



# ASX ANNOUNCEMENT

ASX: CXO

7<sup>th</sup> December 2016

## High Grade Lithium Assays from Maiden Diamond Drilling Program at Finniss Confirm Thick Spodumene Intersections

### HIGHLIGHTS

- High grade lithium assays of drill core confirm that diamond drilling at the BP33 and Grants prospects within the Finniss Project have consistently hit thick intersections of high grade spodumene mineralisation
- Thick intersections of high grade spodumene mineralisation were made in all four diamond holes drilled, including:
  - 42m @ 1.53% Li<sub>2</sub>O from 58m (FRCD001) at Grants Prospect
  - 39m @ 1.55% Li<sub>2</sub>O from 69m (FRCD002) at Grants Prospect
  - 48m @ 1.53% Li<sub>2</sub>O from 70m (FRCD003) at Grants Prospect
    - Including 5m @ 2.53% Li<sub>2</sub>O
  - 34m @ 1.47% Li<sub>2</sub>O from 85m (FRCD004) at BP33 Prospect
- 2 RC drill rigs are currently drilling multiple targets at Finniss, with assay results expected through December and into early 2017

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Core Exploration Ltd (ASX: CXO) (“Core” or the “Company”) is pleased to announce that high grade lithium assays have now been received from its maiden diamond drilling program at the BP33 and Grants Prospects within the Finniss Lithium Project near Darwin in the NT (“Finniss”).

As previously announced, all diamond holes drilled hit thick intersections of excellent quality coarse grained spodumene that is potentially amenable to processing to produce commercial grade spodumene concentrate.

Assays have now been received for each of the diamond holes at the BP33 and Grants Prospects and are summarised in Table 1 below:



Drillhole	Prospect	E	N	Depth (m)		From (m)	To(m)	Interval (m)	Li2O(%)
FRCD001	Grants	693088.0	8598991.0	103.7		58.0	100.0	42.0	1.53
					including	89.0	95.0	5.0	2.00
FRCD002	Grants	693102.0	8599076.0	112.7		69.0	108.0	39.0	1.55
					including	88.0	94.0	10.0	2.00
FRCD003	Grants	693001.0	8599095.0	124.6		70.0	118.0	48.0	1.53
					including	106.0	116.0	10.0	2.03
					including	108.0	113.0	5.0	2.53
FRCD004	BP33	694515.0	8593558.0	134.6		85.0	119.0	34.0	1.47
					including	94.0	98.0	4.0	2.10
					and	127.0	129.0	2.0	1.60

Table 1. High grade assays of the four diamond drillholes Finniss Project NT. (0.4% Li<sub>2</sub>O lower cut-off, no upper cut-off and maximum internal waste of 2.0 metres).



Figure 1. High grade spodumene intersection grading 2.03% Li<sub>2</sub>O (106m-116m). Large green spodumene crystals hosted by lighter coloured (white) feldspar and quartz. 105.5m – 117.7m **FRDD003** (HQ) Grants Prospect, Finniss Lithium Project, NT.



## Spodumene Pegmatite Mineralisation

Core's high grade assays from diamond core confirm observations in drill core that high grade lithium (as spodumene) is consistently present as a major rock forming mineral throughout the fully-cored pegmatite drill intersections at Finniss (Figures 1-4 and Table 1).

Spodumene mineralisation is consistent throughout the Grants pegmatite, and has been intersected consistently over 40m-50m in all three fully cored diamond drillholes (Figures 1-4).

In all cored holes at Grants, the pegmatite has a simple zonation from wallrock inward: 1-2m thick quartz-mica rich margins and a 30-35m (true thickness) spodumene rich medial/central zone.

The spodumene is green at the Grants Prospect, in contrast to the spodumene at the BP33 Prospect in which it had both green and pink spodumene. The spodumene crystals are usually large with some greater than 10cm (Figures 1 & 2).

On preliminary inspection it appears that the pegmatite at BP33 and Grants comprises only a few simple minerals, in overall order of abundance: feldspar, spodumene, quartz and muscovite (less than 5%).



*Figure 2. Large green spodumene crystals hosted by lighter coloured (white) feldspar and quartz. 95.2m – 103.1m FRDD001 (HQ), BP33 Prospect, Finniss Lithium Project NT.*



### Next Steps

A bulk sample from Grants of 400kg of large diameter HQ core is now at Nagrom metallurgical facilities in Perth, W.A for metallurgical test work to determine potential to produce commercial grade spodumene concentrate. The first test results from this work are expected in early 2017.

Core currently has 2 RC rigs undertaking exploration drilling of a number of prospects on the Finnis Lithium Project.

The field season remains open at Finnis, so the current Phase 2 RC drilling program is expected to continue well into December and may open the opportunity to drill additional targets.

Assay results from this Phase 2 RC drilling are expected during December and in early 2017.

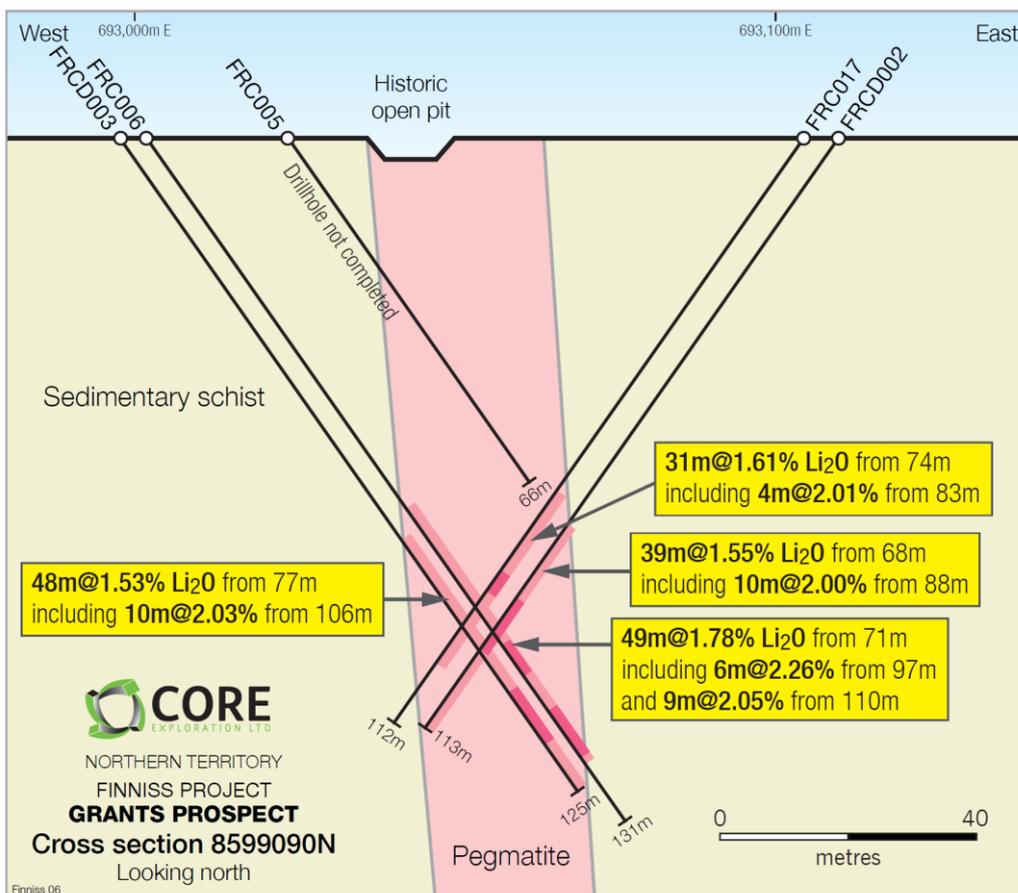


Figure 3. Cross-Section of Diamond and RC Drilling, Grants Prospect, Finnis Project NT.

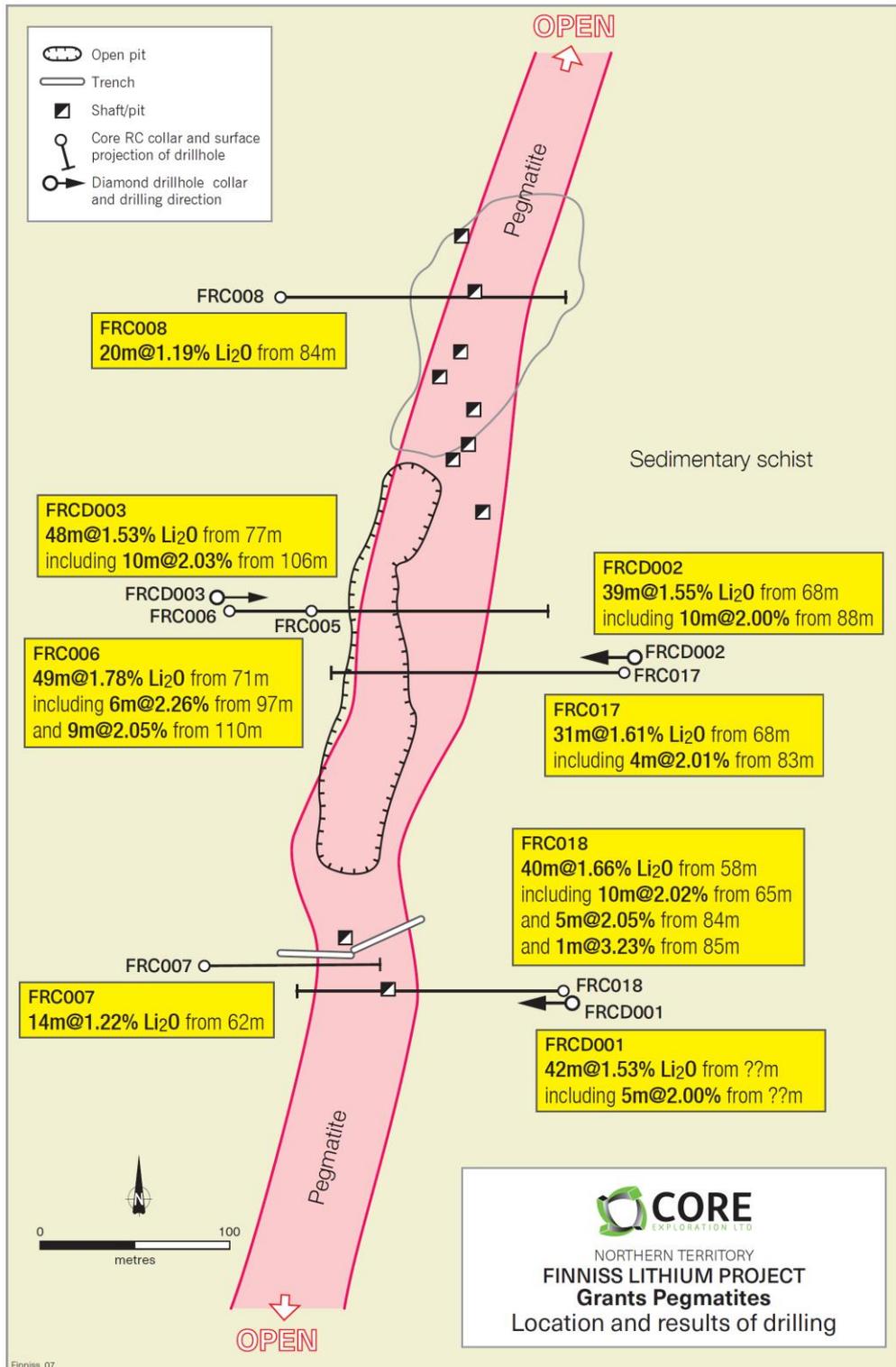


Figure 4. Grants Prospect Diamond and RC Drilling locations, Finnis Lithium Project, NT.





For further information please contact:

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*The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Stephen Biggins (BSc(Hons)Geol, MBA) as Managing Director of Core Exploration Ltd who is a member of the Australasian Institute of Mining and Metallurgy and is bound by and follows the Institute's codes and recommended practices. He has sufficient experience which is relevant to the styles of mineralisation and types of deposits under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Biggins consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. This report includes results that have previously been released under JORC 2012 by Core as "High Grade Spodumene Confirms Significant Lithium Discovery" (23/09/16), "Highest Grade Spodumene Intersections Ever Drilled in the NT" (3/10/16), "Further High Grade Lithium Intersections at Finniss" (20/10/16), "High Quality, Coarse Grain Spodumene Revealed in First Diamond Core Drilling at Finniss Lithium Project"(25/10/2016) and "Thick High Grade Spodumene in all Diamond Core Holes Drilled at Finniss Lithium Project" (24/11/2016).*



## 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
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg 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 (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>Sub surface HQ drill core has been collected at FRCD001-4 by diamond core drilling technique (see below).</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 1.2 metres.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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 style="list-style-type: none"> <li>Drilling technique used at Finniss in relation to this ASX release comprises conventional wireline HQ coring using a track mounted rig under contact with WDA Drilling (Kalgoorlie).</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>Sample recoveries are visually estimated and recorded for each metre. To date sample recoveries have averaged &gt;95%.</li> <li>Drilling contractor notes intervals of poor recovery and provides this information to the client.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	
<b>Logging</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <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>• Pegmatite sections are also checked under a single-beam UV light and LIBS portable analyser 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 method will be improved in the coming months via the implementation of whole-tray analysis by broad UV light source and spectral analysis. This will then be correlated to assay data when they are available.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <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 1.2 metres.</li> <li>• Standard and Quartz blanks were taken at 1 in 40 intervals and duplicates will be taken and split from the coarse rejects at 1 in 20.</li> </ul>
<b>Quality of assay data and laboratory</b>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>For geophysical tools, spectrometers, handheld XRF instruments, etc,</i></li> </ul>	<ul style="list-style-type: none"> <li>• The assay laboratories responsible for the assays were NAL Pty Ltd, Pine Creek, NT. 20 elements were assayed using sodium peroxide fusion and 4 acid digest with ICPMS / ICPOES finish.</li> <li>• LOI and S.G. measurements taken on all samples.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>tests</b>	<p><i>the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></p> <ul style="list-style-type: none"> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>Inter-lab checks at 1 in 20 for both pulps and coarse rejects have not been completed to date.</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>FRC001-004 are twin holes of existing twin holes and assays have been compared to each corresponding hole.</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole 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 style="list-style-type: none"> <li>All coordinate information was collected using hand held GPS utilizing GDA 94, Zone 52.</li> <li>Drillholes are to be surveyed by a down hole camera</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Varies from prospect to prospect – initial program comprised 1-4 holes into each prospect. This diamond core hole was sighted to twin an existing RC hole and assay data from that hole should reflect those that will be returned from this DDH. (refer ASX announcement 19/10/2016).</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Drilling is typically oriented perpendicular to the interpreted strike of mineralisation</li> <li>The drill intersection is oblique to the dip of the pegmatite to the order of approximately 70%</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Company geologist supervises all sampling and subsequent storage in field.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>None completed</li> </ul>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Drilling is being conducted on EL 29698 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>EL 29698 is in good standing with the NT DME Titles Division.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <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>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 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</li> </ul>



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		<p>1988.</p> <ul style="list-style-type: none"> <li>• They then tributed the project out to a company named Fieldcorp Pty Ltd who operated it between 1991 and 1995.</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> <li>• Core has recently completed a 4 holes RC drilling program at BP33</li> </ul>																																								
<b>Geology</b>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The tenements sampled cover the northern and southern portions of a swarm of complex zoned rare element pegmatite field, which comprises the 55km long by 10km wide West Arm – Mt Finness pegmatite belt (Bynoe Pegmatite Field; NTGS Report 16).</li> <li>• The Finness 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> </ul>																																								
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>• <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> </li> <li>• <i>If the exclusion of this information is justified on the basis that the</i></li> </ul>	<table border="1"> <thead> <tr> <th></th> <th></th> <th>GDA94 Grid Easting</th> <th>GDA94 Grid Northing</th> <th>RL (m)</th> <th>Azimuth (°)</th> <th>Dip (°)</th> <th>Depth (m)</th> </tr> </thead> <tbody> <tr> <td>FRCD004</td> <td>BP33</td> <td>694515.0</td> <td>8593558.0</td> <td>30.0</td> <td>308.0</td> <td>-56.0</td> <td>134.6</td> </tr> <tr> <td>FRCD003</td> <td>Grants</td> <td>693001.0</td> <td>8599095.0</td> <td>30.0</td> <td>92.5</td> <td>-56.0</td> <td>124.6</td> </tr> <tr> <td>FRCD002</td> <td>Grants</td> <td>693102.0</td> <td>8599076.0</td> <td>30.0</td> <td>274.2</td> <td>-56.0</td> <td>112.7</td> </tr> <tr> <td>FRCD001</td> <td>Grants</td> <td>693088.0</td> <td>8598991.0</td> <td>30.0</td> <td>279.0</td> <td>-55.0</td> <td>103.7</td> </tr> </tbody> </table> <p>• Refer text and figures in report</p>			GDA94 Grid Easting	GDA94 Grid Northing	RL (m)	Azimuth (°)	Dip (°)	Depth (m)	FRCD004	BP33	694515.0	8593558.0	30.0	308.0	-56.0	134.6	FRCD003	Grants	693001.0	8599095.0	30.0	92.5	-56.0	124.6	FRCD002	Grants	693102.0	8599076.0	30.0	274.2	-56.0	112.7	FRCD001	Grants	693088.0	8598991.0	30.0	279.0	-55.0	103.7
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	<p><i>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.</i></p>	
<p><b>Data aggregation methods</b></p>	<ul style="list-style-type: none"> <li><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li><i>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.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>Mean grades have been calculated on a 0.4% Li<sub>2</sub>O lower cut-off grade with no upper cut-off grade applied, and maximum internal waste of 2.0 metres.</li> </ul>
<p><b>Relationship between mineralisation widths and intercept lengths</b></p>	<ul style="list-style-type: none"> <li><i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>The true width is approximately 60- 70% of the reported intersection based on the early interpretation of these being steeply dipping pegmatites</li> </ul>
<p><b>Diagrams</b></p>	<ul style="list-style-type: none"> <li><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>Refer representative photos of pegmatite drill core and figures in report</li> </ul>
<p><b>Balanced reporting</b></p>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>All intersections have been reported and are considered representative. Refer table of drill hole collar..</li> </ul>
<p><b>Other substantive exploration data</b></p>	<ul style="list-style-type: none"> <li><i>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</i></li> </ul>	<ul style="list-style-type: none"> <li>See release details</li> <li>All meaningful and material data reported</li> </ul>



Criteria	JORC Code explanation	Commentary
	<i>deleterious or contaminating substances.</i>	
<b>Further work</b>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Assays of drillcore</li> <li>• Further RC and diamond drilling subject to results</li> <li>• Testwork on drill-core</li> </ul>