



**ASX ANNOUNCEMENT** 

ASX: CXO

8<sup>th</sup> May 2018

# Grants Lithium Resource Upgrade Marks Major Step Toward Feasibility

# HIGHLIGHTS

- Core's Grants Lithium Resource upgraded Indicated Resource has more than doubled in size at same high-grade 1.5% Li<sub>2</sub>O
- More than half of the Grants Lithium Resource is now Indicated Resource
- Increases confidence in Resource ahead of finalisation of the Pre-Feasibility Studies for mining and production of high grade lithium concentrate, commencing at Grants in 2019
- Grants Lithium Resource is one of the highest grade undeveloped lithium deposits in Australia
- Significant potential to grow Finniss Project Resources as Grants is only one of many lithium rich pegmatites identified within Core's large 400km<sup>2</sup> of tenure at Finniss
- Strong newsflow ahead:
  - Maiden Resource estimate for BP33 expected later this month
  - PFS for development of Grants deposit expected next month
  - Upcoming aggressive drilling campaigns targeting substantial resource growth at Finniss in 2018 to commence shortly
  - Ongoing discussions with additional potential offtake customers



Core Exploration Ltd (ASX: CXO) ("**Core**" or the "**Company**") is pleased to announce a Resource upgrade for its Grants Lithium Deposit at the Finniss Lithium Project in the Northern Territory which has more than doubled the size of the Indicated Resource and substantially increased the Resource confidence ahead of Feasibility studies to be completed in 2018.

The Grants Lithium Resource defined comprises **2.0Mt at 1.5% Li<sub>2</sub>O** (Table 1) and is one of the highest grade spodumene resources in Australia. Over half of the Grants Lithium Resource is now contained in the Indicated category.

Core is in the final stages of completing a Pre-Feasibility Study ("**PFS**") for the development of a spodumene concentrate and direct shipping ore operation from the Grants Lithium Deposit and expects to deliver the PFS later this quarter. The Finniss Lithium Project has substantial infrastructure advantages; 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.

Core is working with the NT EPA to finalise the terms of reference for an Environmental Impact Assessment (EIA), following which, the Company will prepare and submit a Mining Management Plan (MMP) for the development of the Grants project. Based on the prescribed timeframes for assessment by the NT EPA, Core expects the environmental assessment process to take up to 12 months for the Grants project.

Core also expects to complete a full feasibility for the development of spodumene concentrate production from Grants and potentially other future resources within the Finniss Project, such as that at BP33, in 2018 and is planning to complete regulatory approvals and commence production in 2019. A Maiden Resource estimate for BP33 is expected this month.

Core will also be re-commencing an aggressive exploration drilling campaign soon with the aim of substantially growing the resource base for the Finniss Lithium Project to underpin a long-life lithium mining and production business.

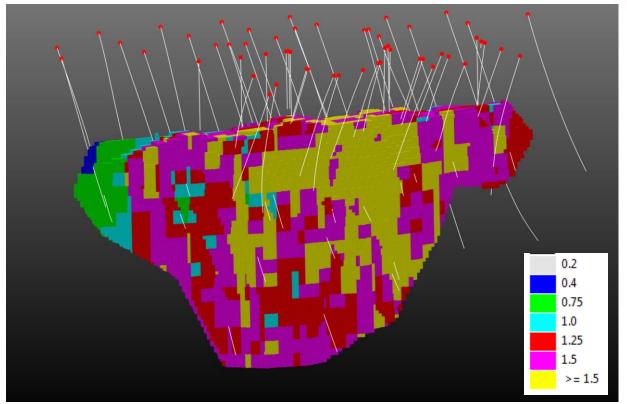
# **Grants Lithium Resource**

Γ	Mineral Resource Estimate - Grants Deposit		
Resource Category	Tonnes	Li <sub>2</sub> O %	Contained Li <sub>2</sub> O (t)
Indicated	1,130,000	1.5	17,000
Inferred	900,000	1.4	13,000
Total	2,030,000	1.5	30,000

The results of the Mineral Resource Estimate are provided in Table 1 and Figure 1. The Mineral Resources are reported at a high cut-off of 0.75% Li<sub>2</sub>O.

Table 1. Mineral Resource Estimate for Grants Lithium Deposit (0.75% Li<sub>2</sub>O Cut-off)





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

Dr Graeme McDonald (BSc PhD MAusIMM) was contracted by Core to undertake the Mineral Resource Estimate for the Grants Lithium Deposit. As part of the preparation of the 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.

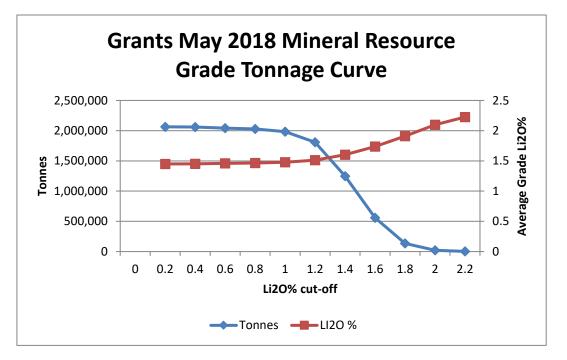


Figure 2 – Example of spodumene rich pegmatite drill core from Grants



Dr McDonald's report notes that fresh pegmatite at Grants 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 (Figure 2) 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. Overall the lithium content throughout the pegmatite is remarkably consistent.

Grants has a flat Grade-Tonnage curve at the 1.5% 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.



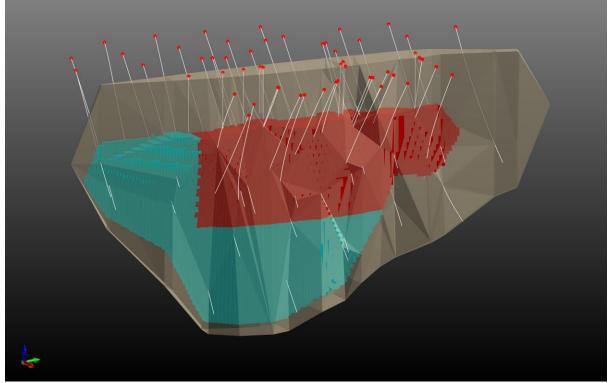
*Figure 3* – *Grade tonnage (GT) curve for the Grants Mineral Resource estimate.* 

# Summary of Resource Estimate and Reporting Criteria

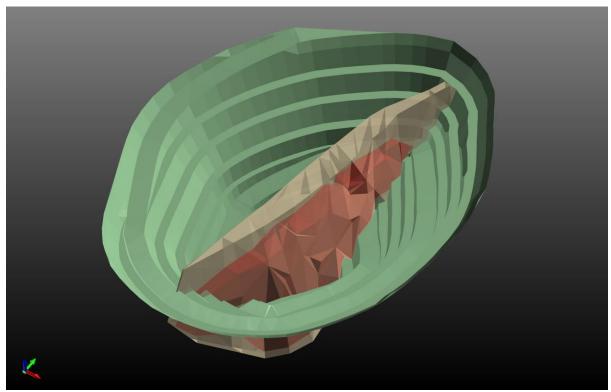
# Geology and geological interpretation

The Grants 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 a currently known distance of 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.





*Figure 4.* Indicated (red) and Inferred (blue) Resource classification at Grants, Finniss Lithium Project.



*Figure 5.* Grants Pegmatite (light brown) and Resource (dark brown) and potential Pit Shell (from May 2017 Mineral Resource Estimate), Finniss Lithium Project.



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 Grants 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. Overall the lithium content throughout the pegmatite is remarkably consistent.

#### Drilling techniques and hole spacing

The Grants drill hole database used for the MRE contains a total of 54 holes for 6,668 of drilling. Comprising 36 RC holes, 14 DD holes and 4 AC holes.

The majority of holes have been drilled at angles of between 55 - 60° either due east or west, with a small proportion drilled vertically. The 4 vertical AC holes were only used to assist with the interpretation of the geology and depth of the weathering profile. Although they were assayed, these assays were not used as part of the MRE due to the higher risk of cross contamination issues associated with the AC drilling technique. With the exception of FRC044, FRC109 and FRC118 which failed to reach the target depth due to drilling difficulties, 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.

All samples were sent to NAL in Pine Creek for analysis.





#### 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 100µm.

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, all samples were also analysed via the 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. 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 Grants Deposit has been reported at a cut-off grade of 0.75% Li<sub>2</sub>O which based on current modelling 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. The composites were analysed and no top-cuts applied.

Grade continuity analysis was undertaken in Micromine software for  $Li_2O$  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 and weathering state.

#### **Classification criteria**

The resource classification has been applied to the Mineral Resource Estimate based on the drilling data spacing, grade and geological continuity, and data integrity. Portions of the model that have drill spacing of better than 25m by 30m, and where the confidence in the estimation is considered high have been classified as **Indicated Mineral Resources**. Areas that have drill spacing of greater





than 25m by 30m, and/or with lower levels of confidence in the estimation or potential impact of modifying factors have been classified as **Inferred Mineral Resources.** 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. In undertaking an optimisation using the previous Mineral Resource Estimate a number of assumptions were made that are still considered valid. Including:

- Mining Recovery 95%
- Mining Dilution 5%
- Mining Cost/tonne AUD\$3.95
- Processing Cost/tonne AUD\$34.61
- $\circ$  Price AUD\$100/%Li<sub>2</sub>O

No metallurgical recoveries have been applied to the Mineral Resource Estimate. Metallurgical test work is currently underway on drill core collected by Core to determine the metallurgical amenability of the mineralization to on-site beneficiation.

#### **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.



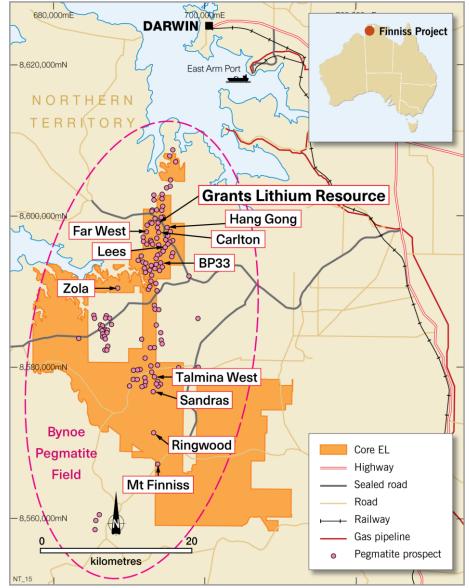


Figure 6. Grants Resource within Core's 100%-owned Finniss Lithium Project

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### **Competent Persons Statements**

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.

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.

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.

The report includes results that have previously recently been released under JORC 2012 by Core as listed in the table below. The Company is not aware of any new information that materially affects the information included in this announcement.

6/04/2018	High-Grade Lithium Assays to Upgrade Resource Confidence
8/03/2018	Multiple High-grade Lithium Intersections at Grants
1/02/2018	Drilling Commenced to Upgrade Grants Lithium Resource
23/01/2018	Core Re-Commences Lithium Resource Drilling at BP33
8/05/2017	Core Defines First Lithium Resource in the NT





# 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 Grants Deposit on EL29698. Assays data was derived from 45 holes for 6145m. A further 9 holes for 523m were used for exclusively for geological data. These comprise 36 RC holes, 14 DDH holes and 4 AC 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 two drilling campaigns at Grants, divided by 12 months where activity was focussed elsewhere or restricted by the tropical wet season:</li></ul>





All other RC holes used a 5 inch hammer bit and 4 inch rods.

- RC drillholes FRC075 to FRC076 (2 holes for 258m) were drilled in December 2016 by Bullion Drilling using Schram 450 rig. These were designed to test shallow extensions of the pegmatite to the north and south.
- Aircore drillholes FAC001 to FAC004 (4 holes for 203m) were drilled in December 2016 by Wallis Drilling using Mantis rig. These vertical holes were drilled to define the fresh-weathered contact. Assay data was not used in this resource estimate.
- DDH drillholes (with RC precollar) FRCD005 to FRCD006 (2 holes for 524m HQ) were drilled in January 2017 by WDA Drilling using Alton rig. They were designed to test down-dip extensions of the pegmatite and were used in the maiden resource.
- DDH drillholes FDD001 to FDD003 and (mud rotary precollar) FMRD001 (4 holes 216m PQ) were drilled in January 2017 by WDA Drilling using Alton rig. These vertical holes were drilled to provide large diameter PQ core for customer bulk samples of fresh pegmatite, geotechnical data and metallurgical testwork of the saprolite. The core had remained largely unsampled until February 2018, at which point it was sampled to help define the fresh-weathered contact and augment the infill of the resource shell.
- RC drillholes FRC109 to FRC124 (16 holes for 1793m) were drilled in the period January-February 2018 by WDA Drilling using UDR1000 rig. The sole purpose was infilling the 2017 resource shell.
- DDH drillholes (with RC or mud rotary precollar) FRCD009 to FRCD012 and FMRD006 (5 holes for 717 m) were drilled in February-March 2018 by WDA Drilling using DE811 and Alton rigs. The purpose was to provide metallurgical core for the second round of testwork, and to augment the 2017 resource.

#### Sampling methods

- Core's 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





		<ul> <li>sample.</li> <li>20-40 kg primary sample is collected in 600x900mm green bags and retained until assays have been returned and deemed reliable for reporting purposes.</li> <li>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.</li> <li>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.</li> <li>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 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. Half core from most of the holes was provided to Nagrom laboratory in Perth for metallurgical testwork. The remaining 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 reported herein comprises:         <ul> <li>DE811 rig (RC): Standard Reverse Circulation (RC) 4 and ¼ 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.</li> <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 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.</li> </ul> </li></ul>





		<ul> <li>Evolution rig: Standard Reverse Circulation (RC) 5 and ¼ inch face sampling hammer (5.5-inch diameter bit). The rig used is a multipurpose wheel mounted Evolution FH3000 rig and running 1150 CFM 350 psi compressor and 1800 CFM booster/auxiliary combo, with trailer-mounted cyclone operated by Grid Drilling, Qld.</li> <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 T450WS rig and running a 900 CFM 350 psi compressor/booster combo. The rig is operated by Bullion Drilling, SA.</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>DE811 rig (DDH): Standard truck-mounted Sandvik DE811 multipurpose rig using HQ 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>Mantis rig: track-mounted Mantis 75 aircore rig within onboard 160 CFM 150 psi compressor. This rig is operated by Wallis Drilling, WA.</li> <li>Oriented core was obtained for DDHs drilled in 2018 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>2016-2017 Drilling program</li> <li>Once the RC drilling at Grants was advanced enough in 2016 to suggest resource definition would be carried out (FRC031 onwards), the geologist noted and documented the recovery (0-100%) and sample quality (Wet, Moist, Dry) for each metre, according to a SoP. Prior to this, poor recovery and potential contamination were only documented when it was apparent by inspection of the sample bags. This procedure was sufficient to recognise a contamination issue in FRC017 and FRC018 (see below). Apart from that, 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</li> </ul>





long periods of airlifting water at the start of a rod.

- Contamination was monitored regularly. If evidence of contamination was noted in the calico sub-sample, the procedure was to visually compare to the green RC bag. This contamination would normally take the form of a brown dis-colouration (due to barren phyllite host rock) to what is normally bright white pulverized pegmatite. This contamination was noted in two of the early exploration-stage holes drilled at Grants, FRC017 and FRC018. Brown ferruginous-micaceous discolouration in the calico bags alerted the site geologist of an issue. The issue stemmed from leaking compressor seals and an inadequate drill pressure, which allowed infiltration of host phyllite into the splitter. This issue could not be resolved until the rig left the site. The green bags appeared to be free of this discolouration and therefore were not subject to contamination. As a result, the primary sampling of these holes took place by spearing the green bags. Intense QA-QC was initiated to ensure this was the correct course of action.
- No other drilling related contamination issues were encountered in the 2016-2017 program.
- 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.
- 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.
- No material bias has been recognised.
- DDH recovery was close to 100% and was reconciled by the weights dispatched to Nagrom for metallurgical testwork for the metres drilled.
   2018 Drilling program





- 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.
- RC sample recoveries were visually estimated in the field and recorded by Core geologists for each metre drilled. RC recoveries are monitored qualitatively as the hole progresses, the principle aim being to identify bags that have significantly less spoil than expected for the metre.
- 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.
- Core Exploration has weighed most of the primary "green" RC sample bags from 2016 and 2018 drilling programs. 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:
  - 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.
  - There was no relationship identified between recovery and grade.
  - Wet and moist samples readily reflect the grade of the drilled interval, as much as the dry sample.
- 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.
- 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.
- No material bias has been recognised.





Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Standard sample logging procedures are utilised by Core, 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 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>Geotechnical logging has been carried out on oriented DDH drillholes that CXO have drilled subsequent to the resource drilling. Remaining holes from 2018 DDH program are also oriented and can be 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> </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</li> </ul>





Whether sample sizes are appropriate to the grain size of the material being sampled.	<ul> <li>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. During the 2016-2017 program at Grants, 52 duplicates were collected out of the 821 original RC samples, equating to roughly 1 in 20. 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.</li> <li>A series of duplicates were also selected to test on a "like for like" basis. A Spear sample was used for the Original and the Duplicate, to test for heterogeneity in the RC bag. Data show a remarkably good correlation.</li> <li>During the 2018 drilling program a total of 47 duplicates were collected. At the Grants deposit they were collected at a rate of roughly 1 in 20. Samples were collected in the same way as in previous seasons. The duplicates cover a wide range of Lithium values up to 12,000 ppm.</li> <li>Results of duplicate analysis show an acceptable degree of correlation given the heterogeneity</li> <li>Given the pegmatite minerals, including the 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 reflec</li></ul>

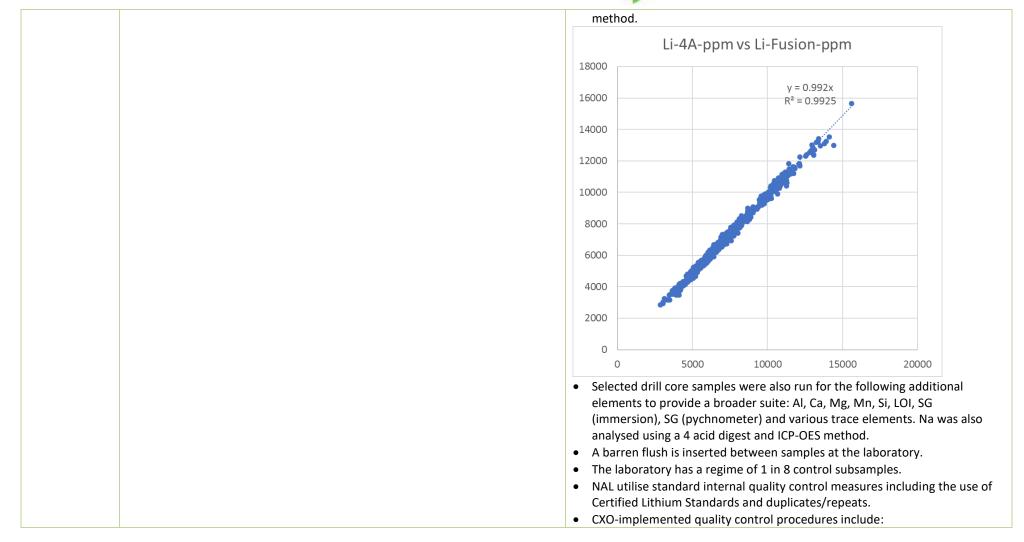




		<ul> <li>consistent trend. This is because RC samples a larger volume of material for each metre and flattens out the fluctuations. Further discussion of twins can be found in section below.</li> <li>Quarter core is cut as described above, bagged and sent to the laboratory for analysis. As discussed, the heterogeneity of pegmatite core material means it is not suitable for "second-half" or "second-quarter" duplicate analysis.</li> <li>Sample preparation</li> <li>Sample preport at North Australian Laboratories ("NAL"), Pine Creek, NT.</li> <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 2016-2017 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 2016-2017 assays (see discussion below).</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <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>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 2016-2017 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 2018 a 3000 ppm Li trigger was set to process that sample via a fusion</li> </ul>











- 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.

#### QAQC of 2016-2017 data

- One in 20 certified Lithium reference standards were used for Grants drilling program. Core uses two standards of roughly 1700 ppm and 7000 ppm Li ppm, covering the range of expected Li values in the mineralized pegmatite.
- Early in the program, there was a noted variability of the assayed standards from the expected range, both higher and lower. However, this improved for the bulk of the program and standards reported back with an excellent correlation, especially for the higher concentration standard. 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 30 routine blanks pulverised and assayed at NAL indicate that the Li content averages 85 ppm (0.02% Li2O) and the highest is 196 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 Fe2O3 content of Blanks is ~0.01%, whereas the average runof-sample value of 3.68%. This is indicative of substantial 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.
- One in 20 field duplicates are used for Grants RC drilling, as discussed above.
- Duplicates were not collected for the DDH core drilling, as discussed above. The Laboratory indicated that physical wear on milling equipment was high and that contamination with Fe and the steel hardening





		<ul> <li>components, such as Mn, would predictably be high.</li> <li>QAQC of 2018 data</li> <li>During the late 2017 to early 2018 drilling program at the broader Finniss Project, a total of 88 field standards were inserted alongside routine RC and DD samples. At the Grants deposit they were inserted at a rate of roughly 1 in 20. Four different standards with certified Li values of 1,682 ppm, 2,270 ppm, 7016 ppm and 10,300 ppm were used covering the range of expected Li values in the mineralized pegmatite. Overall, the performance of the field standards was excellent with no bias evident.</li> <li>A total of 64 quartz blanks were inserted into the sample stream at a rate of 1 in 20 throughout the Grants drilling. The Li content averaged 38 ppm (0.01% Li<sub>2</sub>O) and is considered to be very acceptable.</li> <li>The baseline Fe<sub>2</sub>O<sub>3</sub> content of the blanks is &lt;0.1%, whereas the average run-of-sample value of 0.62% is indicative of Iron being stripped from the steel pulverising equipment at the NAL laboratory. However, this is much lower than seen in previous years.</li> <li>Duplicates have been discussed above.</li> </ul>
		<ul> <li>Umpire checks</li> <li>External laboratory checks took place at the end of the 2016-2017 RC/DDH</li> </ul>
		<ul> <li>External aboratory checks took place at the end of the 2010-2017 RC/DDH program and results indicate a high degree of correlation (NAL vs Nagrom; refer to next section). A round of checks will be completed for the 2018 program in due course.</li> </ul>
Verification of sampling and	• The verification of significant intersections by either independent or alternative company personnel.	<ul> <li>Core's experienced project geologists are supervised by Core's Exploration Manager.</li> </ul>
assaying	The use of twinned holes.	All field data is entered into excel spreadsheets (supported by look-up
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	tables) at site and subsequently validated as it is imported into the centralized CXO Access database.
	<ul> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Hard copies of survey and sampling data are stored in the local office and</li> </ul>
		electronic data is stored on the Core server.
		Metallic Lithium percent was multiplied by a conversion factor of
		2.15283/10000 to report Li ppm as Li2O% 2016-2017 Program verification

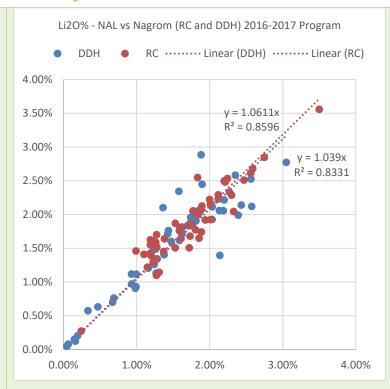




- Three diamond core holes were drilled as twins to RC holes and used to check the difference between RC and DDH assays across a similar part of the mineralized pegmatite. The data indicate variability on a metre-by-metre basis, related to the heterogeneity of the pegmatite, but overall the +30m intercepts are proportionate.
- One in twenty external laboratory checks ("umpire checks") were submitted to an independent laboratory (Nagrom in Perth) for final verification of results. The material used is the residue of coarse primary crushed archive material from original RC samples provided to NAL. This serves to check laboratory Li assay repeatability and to investigate the Fe contamination caused by milling equipment at NAL.
- A further sample set of ¼ core was processed at Nagrom to compare with NAL drill core data ("umpire checks"). 20 of these samples were in-tact quarter core cut from HQ drillcore from Grants, while the remaining 31 were coarse rejects of quarter core that were crushed at NAL.
- The in-tact core was first prepared via primary crushing.
- All samples then underwent pulverising in a tungsten carbide mill to minimise or eliminate Fe contamination. NAL and Nagrom both used Fusion ICP-OES/MS for Li.
- From this "umpire" exercise, the Lithium check values correlate well with the original NAL values, but are by average 3-6% higher at Nagrom (see chart below). It could be argued that they are under-reported at NAL, where Li is diluted by the introduction of Fe from the mill.







#### 2018 Program verification

- As part of the 2018 drilling, Core attempted to twin 5 RC holes with HQ DDH holes. The downhole plots demonstrate slight thickness variations of the pegmatite but in general the RC and DDH holes display similar trends of higher and lower Li<sub>2</sub>O values downhole despite the significant separation in some cases. The majority of hole pairs demonstrate higher Li<sub>2</sub>O values on average in the DDH holes, suggesting a slight bias.
- Based on QAQC assessments of RC and DDH assays as well as data from





		<ul> <li>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. 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 2016-2017 drilling. Changes in equipment at the laboratory prior to the 2018 drilling campaign has seen a reduction in the contamination levels to around 1% 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 Grants 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 the Grants 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>All are GDA94 Zone 52.</li> <li>In 2016-2017 program, roughly half of the Grants RC and DDH holes were surveyed by isGyro down hole tool and the collar is oriented using the Azi Aligner tool, both from Downhole Surveys, Perth. A QA-QC procedure is applied to the azimuth data. Spurious data are excluded. The remaining holes were surveyed by downhole camera tool and the collar is oriented using the Azi Aligner tool.</li> <li>In 2018 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>





		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.
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 Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Drill collars are spaced approximately 25m apart along the north trending pegmatite body of Grants.</li> <li>This data will be used to support a resource.</li> <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> <li>Core has also drilled a number of vertical or sub-vertical drillholes that are essentially drilling down-dip and hence were only completed to 10-15 m beyond the weathered-fresh contact, which is what they were designed to resolve:         <ul> <li>PQ diameter DDH drillholes FDD001, FDD002, FDD003 and FMRD001</li> <li>RC holes FRC117, FRC118 and FRC119</li> <li>Aircore holes FAC001 to FAC004</li> </ul> </li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Company geologist supervises all sampling and subsequent storage in field and transport to point of dispatch to assay laboratories.</li> </ul>
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 2016-2017 drilling



program 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**

CORE

(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 Core at Grants Prospect on what is EL29698 that is 100% owned by Core.</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 tenement is 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 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> </ul>





		In the early 4000s the Duran Demostly field we went in the little
		<ul> <li>In the early 1980s the Bynoe Pegmatite field was reactivated during a 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 Information	<ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	Hole_ID	East_MG A94_z52	North	RL_ m	Az_T N	Dip_ Deg	Total _Dep th	Comments and significant intercept
		FAC001	693058.2	8599150.4	19.1	0	-90	52	Assays not used
		FAC002	693052.4	8599079.2	21.2	0	-90	49	Assays not used
		FAC003	693018.4	8598940.2	21.8	0	-90	51	Assays not used
		FAC004	693028.5	8598990.7	22.4	0	-90	51	Assays not used
		FDD001	693031.5	8599008.1	22.6	0	-90	42.3	Not sampled
		FDD002	693025.2	8598971.4	21.9	0	-90	65.6	6.3m @ 1.29% Li2O from 50.7m
		FDD003	693030.3	8599006.7	22.6	0	-90	42.6	Not sampled
		FMRD001	693033.4	8599008.2	22.5	0	-90	65.9	5m @ 1.29% Li2O from 47m
		FMRD006	693125.8	8599072.8	19.4	268	-57	155.8	13m @ 2.19% Li2O from 103m & 26m @ 1.56% Li2O from 122m
		FRC005	693024.0	8599088.7	21.9	90	-55	66	No Significant Intercepts
		FRC006	693000.3	8599090.5	22.2	92.5	-54.7	131	49m @ 1.78% Li2O from 71m
		FRC007	692991.7	8598995.7	22.5	90	-55	76	14m @ 1.22% Li2O from 62m
		FRC008	693014.1	8599169.2	19.9	89.4	-54.7	118	20m @ 1.19% Li2O from 84m
		FRC017	693100.3	8599077.3	20.3	277.2	-54.1	112	32m @ 1.59% Li2O from 67m
		FRC018	693084.2	8598991.5	21.0	278.4	-54.8	112	40m @ 1.66% Li2O from 58m
		FRC031	692986.5	8599024.5	22.5	85.6	-55.5	146	59m @ 1.45% Li2O from 79m
		FRC032	693005.9	8599125.1	21.3	90.7	-54.8	120	38m @ 1.49% Li2O from 70m
		FRC033	692981.5	8598976.8	22.4	89.5	-55.2	138	55m @ 1.42% Li2O from 66m
		FRC034	692970.5	8598922.9	22.3	90.1	-55.1	114	34m @ 1.45% Li2O from 68m
		FRC035	692935.1	8598924.0	22.9	90.6	-54.5	154	12m @ 1.18% Li2O from 128m
		FRC036	692944.7	8598976.1	22.8	92.1	-55.4	196	43m @ 1.46% Li2O from 133m
		FRC037	692951.5	8599022.7	22.7	88.7	-55.1	190	42m @ 1.61% Li20 from 130m
		FRC038	692964.2	8599072.2	22.4	90.7	-55.2	202	53m @ 1.6% Li2O from 136m No Significant Intercepts
		FRC039	692971.0	8599126.7	21.8	89.2	-55	186	No Significant Intercepts
		FRC040	692977.9	8599173.1	20.8	90.5	-55.5	202	23m @ 1.51% Li2O from 188m
		FRC041	692929.7	8599070.4	22.2	86.9	-55	226	Did not reach target
		FRC044	692898.7	8598928.0	23.2	89.5	-60	127	Did not reach target





		FRC075	693009.6	8599222.7	18.6	92	-60	138	No Significant Intercepts
		FRC076	692950.9	8598865.2	21.6	90	-60	120	1m @ 0.49% Li2O from 85m
		FRC109	693135.0	8598929.4	18.8	270	-60	103	Did not reach target
		FRC110	693080.0	8598949.1	20.4	272	-58	149	40m @ 1.36% Li2O from 67m
		FRC111	693112.2	8598949.2	19.5	279.2	-59	185	41m @ 1.42% Li2O from 130m
		FRC112	693095.6	8599046.6	20.8	275	-59	128	43m @ 1.44% Li2O from 68m
		FRC113	693128.6	8599098.3	18.8	269	-56	159	29m @ 1.4% Li2O from 98m
		FRC114	693093.8	8599099.6	19.8	270	-55	89	25m @ 1.25% Li2O from 64m
		FRC115	693103.8	8599099.2	19.6	270	-56	125	37m @ 1.47% Li2O from 66m
		FRC116	693063.8	8599074.2	21.1	270	-85	40	4m @ 0.54% Li2O from 33m
		FRC117	693057.0	8599073.8	21.2	266	-86	53	5m @ 1.12% Li2O from 48m
		FRC118	693070.9	8599146.5	19.1	270	-80	5	Did not reach target
		FRC119	693075.5	8599146.8	18.9	268	-76	59	8m @ 1.08% Li2O from 51m
		FRC120	692921.1	8598879.4	22.5	88	-56	155	8m @ 0.57% Li2O from 116m
		FRC121	692966.5	8599052.5	22.6	90	-56	166	37m @ 1.57% Li2O from 114m
		FRC122	693125.0	8599146.7	17.9	269	-62	137	5m @ 1.4% Li20 from 107m
		FRC123	693099.7	8599146.2	18.6	270	-60	71	8m @ 1.32% Li2O from 63m
		FRC124	693113.8	8599000.6	20.2	271	-61	169	41m @ 1.59% Li2O from 115m
		FRCD001	693086.1	8598991.2	20.9	279	-55	103.7	42.15m @ 1.52% Li2O from 57.75m
		FRCD002	693102.5	8599078.5	20.3	274.2	-56	112.7	38m @ 1.58% Li2O from 70m
		FRCD003	692999.3	8599094.6	22.0	92.5	-56	124.6	47.8m @ 1.53% Li2O from 70.2m
		FRCD005	692916.9	8599020.7	22.6	88.33	-55	266.3	34.3m @ 1.35% Li2O from 200m
		FRCD006	692905.6	8598976.0	22.9	90.52	-63.5	257.5	16.5m @ 1.37% Li2O from 217.3m
		FRCD009	693097.6	8599043.7	20.7	270.6	-55.8	115.1	41.1m @ 1.77% Li2O from 71.3m
		FRCD010	693109.7	8599023.6	20.4	277.8	-54.8	139.1	36.75m @ 1.25% Li2O from 90.25m
		FRCD011	693112.8	8598997.2	20.2	269.7	-54.4	162	37.2m @ 1.71% Li2O from 103.7m
		FRCD012	692985.6	8598985.3	22.6	91.1	-54.8	144.8	53.24m @ 1.69% Li2O from 65.76m
Data	• In reporting Exploration Results, weighting averaging techniques, maximum	Samp	e compos	iting repor	ted h	ere are	calcula	ated le	ngth weighted averages
aggregation	and/or minimum grade truncations (e.g. cutting of high grades) and cut-off		-			-			able method because
methods	grades are usually Material and should be stated.	the de	ensity of th	ne rock (pe	egmati	ite) is co	onstan	t.	





	<ul> <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>0.4% Li<sub>2</sub>O was used as lower cut off grades for compositing 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>	<ul> <li>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</li> </ul>
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	• 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.	• All meaningful and material data reported.
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).	• Core is continuing to assess Grants as part of a Prefeasibility Study.

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 Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.
 Geotechnical logging of drill core is currently underway.

# **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 2018. 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> <li>The factors affecting continuity both of grade and geology.</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 to generate the mineralisation model. The primary assumption is that the mineralisation is hosted within structurally controlled pegmatite, which is considered robust. Air core drill holes were used as part of the geological</li> </ul>





		<ul> <li>interpretation only.</li> <li>Due to the 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 80 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 330m long section of mineralised pegmatite which strikes NNE and averages 25-30m in true width. T</li> <li>he pegmatite is sub-vertical to steeply east dipping and has been intersected at a depth of approximately 200m below surface.</li> <li>Whilst continuous, the pegmatite body does appear to narrow to the north. 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> <li>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> </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>Previous estimates are available for comparative analysis and have been used to inform the current Mineral Resource Estimate. 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> <li>Fe is considered to be a deleterious element. However, it is known that Fe contamination exists 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</li> </ul>





- 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.

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 50 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.
- 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





		<ul> <li>data has been determined using a combination of histograms and log probability plots. It was decided that no top-cuts need to be applied.</li> <li>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.</li> </ul>
Moisture	<ul> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	• 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 1.0 Li2O% 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.	<ul> <li>It has been assumed that the traditional open cut mining method of drill, blast, load and haul will be used. Based on the 2017 MRE a mining scoping study was completed. An open pit optimisation was run at the time in order to generate a pit shell wireframe for reporting purposes. The mining assumptions/parameters applied at that time were</li></ul>
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 reported with an explanation of the basis of the metallurgical assumptions made.	<ul> <li>No metallurgical recoveries have been applied since the material is expected to be shipped as DSO or a simple concentrate. Sighter metallurgical test work carried out in 2017 on Grants drill core showed it has excellent qualities that make it amenable to processing in standard ways. A second round of metallurgical test work is currently underway on drill core collected by Core to determine the metallurgical amenability of the mineralisation to on-site beneficiation.</li> </ul>





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>	• No environmental assumptions have been made during the MRE.
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 10 diamond core drill holes spread across the Grants 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 2.76 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 as it is lower than the SG used in the 2017 Resource Estimate 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	• Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure	• 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





accuracy/confi	deemed appropriate by the Competent Person. For example, the application	Code.
dence	<ul> <li>of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul> <li>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 of fresh rock reported in the current resource estimate.</li> </ul>