ASX ANNOUNCEMENT

23 May 2022

LITHIUM UPDATE - DRILLING PROGRAM TO TEST STRONG ANOMALY

COOLGARDIE WEST

- **Reconnaissance sampling of the pegmatite from shallow prospecting pits indicates that these pits are not the source of the 2km long Li, Cs, Nb, Rb, Tl soil anomaly[1].**
- **Laser induced breakdown spectroscopy (LIBS) analysis of altered wall rocks immediately adjacent to the pegmatite has reported up to 2656ppm lithium from micas. Elevated lithium in mica is a feature of alteration halos developed on the margins of known LCT pegmatites.**
- **Lack of outcrop restricts the ability to obtain representative surface samples and a comprehensive drilling program to determine the composition and contact relationships of the pegmatite and origin of the lithium anomaly will be undertaken.**

Lodestar Minerals Limited ("**Lodestar**" or "**the Company**") (**ASX:LSR**) provides the following update on activities at the Coolgardie West project. The Coolgardie West project comprises tenement E15/1813, located 10km west of the mining centre of Coolgardie. The project lies within the Coolgardie Domain of the Norseman-Wiluna Greenstone Belt that hosts important spodumene lithium deposits at Bald Hill and Mt Marion and the Sinclair caesium deposit.

A 2km long, contiguous Li, Cs, Nb, Rb and Tl soil geochemical anomaly characteristic of highly fractionated pegmatites has been defined at Coolgardie West[1]. The anomaly has a spatial relationship with a northeast striking pegmatite that parallels the western contact of the greenstone belt. The extent and geological setting of the soil anomaly identifies the pegmatite as a potentially highly significant lithium-caesium-tantalum (**LCT**) target. The pegmatite outcrop is restricted to scattered, shallow historic workings (trenches, pits and scrapings) over approximately 1200m strike. The contacts are not exposed and the geometry, thickness and internal composition of the pegmatite cannot be determined.

A reconnaissance program of rock chip sampling of feldspar or quartz dominant pegmatite and aplite (minor fine-grained variant) was collected from mullock dumps surrounding the shallow workings (see Figure 1). Assay results for 25 rock samples submitted for multi-acid digest, ICP-MS analysis do not account for the elevated lithium values reported from soil geochemistry (see Annexure), generally reporting values below those of the soil anomaly (max. 194ppm lithium).

Further investigation of the anomaly has included selected mineral analysis using a portable LIBS (laser ablation) scanner that can provide spot measurements for important LCT pegmatite elements, including Li, Be, Cs and Rb. Biotite (dark mica) alteration zones observed in mafic host rocks adjacent

[1] See Lodestar's ASX announcement dated 11th February 2022.

to the western contact of the pegmatite have reported strongly elevated levels of lithium (see Figures 1, 2 and the Annexure) from the LIBS analyser. The biotite-rich zones are a product of alteration and develop during pegmatite-wall rock interaction at the time of intrusion and cooling of the pegmatite, when lithium-bearing hydrothermal fluids migrate into the host rocks (Hawthorne and Černỳ, 1982; Morgan and London, 1987).

The lithium in soil anomaly and enrichment within the alteration halo on the western margin of the pegmatite identifies the Coolgardie West pegmatite as a priority LCT exploration drill target.

NEXT STEPS

A substantive program of work will be prepared to drill the extensive lithium and gold targets defined at Coolgardie West.

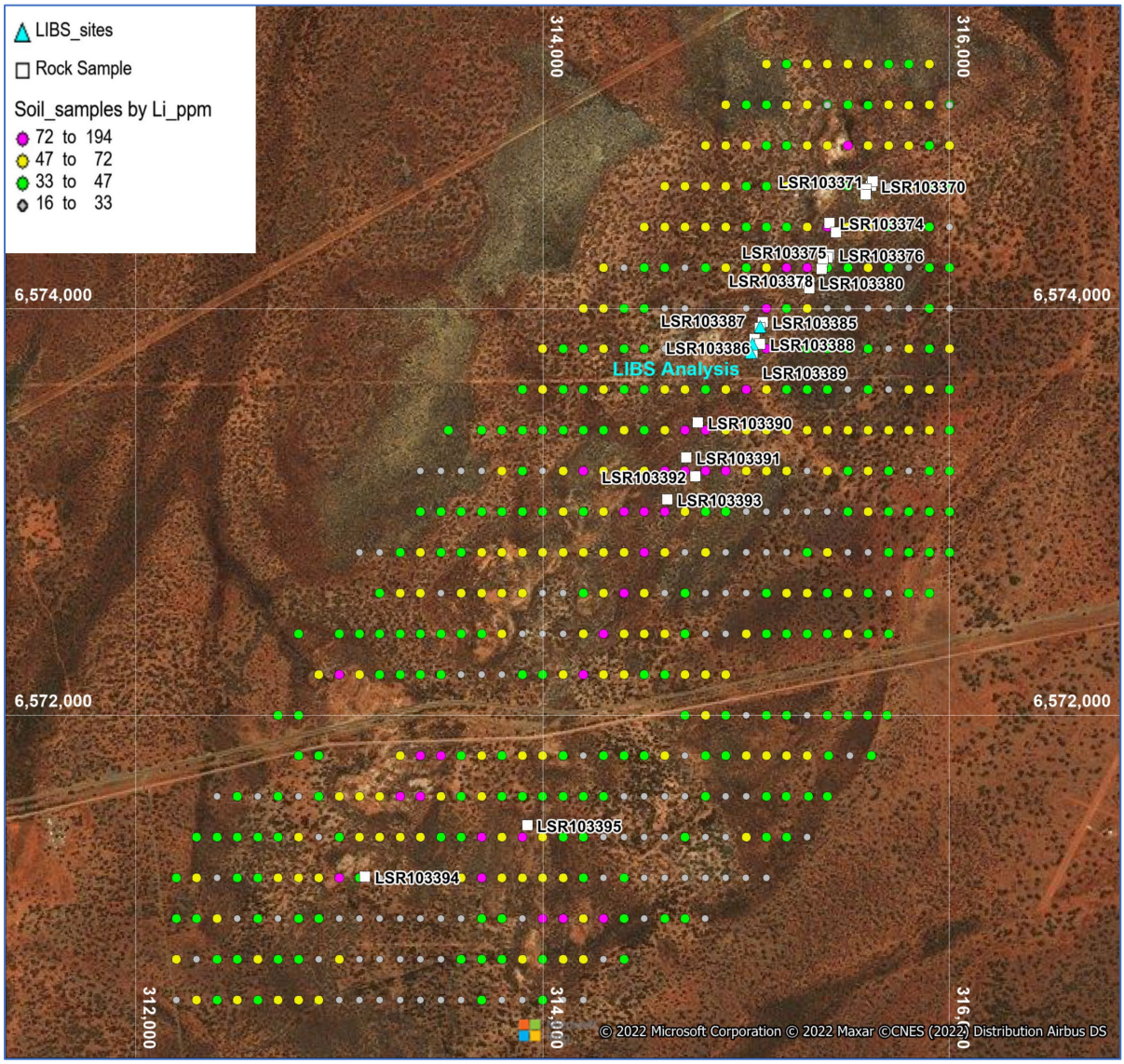

Figure 1 Rock sample location plan superimposed on lithium in soil geochemical anomaly.

Figure 2 Biotite alteration zone in mafic footwall of pegmatite, foliation dips ~50 degrees to south east.

References

Hawthorne, F. C. and Cerny, P., (1982). The mica group, *in* Cerny, P., ed., Granite Pegmatites in Science and Industry. Mineralogical Association of Canada, Short Course Handbook, v. 8, p63-98.

Morgan, G.B. and London, D., (1987). Alteration of amphibolitic wall rocks around the Tanco rare-element pegmatite, Bernic Lake, Manitoba. American Mineralogist 72: 1097-1121.

This announcement has been authorised for release by the Board of Directors of the Company.

Contacts

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About Lodestar

Lodestar Minerals is an active Western Australian gold and base metal explorer.

Lodestar's projects comprise the advanced Nepean Nickel Project JV, the Ned's Creek JV and the 100% owned Camel Hills, Earaheedy-Imbin, Jubilee Well, Bulong and Coolgardie West projects.

The Earaheedy-Imbin Project is a major strategic land holding in the emerging Earaheedy Province, site of Rumble Resource's recent and potentially world-class Zinc-Lead discoveries. The Imbin Project is located on the northern margin of the prospective basin and is the site of significant historic copper intersections in drilling and approximately 20km of strike of the target Yelma-Frere unconformity.

Lodestar discovered multiple zones of syenite intrusion-related gold mineralisation at the Ned's Creek Project on the Yilgarn craton margin, 150km west of Imbin. Vango Mining Limited is earning a 51% interest in the Ned's Creek JV by contributing $5M of expenditure over 3 years.

Bulong and Jubilee Well are recent acquisitions in highly endowed gold districts; first-pass drill programs are planned. Coolgardie West, located 12km west of Coolgardie, has potential for greenstone hosted gold, nickel and LCT pegmatite mineralisation.

Competent Person Statement

The information in this report that relates to Exploration Results is based on information compiled by Bill Clayton, Managing Director, who is a Member of the Australasian Institute of Geoscientists and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Clayton consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

The information in this announcement that relates to previously released exploration results was disclosed under JORC 2012 in the ASX announcements dated

- *11th February 2022, "Lithium Potential Upgraded at Coolgardie West".*

These announcements are available to view on the Lodestar website. The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement. 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.

ANNEXURE

SampleID	SampleType	Easting	Northing	Comments	Li_ppm	Nb_ppm	Rb_ppm	Cs_ppm
LSR103370	Rock	315614	6574603	fs-qz pegmatite o/c	24	0.5	0.4	-0.1
LSR103371	Rock	315622	6574625	fs-qz pegmatite o/c	46	0.5	7.4	0.3
LSR103372	Rock	315591	6574587	pit - mullock	35.5	0.5	9	0.3
LSR103373	Rock	315588	6574561	pit- mullock	28.5	-0.5	0.4	-0.1
LSR103374	Rock	315411	6574422	bio-musc aplite granite	23	16.5	211	4.7
LSR103375	Rock	315442	6574375	biotite granite with pegmatite veining	12	15.5	267	3
LSR103376	Rock	315409	6574266	shallow pit- weath mullock	60	0.5	3.6	0.2
LSR103377	Rock	315401	6574251	sub crop weath pegmatite	56	0.5	4.2	0.2
LSR103378	Rock	315378	6574234	25m long shallow trench - mullock. siliceous greisen	28.5	15	51.4	1.3
LSR103379	Rock	315371	6574195	shallow pit - mullock, siliceous greisen	36.5	0.5	1	-0.1
LSR103380	Rock	315312	6574128	8m long shallow pit, mullock, qz pegmatite	55	1.5	3.2	0.3
LSR103381	Rock	315303	6574122	mullock a/a	61	-0.5	5.4	0.2
LSR103382	Rock	315312	6574099	shallow pit - mullock, weath pegmatite	35.5	0.5	1	0.2
LSR103383	Rock	315236	6574135	shallow trench - mullock, aplite	11.5	8.5	81.4	3.8
LSR103385	Rock	315082	6573933	sub-crop pegmatite	8	0.5	1	-0.1
LSR103386	Rock	315068	6573905	pegmatite in west end of trench	9.5	2	20.4	1
LSR103387	Rock	315043	6573850	a/a	14.5	5	36.2	1.8
LSR103388	Rock	315068	6573826	shallow pit - mullock, pegmatite	7	3.5	11.8	1.7
LSR103389	Rock	315032	6573781	pegmatite o/c	5	3	12.4	0.3
LSR103390	Rock	314764	6573441	subcrop - fg micaceous granitoid	12.5	10.5	245	5.5
LSR103391	Rock	314706	6573269	subcrop - pegmatite	6	1.5	27.8	0.8
LSR103392	Rock	314752	6573176	o/c granite	3.5	4	22.6	3
LSR103393	Rock	314613	6573062	o/c pegmatite	5	0.5	6.2	0.4
LSR103394	Rock	313127	6571208	pegmatite (float?)	22.5	2	201	6.5
LSR103395	Rock	313925	6571460	pegmatite (float?)	9	6	22.4	9.3

SampleID	SampleType	Easting	Northing	Comments	Li_ppm	Nb_ppm	Rb_ppm	Cs_ppm
LIBS Mica Analysis								
LD6	Mineral	315019.3	6573784	Moderately biotite altered wall rock from pit	172.5		752.1	
LD5	Mineral	315075.4	6573825	Biotite alteration of wall rock in trench. Feldspar in amongst micas	426.9		1527.6	
LD5	Mineral	315075.4	6573825	Biotite alteration of wall rock in trench. Feldspar in amongst micas	570.6		1059.8	
LD2	Mineral	314916.4	6573952	Granite with pegmatitic zones. LIBs analysis on Mica	782.4		577.7	
LD1	Mineral	315121.4	6573910	Biotite. Altered wall rock	448.2		865.5	
LD1	Mineral	315121.4	6573910	Biotite. Altered wall rock	1117.3		1130.3	
LD7	Mineral	315130	6573942	Biotite, altered wall rock	2656.0			

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	• *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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *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.*	• 25 rock chip samples were collected from shallow historic pits and trenches in weathered pegmatite. 2-3kg samples of weathered quartz or feldspar dominant pegmatite were collected from mullock heaps surrounding the workings. • Additional analysis for lithium was conducted using a Sci Aps 903 LIBS scanner. The scanner is factory calibrated and provides semi-quantitative mineral analysis for lithium. Analyses are mineral specific and not whole rock analyses. • The information relates to geochemical anomalies that indicate additional work is required, lithium mineralisation has not been confirmed by mineralogy. • Rock chip samples were dried, crushed and pulverised, a 50g split sample was analysed for selected elements by multi acid digest and ICP-MS.
Drilling techniques	• *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.).*	• Surface sampling only.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	• Surface sampling only.
Logging	• *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.*	• Sample locations and descriptions are recorded in written ledgers/sample books and transferred to a database. • Descriptions are qualitative. • Surface sampling only.

Criteria	JORC Code explanation	Commentary
	• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Surface sampling only. • Surface sampling only. • Rock chip samples collected from the area of historic excavations are considered representative of the in situ material, although variably weathered. Whole rock analysis is considered appropriate for early reconnaissance exploration. • Quality control consisted of laboratory standards and repeats. Repeat assays were consistent with the original result. • No field duplicates were submitted in this sampling program as it is early stage exploration. • Sample size is appropriate for early stage exploration before the type of mineralisation has been identified.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *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.* • *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.*	• Rock samples were submitted to Bureau Veritas for lithium and other elements determined by multi acid digest and ICP-MS, the method is suitable for detecting lithium mineralisation in exploration programs but the most refractory minerals may not be completely digested. • A Sci Aps LIBS (Z-903) analyzer was used to identify possible sources of an extensive lithium in soil geochemical anomaly at Coolgardie West. The laser induced breakdown spectroscopy (LIBS) analyzer is a portable scanner used to provide semi quantitative analysis of light elements such as Li, Cs, Be, Rb in the field. The Z-903 contains three spectrometers with a range from 190nm to 950nm. The analyser fires a pulsed laser with an energy of 5-6mJ/pulse with a 50Hz (50x per second) repetition. The laser has a diameter of 100 microns and a pulse duration of 1-2 nanoseconds. An on board spectrometer analyses the emitted light by measuring the wavelength and intensity of light at specific wavelengths and compares the spectral lines with known wavelengths to identify the elements present (e.g. lithium 460nm, 610nm & 670nm) and uses the intensity of those lines with on board calibration (Geochem set of 15-20 elements) to quantify the concentration of the element. Results are displayed and stored electronically. Detection limit 2-5ppm lithium (see https://sciaps.com/libs-handheld-laser-analyzers/z-903-libs/). Surface irregularities and sample inhomogeneity can contribute to variability in readings.

Criteria	JORC Code explanation	Commentary
		• Rock sample laboratory repeat assays are consistent with original results.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• No significant intersections to report. • Sample locations & sample descriptions were compiled in written ledgers from which information has been extracted and entered into a database. • No adjustments to assay data were undertaken.
Location of data points	• *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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Samples located using hand held GPS to within ±5m. • Grid system is MGA94 Zone 51. • Topographic variation is not significant at the current stage of exploration.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	• Surface sampling only to identify geochemical anomalies.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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.*	• Any structural and geological controls are not known at the current stage of exploration..
Sample security	• *The measures taken to ensure sample security.*	• Samples were transported to the laboratory in sealed bags by Lodestar staff.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No independent audit or review has been carried out.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *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.* • *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.*	• E15/1813 is currently under application by Brosnan, Lodestar has announced an agreement to purchase the tenement from the vendor (see Lodestar's ASX announcement dated 21st June 2021). The main area of the tenement lies within the native title claims of the Maduwonnga (5087) and Marlinyu Ghoolie (5590) Peoples. There are no known impediments to the grant of the tenement, subject to existing rights under the Mining and Native Title Acts.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Previous exploration within the tenement includes geological mapping, surface sampling, aeromagnetic surveys and minor shallow drilling. Previous explorers include Anaconda Australia, Resolute Resources and Heron Resources (Atriplex). There is evidence of local costeaning and prospecting for which no record can be found,
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Target deposit types include komatiite-hosted nickel, shear-hosted lode gold and LCT pegmatities. The Coolgardie West greenstone comprises interlayered and metamorphosed amphibolite, dolerite, carbonaceous shale and ultramafics. The greenstone sequence trends north east and is wedged between the Bali and Calooli Granites. Lodestar's soil geochemical sampling has identified a 2km long contiguous Li, Cs, Nb, Rb, Tl anomaly that is characteristic of highly fractionated pegmatites.

Drill hole Information	• *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:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *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.*
		• Not applicable, surface sampling only, summary statistics of selected elements provided in Table 1.

Criteria	JORC Code explanation	Commentary
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No data aggregation, surface sampling only.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *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').*	• Surface sampling only.
Diagrams	• *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.*	• A plan showing reported sample locations is included in the announcement.
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.*	• All exploration results are reported..
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.*	• No other substantive data to report, LIBS analysis support further investigation to determine the potential for pegmatite-hosted lithium mineralisation.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Drilling is planned over the strike extent of the pegmatite to identify the contact relationships, geometry and mineral composition at depth. Gold targets also require drilling to test beneath transported cover.