

ASX ANNOUNCEMENT

4<sup>th</sup> APRIL 2018

## Initial fieldwork confirms outstanding potential of Toolebuc Vanadium Project in Queensland

*Drilling planned to test projected extensions to vanadium deposits immediately adjacent to  
Liontown's tenements*

### Highlights

- Data review and initial fieldwork program indicates outstanding exploration potential at the Toolebuc Vanadium Project (previously named the RJC Project) in north-west Queensland.
- Project tenure adjoins Intermin Resources' (ASX:IRC) Rothbury and Lilyvale vanadium deposits, which host JORC (2012) Inferred resources of 1.76Bt @ 0.31% V<sub>2</sub>O<sub>5</sub> and 0.67Bt @ 0.35% V<sub>2</sub>O<sub>5</sub> respectively (see IRC release dated 20<sup>th</sup> March 2018).
- Initial work indicates a similar style of mineralisation occurs within Liontown's tenure and that Intermin's resources extend eastward onto the Toolebuc Project area.
- Liontown's tenure covers large areas of outcropping Toolebuc Formation, the host to vanadium mineralisation in the region.
- Drilling program planned to test for extensions to the Rothbury and Lilyvale deposits within Liontown's tenements, and identify new targets within the Toolebuc Formation.
- The Toolebuc Vanadium Project is wholly owned by Liontown and located close to existing infrastructure including a gas pipeline, a major highway and railway linked to Townsville Port.

Liontown Resources Limited (**ASX: LTR**) is pleased to advise that initial work comprising a review of historical data, rock chip sampling and preliminary metallurgical test work has confirmed the potential of the Toolebuc Vanadium Project (formerly RJC Vanadium Project) to host significant vanadium mineralisation.

The Project is located approximately 400km east of Townsville in north-west Queensland and comprises five granted Exploration Permits (EPMs) covering a total area of ~1,000km<sup>2</sup> (**Figure 1**). Exploration in the region by other parties has previously defined extensive vanadium mineralisation and Liontown considers the potential for further discoveries to be high.

Rock chip sampling undertaken late last year returned assays up to 0.36% V<sub>2</sub>O<sub>5</sub> (**Figure 1/Appendix 1**) from strongly oxidised material, and a 20kg sample was submitted to ANSTO Minerals in Sydney for preliminary metallurgical test work.

Preliminary results from the test work indicate that:

- The mineralised material is oxidised, soft, friable and probably free-digging;
- The vanadium is largely contained within the finer fraction (<38um) meaning it may be suitable for pre-concentration; and

- The mineralisation is amenable to acid leaching.

These results indicate that the vanadium mineralisation on Liontown's tenure is similar to the upper mineralised zone within Intermin Resources' (ASX: IRC) Lilyvale Project Resource, located adjacent to the Toolebuc Vanadium Project, which will be the focus of initial development work by Intermin and its JV partner (IRC release 20<sup>th</sup> March 2018).

A review of historic reports (ASX:IRC release dated 12<sup>th</sup> March 2010) indicates that the Lilyvale Resource extends on to Liontown's project tenure where previous resource drilling was completed over a 5km x 3.5km area (**Figure 2**).

Liontown plans to complete a new drilling program across the possible extension of the Lilyvale Resource to confirm the extent of vanadium mineralisation. This drilling will comprise 30m-deep aircore holes on a 1 x 0.5km pattern, with the aim of rapidly delineating an initial JORC Resource.

Previous Resource estimations in the region have been constrained by the amount of drilling completed, and the potential for the Toolebuc Formation to host further significant vanadium mineralisation is largely untested. Consequently, Liontown will also undertake wide-spaced drilling across areas where the Toolebuc Formation has been mapped within the Company's tenure, including over the immediate eastward extension of Intermin Resources' Rothbury Resource (**Figure 1**).

Further metallurgical test work will also be undertaken aimed at pre-concentrating the vanadium mineralisation prior to the acid leaching stage.



DAVID RICHARDS

Managing Director

4<sup>th</sup> April 2018

*The Information in this report that relates to Exploration Results is based on and fairly represents information and supporting documentation prepared by Mr David Richards, who is a Competent Person and a member of the Australasian Institute of Geoscientists (AIG). Mr Richards is a full-time employee of the company.*

*Mr Richards has sufficient experience that is relevant to the style of mineralisation and type of deposit 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 Richards consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

*The Information in this report that relates to Metallurgical Results is based on and fairly represents information and supporting documentation prepared by Mr Bryn Jones, who is a Competent Person and a member of the Australasian Institute of Geoscientists (AIG). Mr Jones is a consultant to the company.*

*Mr Jones has sufficient experience that is relevant to the style of mineralisation and type of deposit 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 Jones consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

*The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.*

*This report contains forward-looking statements which involve a number of risks and uncertainties. These forward looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. No obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.*

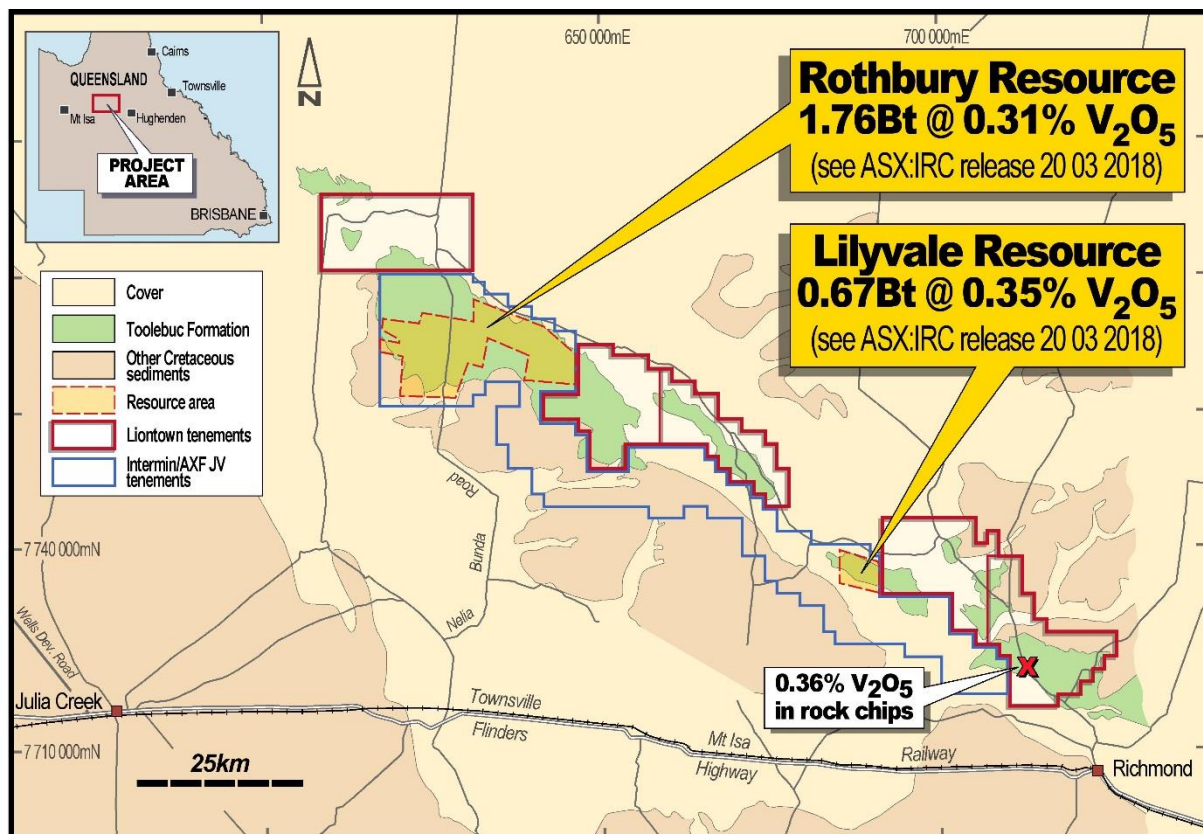


Figure 1: Toolebuc Vanadium Project – Tenure, regional geology and resources

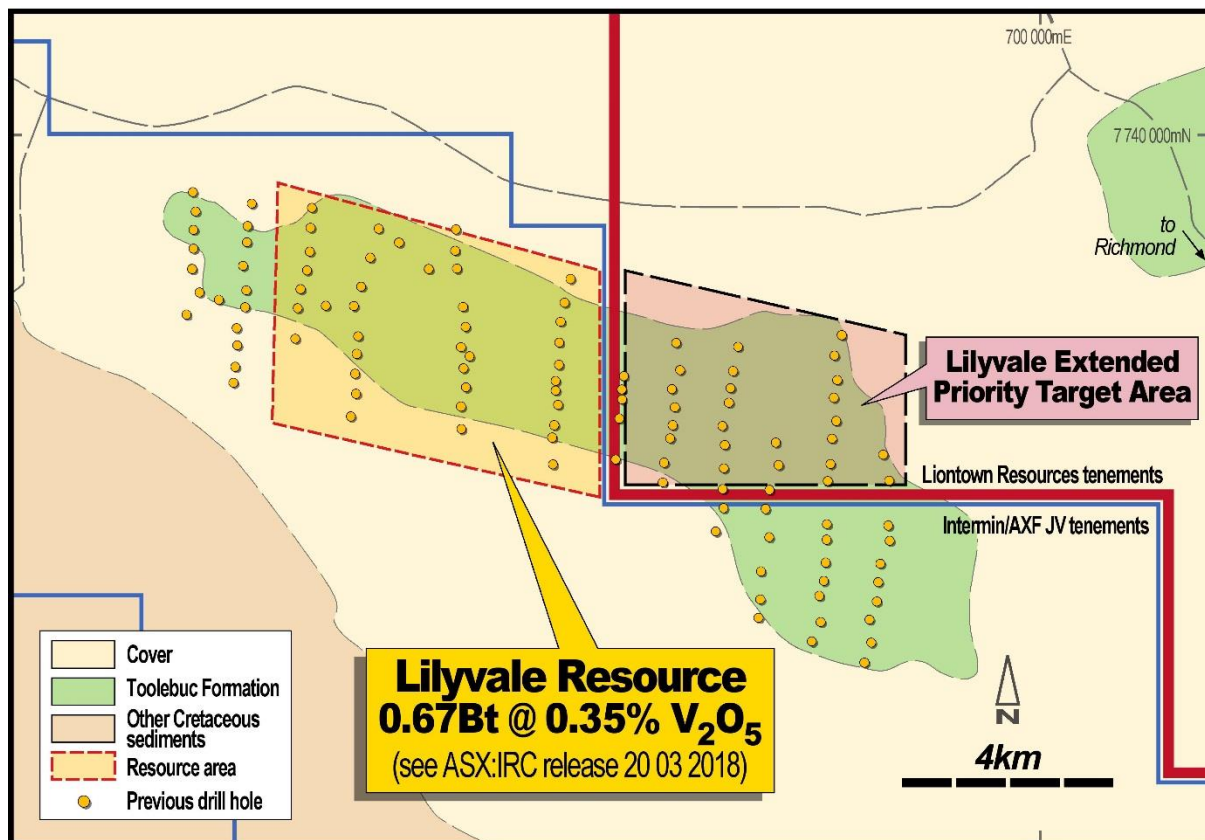


Figure 2: Lilyvale Area – Plan showing Intermin/AXF resource, tenement boundary, previous drilling and target area on Liontown tenure

## APPENDIX 1 – Toolebuc Vanadium Project – Rock Chip Statistics

Sample_ID	Easting	Northing	V_ppm	V2O5%	Mo_ppm
RJCV001	714888	7722268	1070	0.19	67
RJCV002	714276	7721745	741	0.13	46.6
RJCV003	714017	7721534	1020	0.18	91.6
RJCV004	712917	7720911	2020	0.36	68
RJCV005	707639	7733574	460	0.08	43.4
RJCV006	706972	7732753	491	0.09	27.5
RJCV007	695536	7733914	871	0.16	41.5
RJCV008	695433	7734734	491	0.09	36.5
RJCV009	702002	7737449	324	0.06	18.75
RJCV010	705733	7733941	680	0.12	82
RJCV011	711075	7725215	309	0.06	18
RJCV012	711075	7725215	808	0.14	55
RJCV013	712454	7721733	377	0.07	18.8
RJCV014	673622	7749477	678	0.12	54.4

## APPENDIX 2 – Toolebuc Vanadium PROJECT - JORC Table 1

### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<p><i>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.</i></p> <p><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></p> <p><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></p> <p><i>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.</i></p>	<p>Liontown rock chips - representative 1-3kg chip samples collected across zone being sampled.</p> <p>Historic sampling and drilling techniques not documented in detail.</p> <p>Representative material collected.</p> <p>No drilling completed</p>
<b>Drilling techniques</b>	<p><i>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).</i></p>	<p>No drilling completed.</p>
<b>Drill sample recovery</b>	<p><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></p>	<p>No drilling completed</p>

Criteria	JORC Code explanation	Commentary
<b>Logging</b>	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	No drilling completed.
	<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>	No drilling completed
	<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>	No drilling completed.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	No drilling completed
	<i>The total length and percentage of the relevant intersections logged.</i>	No drilling completed.
<b>Sub-sampling techniques and sample preparation</b>	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	No drilling completed.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	No drilling completed.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	Sample preparation follows industry best practice standards and is conducted by internationally recognised laboratories; i.e.  Oven drying, jaw crushing and pulverising so that 85% passes -75microns.
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	No drilling completed
	<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>	Rock chip sampling completed perpendicular to strike of unit.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	2-3kg sample submitted to lab consistent with industry standards.
	<i>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</i>	Due to early stage of program and limited number of samples collected, no standards, blanks, duplicates or external laboratory checks used as yet.
<b>Quality of assay data and laboratory tests</b>	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	Assaying completed by ALS Townsville, using industry standard procedures for multi-element suite including vanadium. Analytical techniques are total.
	<i>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.</i>	None used
	<i>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</i>	Due to early stage of program and limited number of samples collected, no standards, blanks, duplicates or external laboratory checks used as yet.
<b>Verification of sampling and assaying</b>	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	No drilling completed
	<i>The use of twinned holes.</i>	No drilling completed
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	All field data is manually collected, entered into excel spreadsheets, validated and loaded into an Access database.  Hard copies are stored in the local office and electronic data is stored on the Perth server. Data is exported from Access for processing by a number of different software packages.



Criteria	JORC Code explanation	Commentary
		All electronic data is routinely backed up.
	<i>Discuss any adjustment to assay data.</i>	V% converted to V <sub>2</sub> O <sub>5</sub> % by multiplying by 1.78
<b>Location of data points</b>	<i>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.</i>	No drilling completed.
	<i>Specification of the grid system used</i>	Historic coordinates converted to GDA94 Zone54
	<i>Quality and adequacy of topographic control.</i>	Nominal RLs based on regional topographic datasets.
<b>Data spacing and distribution</b>	<i>Data spacing for reporting of Exploration Results.</i>	Variable due to reconnaissance nature of initial sampling program.
	<i>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.</i>	Existing data not sufficient to estimate mineral resources.
	<i>Whether sample compositing has been applied.</i>	No compositing completed
<b>Orientation of data in relation to geological structure</b>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	Not yet assessed.
	<i>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.</i>	No drilling completed
<b>Sample security</b>	<i>The measures taken to ensure sample security.</i>	Company geologist supervises all sampling and subsequent storage in field. Same geologist arranges delivery of samples to lab
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data.</i>	None completed.

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<i>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.</i>	The Toolebuc Vanadium Project comprises 5 granted exploration permit applications (EPMs 26490-26492 and 26494-26495) which were applied for by LioneTown Resources Limited in March 2017.  The combined tenement package covers a total area of ~1,040km <sup>2</sup> and is located 440km west of Townsville in north Queensland.  There are no other material encumbrances affecting the tenements
	<i>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.</i>	All tenements are in good standing.
<b>Exploration done by other parties</b>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	There have been multiple phases of exploration in the region since the early 1970s with the main focus being on hydrocarbons and/or vanadium hosted by the Toolebuc Formation.  LioneTown's tenure abut and partially overlap significant vanadium resources originally reported by Intermin Resources in 2007 and 2010 (see <a href="https://www.intermin.com.au/?projects=richmond-oil-">https://www.intermin.com.au/?projects=richmond-oil-</a>

Criteria	JORC Code explanation	Commentary
		<p><a href="#">shale-v-mo-jv-project</a>). Liontown's EPM 26494 covers the eastern corner of the Lilyvale resource.</p> <p>Intermin has also completed wide spaced drilling over EPM 26,490.</p> <p>Detailed data for the Intermin drill holes is restricted and not available for review despite being on ground outside of Intermin's current land holding.</p> <p>The only other significant exploration completed was by Pacminex in 1973 and Jacaranda Minerals in 2007, both of which conducted wide-aircore drilling over EPMs 26492 and 26494. This work intersected strongly anomalous vanadium values hosted by the Toolebuc Formation.</p>
<b>Geology</b>	<i>Deposit type, geological setting and style of mineralisation.</i>	<p>The Project area is largely underlain by sediments belonging to the Lower Cretaceous Rolling Downs Group which includes the Toolebuc Formation, the main host to the hydrocarbon and vanadium mineralisation.</p> <p>The Toolebuc Formation is a flat lying sediment about 100 million years old and consists of black carbonaceous and bituminous shale, minor siltstone with limestone lenses and coquinites. In the Project area, the Formation is draped over an interpreted basement high and has been structurally uplifted to the surface.</p> <p>The resources estimated by Intermin relate to near surface mineralisation derived from the oxidation of the oil shale horizon.</p> <p>At Lilyvale, Intermin reported that the mineralisation is contained in a continuous block up to 4km wide and 10-12m in thickness beneath 5-6m of overburden. The mineralisation is soft and would most likely be suitable for free digging.</p>
<b>Drill hole Information</b>	<p><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></p> <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>	No drilling completed
<b>Data aggregation methods</b>	<p><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></p> <p><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></p> <p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>	<p>None applied</p> <p>No drilling completed</p> <p>No metal equivalents reported.</p>

Criteria	JORC Code explanation	Commentary
<b>Relationship between mineralisation widths and intercept lengths</b>	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p> <p><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></p>	No drilling completed
<b>Diagrams</b>	<p><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></p>	See Figures in body of report
<b>Balanced reporting</b>	<p><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></p>	All available exploration results reported.
<b>Other substantive exploration data</b>	<p><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 deleterious or contaminating substances.</i></p>	Results of preliminary metallurgical test reported in body of accompanying report
<b>Further work</b>	<p><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></p>	<p>Pattern air core drilling across eastern extension of Lilyvale resource. Wide-spaced aircore drilling across areas of exposed Toolebuc formation.</p> <p>Further metallurgical test work.</p>