent correlation. Overall the standards average within 1% of the expected value for Li.
- Blanks were inserted on a 1 in 20 basis, once resource definition drilling was initiated.
- The data from the blanks pulverised and assayed at NAL indicate that the Li content averages 36 ppm (0.01% Li<sub>2</sub>O) and the highest is 328 ppm Li. This is reasonable given the aggressive (hard) nature of the coarse quartz blanks, effectively scouring the crusher and mill. This value is well below the effective cut-off grade used for the significant intercepts.
- The baseline Fe<sub>2</sub>O<sub>3</sub> content of Blanks is <0.01%, whereas the average runof-sample value of 0.65%. This is indicative of Iron being stripped from the steel pulverising equipment at the NAL laboratory. This stripping of metal obviously has an effect on the Fe content of the Lithium bearing samples as well, especially the core, which are equally as hard as the quartz blanks. This is discussed further below.





		<ul> <li>One in 20 field duplicates are used for BP33 RC drilling, as discussed above.</li> <li>Duplicates were not collected for the DDH core drilling, as discussed above.</li> <li>Liontown drilling</li> <li>Due to the small number of holes drilled by LTR at BP33 there is only a small number of associated QAQC samples. This included field duplicates and Blanks. There were no apparent issues identified with this data.</li> <li>Umpire checks</li> <li>External laboratory checks by CXO took place at the end of the 2016 Drilling program and results indicate a high degree of correlation. A round of checks for the 2017 CXO Drilling program is currently underway.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Core's experienced project geologists are supervised by Core's Exploration Manager.</li> <li>All field data is entered into excel spreadsheets (supported by look-up tables) at site and subsequently validated as it is imported into the centralized CXO Access database.</li> <li>Hard copies of survey and sampling data are stored in the local office and electronic data is stored on the Core server.</li> <li>Metallic Lithium percent was multiplied by a conversion factor of 2.15283/10000 to report Li ppm as Li2O%</li> <li>2016 CXO Drilling program verification</li> <li>One diamond core hole was drilled as a twin to an RC hole and used to check the difference between RC and DDH assays across a similar part of the mineralized pegmatite. The data indicate variability on a metre-bymetre basis, related to the heterogeneity of the pegmatite, but overall the +30m intercepts are proportionate.</li> <li>2017 CXO Drilling program verification</li> <li>Based on QAQC assessments of RC and DDH assays as well as data from blanks and check assays, a substantial iron contamination issue has been identified in the drill hole assays. The two primary sources of contamination are the wear on the RC drill bits and rods as well as wear and abrasion of the steel sample preparation equipment at the laboratory.</li> </ul>





		<ul> <li>The level of contamination was shown to be both significant and highly variable. It is estimated that the level of Fe contamination in the assays may be in excess of 3% Fe<sub>2</sub>O<sub>3</sub> in some cases from the 2016 Drilling program. Changes in equipment at the laboratory prior to the 2018 drilling campaign has seen a reduction in the contamination levels to around 0.6% Fe<sub>2</sub>O<sub>3</sub>.</li> <li>The current assay database is known to contain Fe data that is affected by variable levels of Fe contamination that is difficult to correct. For these reasons Fe was not estimated as part of the current Mineral Resource Estimate for the BP33 Deposit as it would be misleading.</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Coordinate information for most of the BP33 drillholes was collected by Differential GPS (DGPS), by Land Surveys Australia Pty Ltd. This data is accurate to 10 cm in all three dimensions. These collar RLs were verified against CXO's DTM.</li> <li>Historic Greenbushes collars were surveyed at the time, using conventional surveying along a local grid. These coordinates were converted by CXO to the current datum. Two collars were located and captured by DGPS, which allowed rectification of the rest of the Greenex collars. Their position can be considered accurate.</li> <li>Liontown holes are hand-held GPS only, but sufficiently well-defined for the purposes herein.</li> <li>All are GDA94 Zone 52.</li> <li>In 2016 CXO/LTR Drilling programs, all holes were surveyed by downhole camera tool.</li> <li>In 2017 CXO Drilling program, RC and DDH hole traces were surveyed by north seeking Champ gyro tool (multishot mode at 5m and 10m intervals) operated by the drillers and the collar is oriented by a line of sight compass and a clinometer. Downhole Camera shots are also taken on an ad hoc basis during drilling to ensure the holes are kept relatively straight.</li> <li>Drill hole deviation has been minor and predictable in the most part. However, for the deeper holes, deviation was significant in the lower parts of the holes as a result of hard bedrock. Despite this, the holes still tested</li> </ul>





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 Mineral</li> </ul>	<ul> <li>the targets roughly oblique to the strike of the pegmatite, which is acceptable for resource drilling. In any case, the gyro down hole survey has accurately recorded the drill traces and any deviation from the planned program can be accommodated in a 3D GIS environment.</li> <li>Drill collars are spaced approximately 30m apart along the northeasterly trending pegmatite body of BP33.</li> <li>This data will be used to support a resource.</li> </ul>
	<ul><li>Resource and Ore Reserve estimation procedure(s) and classifications applied.</li><li>Whether sample compositing has been applied.</li></ul>	<ul> <li>Refer to figures in report.</li> <li>Sample compositing reported here are calculated length weighted averages of the assays. Length weighted averages are acceptable method because the density of the rock (pegmatite) is constant.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <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 material.</li> </ul>	<ul> <li>Core's drilling is oriented perpendicular to the interpreted strike of mineralization (pegmatite body) as mapped or predicted by the geological model. In some areas the rocks may trend at an angle to the drill traverse. Because of the dip of the hole, drill intersections are apparent thicknesses and overall geological context is needed to estimate true thicknesses.</li> <li>The azimuth of Core's drill holes is largely oriented approximately perpendicular to the interpreted strike of the mineralised trend. Holes are oblique in a dip sense.</li> </ul>
Sample security	The measures taken to ensure sample security.	• Company geologist supervises all sampling and subsequent storage in field and transport to point of dispatch to assay laboratories.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• A review of sample weights, recovery statistics and assay data with regard to the sampling techniques was undertaken after the 2016 CXO Drilling program at Grants (and to a lesser extent BP33) to demonstrate representivity. Learnings from this review were applied to the 2018 drilling, such as regular checks of the calico bag for signs of contamination.





#### **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>Drilling by CXO and LTR at the BP33 Prospect took place across the boundary between EL29698 and EL30015, both of which are now 100% owned by CXO.</li> <li>30015 was previous owned by LTR, and in September 2017 was purchased by CXO via a sale agreement (ASX Release 14 Sept 2017).</li> <li>The area being drilled comprises Vacant Crown land.</li> <li>There are no registered heritage sites covering the areas being drilled.</li> <li>The tenements are in good standing with the NT DPIR Titles Division.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>The history of mining in the Bynoe Harbour – Middle Arm area dates back to 1886 when tin was discovered by Mr. C Clark.</li> <li>By 1890 the Leviathan Mine and the Annie Mine were discovered and worked discontinuously until 1902.</li> <li>In 1903 the Hang Gong Wheel of Fortune was found and 109 tons of tin concentrates were produced in 1905. In 1906, the mine produced 80 tons of concentrates, but it was exhausted and closed down the following year after a total of 189 tons of concentrates had been won.</li> <li>By 1909 activity was limited to Leviathan and Bells Mona mines in the area with little activity in the period 1907 to 1909.</li> <li>Renewed activities in 1925 coincided with the granting of exclusive prospecting licences over an area of 26 square miles in the Bynoe Harbour – West Arm section but once again nothing eventuated.</li> <li>The records of production for many mines are not complete, and in numerous cases changes have been made to the names of the mines and prospects which tend to confuse the records still further. In many cases the published names of mines cannot be linked to field occurrences.</li> <li>In the early 1980s the Bynoe Pegmatite field was reactivated during a</li> </ul>





		<ul> <li>period of high tantalum prices by Greenbushes Tin which owned and operated the Greenbushes Tin and Tantalite (and later spodumene) Mine in WA. Greenbushes Tin Ltd entered into a JV named the Bynoe Joint Venture with Barbara Mining Corporation, a subsidiary of Bayer AG of Germany.</li> <li>Greenex (the exploration arm of Greenbushes Tin Ltd) explored the Bynoe pegmatite field between 1980 and 1990 and produced tin and tantalite from its Observation Hill Treatment Plant between 1986 and 1988. An abandoned open cut to 10m depth remains at BP33.</li> <li>They then tributed the project out to a company named Fieldcorp Pty Ltd who operated it between 1991 and 1995.</li> <li>In 1996, Julia Corp drilled RC holes into representative pegmatites in the field, but like all of their predecessors, did not assay for Li.</li> <li>Since 1996 the field has been defunct until recently when exploration has begun on ascertaining the lithium prospectivity of the Bynoe pegmatites.</li> <li>The NT geological Survey undertook a regional appraisal of the field, which was published in 2004 (NTGS Report 16, Frater 2004).</li> </ul>
Geology	• Deposit type, geological setting and style of mineralisation.	<ul> <li>The tenements cover the northern portion of a swarm of complex zoned rare element pegmatite field, which comprises the 55km long by 10km wide West Arm – Mt Finniss pegmatite belt (Bynoe Pegmatite Field; NTGS Report 16). The main pegmatites in this belt include Mt Finniss, Grants, BP33, Hang Gong and Sandras.</li> <li>The Finniss pegmatites have intruded early Proterozoic shales, siltstones and schists of the Burrell Creek Formation which lies on the northwest margin of the Pine Creek Geosyncline. To the south and west are the granitoid plutons and pegmatitic granite stocks of the Litchfield Complex. The source of the fluids that have formed the intruding pegmatites is generally accepted as being the Two Sisters Granite to the west of the belt, and which probably underlies the entire area at depths of 5-10 km.</li> <li>Lithium mineralisation has been identified as occurring at Bilato's (Picketts), Saffums 1 (amblygonite) and more recently at Grants, BP33 and Sandras.</li> </ul>





Drill hole	A summary of all information material to the understanding of the	Hole ID	Туре	Easting	Northing
Information	exploration results including a tabulation of the following information for all	BEC050	RC	694395.0	8593474.0
	Material drill holes:	BEC051	RC	694415.0	8593474.0
	<ul> <li>easting and northing of the drill hole collar</li> </ul>	BEC052	RC	694452.0	8593497.0
	$\circ$ elevation or RL (Reduced Level – elevation above sea level in metres) of	BEC053	RC	694432.1	8593496.6
	the drill hole collar	BEC054	RC	694480.0	8593528.0
	$\circ$ dip and azimuth of the hole	BEC055	RC	694495.0	8593526.0
	<ul> <li>down hole length and interception depth</li> </ul>	BEC056	RC	694460.0	8593528.0
	<ul> <li>hole length.</li> </ul>	BEC057	RC	694472.0	8593496.0
		BEC058	RC	694435.0	8593473.0
	• If the exclusion of this information is justified on the basis that the	BEC059	RC	694500.6	8593554.8
	information is not Material and this exclusion does not detract from the	BEC060	RC	694482.0	8593555.0
	understanding of the report, the Competent Person should clearly explain	FMRD002	MRD	694544.7	8593502.0
	why this is the case.	FMRD003	MRD	694526.0	8593457.5
		FMRD004	MRD	694487.9	8593423.9
		FMRD005	MRD	694357.7	8593470.2
		FRC001	RC	694433.8	8593517.0
		FRC002	RC	694473.5	8593443.2
		FRC003	RC	694509.7	8593468.7
		FRC004	RC	694407.8	8593497.4
		FRC102	RC	694378.2	8593520.0
		FRC103	RC	694433.2	8593541.6
		FRC104	RC	694466.7	8593568.0
		FRC105	RC	694341.7	8593486.9
		FRC106	RC	694571.4	8593603.2
		FRC107	RC	694511.4	8593608.3
		FRC108	RC	694425.2	8593549.5
		FRCD004	DDH	694518.4	8593466.7
		FRCD007	DDH	694369.3	8593528.3
		LBRC001	RC	694533.0	8593573.0
		LBRC002	RC	694499.0	8593566.0
		LBRC052	RC	694472.0	8593589.0
		LBRC053	RC	694570.0	8593630.0

Hole ID	Туре	Easting	Northing	RL	Azimuth	Dip	Total Depth
BEC050	RC	694395.0	8593474.0	14.1	90	-60	60
BEC051	RC	694415.0	8593474.0	11.1	90	-60	60
BEC052	RC	694452.0	8593497.0	10.2	90	-60	54
BEC053	RC	694432.1	8593496.6	13.5	90	-60	59
BEC054	RC	694480.0	8593528.0	10.6	90	-60	39
BEC055	RC	694495.0	8593526.0	10.7	90	-60	24
BEC056	RC	694460.0	8593528.0	12.7	90	-60	36
BEC057	RC	694472.0	8593496.0	11.1	90	-60	36
BEC058	RC	694435.0	8593473.0	10.4	90	-60	64
BEC059	RC	694500.6	8593554.8	13.2	90	-60	66
BEC060	RC	694482.0	8593555.0	14.2	90	-60	42
FMRD002	MRD	694544.7	8593502.0	12.9	313	-65	176.9
FMRD003	MRD	694526.0	8593457.5	12.7	313	-65	194.9
FMRD004	MRD	694487.9	8593423.9	12.8	321	-66	186
FMRD005	MRD	694357.7	8593470.2	15.9	133	-66	125.8
FRC001	RC	694433.8	8593517.0	15.6	125	-55	111
FRC002	RC	694473.5	8593443.2	13.6	303	-55	113
FRC003	RC	694509.7	8593468.7	13.0	305	-55	136
FRC004	RC	694407.8	8593497.4	16.2	125	-55	106
FRC102	RC	694378.2	8593520.0	17.0	132.84	-60.87	185
FRC103	RC	694433.2	8593541.6	15.9	133	-65	173
FRC104	RC	694466.7	8593568.0	15.6	133.65	-65.79	155
FRC105	RC	694341.7	8593486.9	17.0	133	-65	124
FRC106	RC	694571.4	8593603.2	13.5	182.89	-60.17	119
FRC107	RC	694511.4	8593608.3	14.8	140.04	-62.09	137
FRC108	RC	694425.2	8593549.5	16.3	131.25	-66.26	172
FRCD004	DDH	694518.4	8593466.7	12.9	305	-55	134.6
FRCD007	DDH	694369.3	8593528.3	17.2	134.79	-64.99	285
LBRC001	RC	694533.0	8593573.0	14.2	128	-80	78
LBRC002	RC	694499.0	8593566.0	14.5	128	-60	78
LBRC052	RC	694472.0	8593589.0	15.5	138	-67	175
LBRC053	RC	694570.0	8593630.0	13.6	305	-60	91
LBRC054	RC	694585.0	8593611.0	13.3	318	-60	73





Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. 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>Sample compositing reported here are calculated length weighted averages of the assays. Length weighted averages are acceptable method because the density of the rock (pegmatite) is constant.</li> <li>0.4% Li<sub>2</sub>O was used as lower cut off grades for compositing and reporting intersections with allowance for including up to 3m of consecutive drill material of below cut-off grade (internal dilution).</li> </ul>
Relationship between mineralisation widths and intercept lengths	<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> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	• The oblique nature of drillholes with respect to geology is discussed above. Because of the dip of the hole, drill intersections are apparent thicknesses and overall geological context is needed to estimate true thicknesses. Refer figures in report
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>	See figures in report.
Balanced reporting	• 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.	• Exploration results are discussed in the report and shown in figures.
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>	All meaningful and material data reported.

A 26 Gray Court, Adelaide SA 5000 | T (08) 7324 2987 | E info@coreexploration.com.au

www.coreexploration.com.au





Further work	•	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this	•	Core is continuing to assess BP33 in terms of expanding the resource and will soon embark on a drilling program to explore for extensions to the south, and infill to enable the resource to be partially upgraded to Indicated.
		information is not commercially sensitive.		

#### **Section 3 Estimation and Reporting of Mineral Resources**

(Criteria listed in the preceding sections 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>A data check of source assay data and survey data has been undertaken and compared to the database. No translation issues have been identified. The data was validated during the interpretation of the mineralisation, with no significant errors identified. Only RC and DDH holes have been included in the MRE.</li> <li>Data validation processes are in place and run upon import into Micromine to be used for the MRE. Checks included: missing intervals, overlapping intervals and any depth errors.</li> <li>A DEM topography to DGPS collar check has been completed.</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>Graeme McDonald (CP) undertook a site visit during November/December 2017. A review of the drilling, logging, sampling and QAQC procedures has been undertaken. All processes and procedures were in line with industry best practice.</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> </ul>	<ul> <li>The geological interpretation is considered robust due to the nature of the mineralisation. The mineralisation is hosted within the pegmatite. The locations of the hangingwall and footwall of the pegmatite intrusion are well understood with drilling which penetrates both contacts.</li> <li>Diamond drill core and reverse circulation drill holes have been used in the MRE. Lithology, structure, alteration and mineralisation data has been used</li> </ul>





	The factors affecting continuity both of grade and geology.	<ul> <li>to generate the mineralisation model. The primary assumption is that the mineralisation is hosted within structurally controlled pegmatite, which is considered robust. Additional surface exposure within the historic pit helps to constrain the pegmatite contacts. Older BEC series RC drill holes were used as part of the geological interpretation only as Li was not assayed.</li> <li>Due to the relatively close spaced nature of the drilling data and the geological continuity conveyed by this dataset, no alternative interpretations have been considered.</li> <li>The mineralisation interpretation is based on a lithium cut-off grade of 0.3% Li<sub>2</sub>O, hosted within the pegmatite.</li> <li>The pegmatite is considered to be continuous over the length of the deposit. It thins and pinches out to the north and south. The mineralisation terminates approximately 40 m from the northern extent of the modelled pegmatite. A non-mineralised wall rock phase of 1-2m thickness is often present. A single grade domain has been identified and estimated using a hard boundary.</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 lithium is hosted within a 170m long section of mineralised pegmatite which strikes NE and averages 20-30m in true width.</li> <li>The pegmatite is sub-vertical to steeply east dipping and has been intersected at a depth of approximately 240m below surface.</li> <li>Whilst continuous, the pegmatite body does appear to narrow to the north but remains open to the south. The pegmatite is deeply weathered to depths of approximately 50m below surface.</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> </ul>	<ul> <li>Grade estimation of lithium has been completed using Ordinary Kriging (OK) into mineralised and unmineralized pegmatite domains using Micromine software. Variography has been undertaken on the grade domain composite data. Variogram orientations are largely controlled by the strike and dip of the mineralisation.</li> <li>No previous estimates are available for comparative analysis. A check estimate using an alternative estimation technique (ID2) has also been undertaken.</li> <li>No assumptions have been made regarding recovery of any by-products.</li> </ul>

A 26 Gray Court, Adelaide SA 5000 | T (08) 7324 2987 | E info@coreexploration.com.au

www.coreexploration.com.au





- Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).
- In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.
- Any assumptions behind modelling of selective mining units.
- Any assumptions about correlation between variables.
- Description of how the geological interpretation was used to control the resource estimates.
- Discussion of basis for using or not using grade cutting or capping.
- The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.
- Fe is considered to be a deleterious element. However, it is known that Fe contamination exists in the assayed samples due to the use of steel drill rods, bits and steel milling equipment. By comparing RC and DD assays as well as data from blanks and check assays undertaken at an independent umpire laboratory using non-steel-based tungsten carbide mills, the level of contamination was shown to be both substantial and highly variable and difficult to correct. For this reason, Fe has not been estimated as it is known that the raw data is contaminated and will therefore result in an estimate that is misleading. No other deleterious elements have been considered and therefore estimated for this deposit.
- The data spacing varies considerably within the deposit ranging from surface drill holes at an approximate spacing of 25 m by 30 m, to deep exploration drill holes at spacings greater than 100 m by 30 m. A parent block size of 5 m (X) by 10 m (Y) by 10 m (Z) with a sub-block size of 1.25 m (X) by 2.5 m (Y) by 2.5 m (Z) has been used to define the mineralisation, with the lithium estimated at the parent block scale.
  - Pass 1 estimation has been undertaken using a minimum of 4 and a maximum of 20 samples into a search ellipse with a radius of 50m, with samples from a minimum of two drill holes.
  - Pass 2 estimation has been undertaken using a minimum of 4 and a maximum of 20 samples into a search ellipse with a radius of 100m, with samples from a minimum of two drill holes.
  - Pass 3 estimation has been undertaken using a minimum of 4 and a maximum of 20 samples into a search ellipse with a radius of 150m, with samples from a minimum of two drill holes.
  - Pass 4 estimation has been undertaken to populate any remaining blocks. All criteria remained the same as for pass 3 but with a minimum of one drill hole.
- No selective mining units are assumed in this estimate.





				Lithium only has been estimated within the lithium mineralised domain. No correlation between variables has been assumed. The mineralisation and geological wireframes have been used to flag the drill hole intercepts in the drill hole assay file. The flagged intercepts have then been used to create composites in Micromine. The composite length is 1 m in all data. The influence of extreme sample distribution outliers in the composited data has been determined using a combination of histograms and log probability plots. It was decided that no top-cuts need to be applied. Model validation has been carried out, including visual comparison between composites and estimated blocks; check for negative or absent grades; statistical comparison against the input drill hole data and graphical plots.
Moisture	•	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	•	The tonnes have been estimated on a dry basis.
Cut-off parameters	•	The basis of the adopted cut-off grade(s) or quality parameters applied.	•	For the reporting of the Mineral Resource Estimate, a 0.75 $\rm Li_2O\%$ cut-off has been used after consultation with Core Exploration.
Mining factors or assumptions	•	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.	•	It has been assumed that the traditional open cut mining method of drill, blast, load and haul will be used. No other assumptions have been made.
Metallurgical factors or assumptions	•	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 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	•	No metallurgical recoveries have been applied since the material is expected to be shipped as DSO or a simple concentrate if mined.





	reported with an explanation of the basis of the metallurgical assumptions made.	
Environmental factors or assumptions	<ul> <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. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul> <li>No environmental assumptions have been made during the MRE.</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>	• Water immersion and pychnometer density determinations have been undertaken by NAL on samples from 6 diamond core drill holes spread across the BP33 deposit. Analysis of this data was used in the determination of the fresh pegmatite density for assignment in the Mineral Resource estimate. A bulk density value of 2.74 g/cm <sup>3</sup> has been applied to the fresh pegmatite and has been coded into the model. This value is considered to be conservative and lower than a theoretical value based on the pegmatite mineralogy.
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 (i.e. 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 resource classification has been applied to the MR estimate based on the drilling data spacing, grade and geological continuity, and data integrity.</li> <li>The classification takes into account the relative contributions of geological and data quality and confidence, as well as grade confidence and continuity.</li> <li>The classification reflects the view of the Competent Person.</li> </ul>
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• This Mineral Resource estimate has not been audited by an external party.





Discussion of relative accuracy/confi dence	<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,</li> </ul>	<ul> <li>The relative accuracy of the Mineral Resource estimate 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 tonnes and grade.</li> <li>No production records have been supplied as part of the scope of works, so no comparison or reconciliation has been made. Historically, only a small amount of tin/tantalum has been produced from weathered pegmatite from shallow pits by Greenbushes in the 1980's. This is well above the top</li> </ul>
	<ul> <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>	from shallow pits by Greenbushes in the 1980's. This is well above the top of fresh rock reported in the current resource estimate.