#### ASX Code: ESS

#### **Corporate Profile**

Shares on issue: 175 million Cash: \$4.7m (30 Nov 2020) Debt: Nil

#### **Corporate Directory**

Non-Executive Chairman Craig McGown

**Non-Executive Directors** Paul Payne Warren Hallam

Managing Director Timothy Spencer

**CFO & Company Secretary** Carl Travaglini

**Exploration Manager** 

Andrew Dunn

#### **Key Projects**

#### Sole Funded

Juglah Dome (Au) Blair-Golden Ridge (Au, Ni) Dome North (Li) Sinclair Caesium Mine (Cs) Mavis Lake (Li)

#### Free Carried to Decision to Mine

Acra (Au) 25% Kangan (Au) 30% Balagundi (Au) 25%

#### **Investor Relations**

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18 December 2020

# Outstanding 74% lithia recovery achieved from metallurgical test work at Dome North

Results highlight future commercial potential of the Cade Deposit against the backdrop of a strongly improving lithium market

# **HIGHLIGHTS**

- A total lithium oxide (Li<sub>2</sub>O) recovery rate of 74% was achieved using a hybrid Dense Medium Separation (DMS) + flotation flowsheet to produce a 5.6% lithia (Li<sub>2</sub>O) concentrate with 0.7% iron (Fe<sub>2</sub>O<sub>3</sub>) content.
- Significant scope for improvement in both concentrate grade and global lithia recovery trade-off exists by carrying out further test work.
- The composite feed material, grading 1.55% Li<sub>2</sub>O, was sourced from five diamond core drill holes drilled into the Cade Deposit, which is the largest spodumene deposit identified to date within the Dome North Lithium Project.
- The scoping level test work was conducted in an investigative manner to provide grade and recovery data for **Dense Medium Separation (DMS)** and flotation process routes that may be considered in a future Scoping Study.
- The Mineral Resource for Dome North stands at 11.2Mt at 1.21% Li<sub>2</sub>O and 40ppm Ta<sub>2</sub>O<sub>5</sub>, with 51% of the contained lithium located within the high-confidence Indicated Resource category at the Cade Deposit (5.4Mt @ 1.3% Li<sub>2</sub>O refer ASX release dated 29 September 2020).

Essential Metals Managing Director, Tim Spencer, said: "We are very pleased with the results of our first metallurgical test work program for the Dome North Lithium Project, which has confirmed the potential for mineralisation from the Cade Deposit to be processed into a concentrate that should meet industry specifications with a very good global lithia recovery rate. This is a positive indicator for the future potential commercialisation of the Dome North Project.

"The lithium market has shown encouraging signs of recovery over the latter part of 2020 and this bodes well for lithium in 2021 and beyond. We will continue to work on building our lithium resources at Dome North and within the greater Pioneer Dome project area."



Essential Metals Limited (ASX: ESS) (the "Company") is pleased to report highly encouraging results from the first metallurgical test work programme completed on mineralisation from the Cade Deposit, part of its 100%-owned **Dome North Lithium Project** in Western Australia.

The results demonstrate that the lithium mineralisation (spodumene) from the deposit can be processed into a concentrate that should meet market specifications while achieving a high global lithium recovery rate. In summary, the following results were achieved:

Concentrate	Grade (% Li <sub>2</sub> O)	Grade (% Fe <sub>2</sub> O <sub>3</sub> )	Global Recovery (%Li <sub>2</sub> O)
T12 Flot Con & DMS Con	5.66	1.3	82%
T15 Flot Con & DMS Con	5.65	0.7	74%

# DOME NORTH LITHIUM PROJECT (ESS: 100%)

The Dome North Lithium Project, part of the greater Pioneer Dome Project, is located in Western Australia's Eastern Goldfields approximately 130km south of Kalgoorlie and 275km north of the Port of Esperance. The southern Yilgarn area is recognised as highly endowed with spodumene deposits, including the Bald Hill Mine, Mt Marion Mine and the Buldania Project. The Earl Grey deposit and the Mt Cattlin Mine are located further west and south, respectively.



**Figure 1.** Local geology and structural interpretation of the Dome North Project area – Cade, Davy and Heller Deposits underlain by magnetics TMI\_1VD\_Eshade\_NL imagery.



The Company engaged Primero Group Limited (ASX.PGX) to design and conduct the metallurgical test work programme. A multi-disciplinary engineering group specialising in the design, construction and operation of resource projects, Primero has been involved in several of WA's spodumene projects including Pilgangoora (ASX: PLS), Mt Cattlin and Bald Hill.

The test work was conducted at Nagrom, a well-known mineral processing laboratory in WA that specialises in spodumene dense medium separation (DMS) and flotation test work.

Composites for the test work programme were selected from five core drill holes from the Cade Deposit, with each composite intended to represent the mean grade and lithology of the Cade deposit. Geological logging, elemental assays and an open pit optimisation were used to check that the composites were as representative of the deposit as is practical, given the samples available.

Intersections from the five holes were previously reported as follows (refer ASX release dated 4 February 2020):

- **31.6m @ 1.31% Li<sub>2</sub>O** from 72 metres (PDRCD292)
- 27.4m @ 1.38% Li<sub>2</sub>O from 131 metres (PDRCD294)
- 27.2m @ 1.46% Li<sub>2</sub>O from 209 metres including 11m @ 1.79% Li<sub>2</sub>O (PDRCD295)
- 22.2m @ 1.72% Li2O from 128 metres (PDRCD318)
- 16.5m @ 0.86% Li<sub>2</sub>O from 166 metres (PDRCD293)

Two composite samples were prepared from the drill core. The tests conducted on the first composite included:

- Head Assay and X-Ray Diffraction (XRD);
- Crusher work index (CWi) and Abrasion Index (Ai) tests; and
- Size by assay (SxA) and Heavy Liquid Separation (HLS) at a series of different crush sizes

The first composite was noted to include a portion of mineralisation containing petalite, a lithium-bearing mineral that typically requires a different process flowsheet to spodumene. This material was situated towards the edge of the Resource. A second composite was generated from the same drill holes as the first but excluded the 3.7m wide petalite wall zone identified in hole PDRCD318.

The tests conducted on the second composite included:

- Head Assay and X-Ray Diffraction (XRD);
- Size by assay (SxA) and Heavy Liquid Separation (HLS) at a series of different crush sizes; and
- Batch flotation test work on head and DMS mid samples. This work included de-sliming, magnetic separation and mica pre-flotation steps.

The XRD scan showed that no petalite was detected in the second composite sample, providing evidence that petalite occurrences outside the identified wall zone in hole PDRCD318 may be low.

The lithium grades of the two composites were 1.41% Li<sub>2</sub>O and 1.56% Li<sub>2</sub>O respectively. The second composite was then used for the dense medium separation (DMS) and flotation test work.

A series of HLS tests was conducted, including one to investigate production of an upgraded direct-shipped ore (DSO). This test, using a crush size of  $P_{100}$  6.3mm, showed that up to 81% Li<sub>2</sub>O can be recovered into approximately 42% of plant feed mass, producing an upgraded material containing 2.0% Li<sub>2</sub>O.

These HLS results represent a theoretical maximum recovery for this sample and variability testing with a DMS cyclone and larger sample mass is recommended to verify any results.



In an improved lithium pricing environment, a lower CAPEX DSO style operation can be assessed against a more capital intensive value-adding operation involving DMS + flotation processing, provided that a market for DSO product is available.

Under the DMS pilot test stage, a concentrate of 5.7% Li<sub>2</sub>O was achieved at a global recovery of 28.6% Li<sub>2</sub>O. The Secondary DMS floats were then composited with -0.85mm material and used as feed to flotation test work, containing an assayed grade of 1.67% Li<sub>2</sub>O.

The flotation test work based on the DMS feed included a series of tests with each one preceded by grinding the feed to  $P_{80}$  150 $\mu$ m and de-sliming via screen or cyclone at a cut size of 20  $\mu$ m before performing the batch flotation tests.

# Table 1 (repeated) – Concentrate Summary

Concentrate	Grade (% Li <sub>2</sub> O)	Grade (% Fe <sub>2</sub> O <sub>3</sub> )	Global Recovery (%Li <sub>2</sub> O)
T12 Flot Con & DMS Con	5.66	1.3	82%
T15 Flot Con & DMS Con	5.65	0.7	74%

The T12 test (flotation + DMS) achieved a concentrate of 5.66%  $Li_2O$  with very high recovery rate of 82% lithia, however the iron content of 1.3%  $Fe_2O_3$  is considered high in comparison to the 'industry standard' limit of 1%  $Fe_2O_3$ .

Test T15 included a 'mica pre-flotation' step to remove paramagnetic gangue minerals. This resulted in a similar concentrate grade of 5.65%  $Li_2O$  but a much lower iron content of 0.7%  $Fe_2O_3$  with a reduction in the global lithia recovery rate to 74%.

In addition, a 'whole-of-ore' flotation test was carried out ('T11 Flot Con'). It achieved the highest concentrate grade of 6.06%  $Li_2O$  with 0.6% iron (Fe<sub>2</sub>O<sub>3</sub>) and a global lithia recovery rate of 66%  $Li_2O$ .

Given the investigative, scoping nature of this test work programme, variations of each flotation parameter were not explored. Primero has recommended that grind size, de-slime cut point, two-stage de-sliming, magnetic separation gauss, mica pre-flotation conditions and spodumene conditioning and flotation conditions all be tested to reduce lithium losses to tail while maintaining satisfactory concentrate grade and recovery.

# Next Steps

- **Exploration**: Continue with reconnaissance field trips involving mapping and sampling and updating the prioritized prospect list with the objective of having drill-ready targets by the June Quarter 2021.
- **Scoping Study**: The timing of further studies, including a Scoping Study, will be reviewed towards the end of the 2021 March Quarter to coincide with further exploration progress and the anticipated continued improvement in the lithium market.

#### This ASX release has been approved by the Board of Directors

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# About Essential Metals Limited

Following successful completion of the Sinclair Caesium Mine, Essential Metals is now a well-funded and active explorer focused on key global demand-driven commodities, looking for its next opportunity to create shareholder wealth through exploration and project development. The Company operates a portfolio of strategically located lithium, caesium, gold, nickel and cobalt projects in mining regions in Western Australia, plus a high-quality lithium asset in Canada.

# Lithium - Caesium:

- The *Pioneer Dome LCT Project* is highly prospective for lithium-caesium-tantalum (LCT) mineral systems:
  - The *Dome North Lithium Project* is located in the northern area where multiple spodumene bearing pegmatites were discovered in 2019. It now has a Mineral Resource of 11.2 million tonnes @ 1.21% Li<sub>2</sub>O.
  - The *Sinclair Caesium Deposit* that was successfully developed and mined by the Company and extensions to the deposit are currently being explored.
- The Company holds a 51% Project interest in the *Mavis Lake Lithium Project*, Canada where Company drilling has intersected spodumene.

#### Gold:

- The *Juglah Dome Project* is located 60km east-southeast of Kalgoorlie and is considered to be highly prospective for gold with recent work also raising its prospectivity for VHMS style polymetallic deposits.
- The *Blair Golden Ridge* Project is located ~20km SSE of Kalgoorlie, WA and is prospective for gold. Activities are focussed on reappraising known prospects as well as identifying new areas within the large land tenure.

**Gold Farmin/Joint Ventures**: Essential Metals has three free-carried interests with well credentialed JV partners:

- Acra JV Project near Kalgoorlie: Northern Star Resources Limited (ASX:NST) has earned a 75% Project Interest and continues to fully fund exploration programmes until approval of a Mining Proposal by DMIRS with Essential Metals retaining a 25% interest.
- **Kangan Project** in the West Pilbara: A farmin & JV agreement with Novo Resources Corp (TSXV.NVO) and Sumitomo Corporation will fully fund gold exploration programmes until a decision to mine is made, with Essential Metals retaining a 30% interest.
- **Balagundi Project**: A farmin & JV agreement where Black Cat Syndicate Limited (ASX:BC8) is earning a 75% interest in the Project located at Bulong, near Kalgoorlie. Black Cat will then fully fund gold exploration programmes until a decision to mine is made, with Essential Metals retaining a 25% interest.

**Nickel**: The *Blair-Golden Ridge Project* includes the suspended Blair Nickel Sulphide Mine and the advanced Leo Dam prospect as well as several other prospects.



#### Reference to previous market announcements

Previous ASX releases referred to in this release:

- 4 February 2020 Successful 2<sup>nd</sup> drill programme at Dome North area
- 29 September 2020 Dome North Lithium Project Resource upgrade

The Company confirms that it is not aware of any new information or data that materially affects the information included in the previous market announcements and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

# **Forward Looking Statement**

This announcement may contain 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 materialise, 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.

# Dome North Mineral Metallurgical Test Work - Competent Person Statement

The information in this report that relates to metallurgical test work for the Dome North Lithium Project has been reviewed by Mr Joshua Paterson who is a member of the Australasian Institute of Mining and Metallurgy. Mr Paterson is an employee of Primero Ltd and has sufficient experience relevant to the style of processing response and type of deposit 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'. Mr Paterson consents to the inclusion in the report of a summary based upon his information in the form and context in which it appears.



# Appendix 1 – Diamond drill hole collar locations and statistics

Table 1 - Diamond Drill Hole Collar Locations												
(Li <sub>2</sub> O cut-off 0.5%)												
Hole ID	Prospect	Type	Easting	Northing	RL	Dip	azimuth	Depth	From	То	Interval	Li <sub>2</sub> O
		Type	(m)	(m)	(m)	0	0	(m)	(m)	(m)	(m)	%
PDRCD292	Cade	RCD	367770	6485920	335.8	-60.31	271.3	150.3	72.4	103	30.60	1.31
PDRCD293	Cade	RCD	367849	6485920	335.8	-60.68	269.62	240.3	165.85	182.4	16.55	0.86
PDRCD294	Cade	RCD	367834	6486082	334.5	-60.33	270.88	201.3	131.1	158.5	27.40	1.38
PDRCD295	Cade	RCD	367920	6486080	334.8	-60.16	273.94	246.3	208.7	236	27.30	1.46
PDRCD318	Cade	RCD	367889	6486238	332.7	-60.96	271.92	159.25	127.64	149.9	22.26	1.72

#### Appendix 2: JORC, 2012 Edition Table 1, Sections 1 and 2

Dome North Lithium Project (the "Project") including the Cade, Davy and Heller Deposits – 100% owned by Essential Metals Limited (the "Company")

#### 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 (eg cut Faces, 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> </ul>	<ul> <li>Reverse circulation (RC) and aircore (AC) samples from holes drilled from surface.</li> <li>Single metre samples were collected in calico bags via a cone splitter directly from the cyclone on the RC drill rig. Three-metre composite samples for intervals that were considered to have low LCT element concentrations from the pXRF data were collected from the sample piles via an aluminium scoop.</li> <li>AC drill samples outside of pegmatite zones were taken as 3m composites from single metre sample piles and as single metre samples for the mineralised pegmatite zones, samples were collected via an aluminium scoop.</li> <li>HQ3 diamond core sampled on tails of holes with RC pre collars.</li> <li>pXRF analysis was undertaken on each 1m sample using a Bruker S1 Titan 600 handheld portable XRF analyser for internal use, and not reported herein.</li> </ul>
	<ul> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> </ul>	<ul> <li>Industry-standard reverse circulation drilling, using a face-sampling hammer with a booster and auxiliary compressors used to ensure dry samples.</li> <li>Industry-standard aircore drilling, using a face-sampling blade bit.</li> <li>RC: Individual one metre samples were collected using a cyclone and a cone splitter into sub samples of approximately 3.0kg weight, the cyclone was regularly cleaned to minimise contamination.</li> <li>Industry-standard HQ3 triple tube diamond core drilling using a diamond-set cutting bit.</li> <li>Duplicate samples (RC and AC only) and Certified Reference Standards were inserted at regular intervals to provide assay quality checks. The standards and duplicates reported within acceptable limits.</li> <li>Samples are considered 'fit for purpose'.</li> </ul>
	<ul> <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</li> </ul>	<ul> <li>RC and AC drilling was used to obtain 1 m samples from which approximately 3.0 kg sampled.</li> <li>3.0kg samples were crushed then subsetted to produce a 100g sample which was pulverised by zirconium bowl pulp mill to nominal P80/75um to produce a standard charge for analysis.</li> <li>Half core samples of lengths determined by geology vary in weight.</li> </ul>



Criteria	JORC Code explanation	Commentary
	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.	<ul> <li>Lithium exploration package of elements: analysed by a four-acid digestion with a Mass Spectrometer (MS) determination (Intertek analysis code ZR01 / 4A Li MS-48). The quoted detection limits for this method are a lower detection limit of 0.1ppm and an upper detection of 5000ppm Li. Most other elements have a similar analytical range. Any over range samples were re analysed by a sodium peroxide zirconium crucible fusion with a detection range of 1ppm to 20% Li.</li> </ul>
Drilling techniques	<ul> <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> <li>Reverse Circulation Drilling, 4.5-inch drill string, 5.25 – 5.75-inch face-sampling hammer, auxiliary and booster compressors used to exclude ground water.</li> <li>Aircore Drilling using a 90mm blade bit or face sampling hammer in hard rock.</li> <li>HQ3 standard core drilling.</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> </ul>	<ul> <li>During RC and AC drilling the geologist recorded occasions when sample quality is poor, sample return was low, when the sample was wet or compromised in another way.</li> <li>During diamond drilling the core recovery was measured and recorded from every drilled core run and compared against the drillers core blocks of known drill depths.</li> <li>Sample recovery is good for RC drilling using the equipment described.</li> <li>RC Sample recovery is mostly under the control of the drill operator and is generally influenced by the experience and knowledge of the operator.</li> <li>Sample recovery is generally good for AC drilling when the sample is dry.</li> <li>Sample recovery for core drilling is usually very high. HQ3 triple tube enables better</li> </ul>
	Whether a relationship exists	<ul> <li>representation of the core and measurable recovery.</li> <li>Core measurements enable core recoveries to be calculated and form part of the QA/QC record.</li> <li>Because the sample recoveries are assumed to be high any particular particular be been assumed to be high any particular particular be been assumed to be high any particular particular be been assumed to be high any particular particular be been assumed to be high any particular particular be been assumed to be high any particular particular been assumed to be high any particular particular been assumed to be high any particular been assumed by particular been assumed</li></ul>
	between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	high, any possible relationship between sample recovery and grade has not been investigated.
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.	<ul> <li>Lithological logs exist for all holes in a database. Fields captured include lithology, mineralogy and abundance, sulphide abundance and type, alteration, texture, recovery, veining and type, weathering, oxidation and colour.</li> <li>All diamond drillholes were orientated with reference to bottom of the hole and geotechnically and structurally logged for</li> </ul>



Criteria	JORC Code explanation	Commentary
		recovery, RQD, fracture frequency and alpha/beta measurements on oriented core.
		<ul> <li>SG measurements were acquired on all rock types of half core samples using the Archimedes water submersion method.</li> </ul>
		<ul> <li>The detail captured is considered high and fit for purpose.</li> </ul>
	Whether logging is qualitative or auantitative in nature. Core (or	Logging is qualitative but includes quantitative     estimates on mineral abundance
	costean, Face, etc) photography.	<ul> <li>Qualitative litho-geochemistry based on pXRF analyses is used to confirm rock types.</li> </ul>
		• A representative sample of each RC drill metre is sieved and retained in chip trays for future reference.
	• The total length and percentage of the relevant intersections logged.	The entire length of the drill holes were geologically logged.
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> </ul>	<ul> <li>RC drilling - Individual one metre samples were collected via a cone splitter directly attached to the cyclone dry and wet. Individual samples were approximately 3.0kg. The bulk residue was laid out in order on the drill pad.</li> <li>AC drill samples were laid out in order directly onto the ground.</li> <li>Individual RC and AC drilling metre samples of the pegmatite (target zone) were submitted to the laboratory. Three metre composite samples were aggregated to form 3.0kg for the remainder of the drillhole and sent to the laboratory.</li> <li>HQ3 diamond core from the pegmatite (target zone) was half cut then quarter cut from one half only for lab submission leaving three quarters of</li> </ul>
		<ul> <li>the core in the core tray for future work. Sample length was dependent on geological contacts and ranged from minimum 20cm to maximum 120cm.</li> <li>The sample collection, splitting and sampling for the types of drilling used is considered standard inductry practice and fit for purpose.</li> </ul>
	• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	<ul> <li>Cyclones are routinely cleaned after each drill rod.</li> <li>Geologist looks for evidence of sample contamination, which was recorded if seen.</li> <li>The use of booster and auxiliary compressors ensures samples are dry, which best ensures a quality sample.</li> <li>The cut core was sampled with the right-hand side of the core always collected for chemical analysis, the orientation line was retained where possible.</li> </ul>
	<ul> <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>Standard Reference Material is included at a rate of 1 per 30 samples.</li> <li>Duplicate RC drill samples were collected from a second calico sample taken directly off the cone splitter attached to the drill rig. Duplicates are routinely inserted at a 1 per 30 samples.</li> <li>Duplicate AC drill samples are routinely inserted at approximately 1 per 30 samples.</li> </ul>



Criteria	JORC Code explanation	Commentary
	Whether sample sizes are	<ul> <li>No duplicates were inserted for the diamond drill core.</li> <li>Laboratory quality control samples were inserted in accordance with the laboratory procedure with the performance of these control samples monitored by the laboratory and the company.</li> <li>The sample size is considered industry-standard and appropriate for the style of dependent basis.</li> </ul>
	the material being sampled.	sampled.
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.	<ul> <li>The sample preparation and assay method used is considered standard industry practice and is appropriate for the deposit other than:</li> <li>A zirconium bowl is used to grind the sample to be analysed to minimise Fe contamination for the mineralised pegmatite samples.</li> </ul>
	• For geophysical tools, spectrometres, handheld XRF instruments, etc, the parametres used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	<ul> <li>The Company owns a Bruker S1 Titan 600 handheld XRF instrument which it used to provide the geologist with basic, qualitative litho- geochemistry data and may be used to assist with selecting zones for sampling. Zones have been selected due to elevated caesium, niobium, tantalum, gallium, rubidium, thallium or tin.</li> <li>Intervals during RC an AC drilling identified as not obviously mineralised have been sampled with three metre composites.</li> <li>Standards and blanks are routinely analysed with</li> </ul>
		the Bruker to ensure the instrument is operating as expected and correctly calibrated.
	<ul> <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> <li>Standards and laboratory checks have been assessed. The standards show results within acceptable limits of accuracy, with good precision. Internal laboratory checks indicate very high levels of precision.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> </ul>	<ul> <li>Significant intersections are calculated by experienced staff with these intersections checked by other staff.</li> <li>No holes have been twinned.</li> </ul>
	<ul> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	<ul> <li>The Company has a digital SQL drilling database where information is stored.</li> <li>The Company uses a range of consultants to load and validate data and appraise quality control samples.</li> </ul>
	<ul> <li>Discuss any adjustment to assay data.</li> </ul>	• The Company has adjusted the lithium (Li), tantalum (Ta) and caesium (Cs) assay results to determine $Li_2O$ , $Ta_2O_5$ and $Cs_2O$ grades. This adjustment is a multiplication of the elemental Li, Ta and Cs assay results by 2.153, 1.221 and 1.0602 to determine $Li_2O$ , $Ta_2O_5$ and $Cs_2O$ grades respectively.
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches,</li> </ul>	• The collar locations of the RC and DD holes have been surveyed by a licenced surveyor using an RTK differential GPS. The collar surveys provide



Criteria	JORC Code explanation	Commentary
	mine workings and other locations used in Mineral Resource estimation. • Specification of the grid system	<ul> <li>very accurate positions for all holes including the RL of each drill collar.</li> <li>AC holes have been located by handheld GPS.</li> <li>Downhole surveys for RC and Diamond core holes were collected every 10m from surface to bottom of hole by the AXIS Mining Technology north seeking gyro tool, surveys were carried out by an experienced drilling operator.</li> <li>MGA94 (Zone 51)</li> </ul>
	used. • Quality and adequacy of topographic control.	<ul> <li>Topographic control is by RTK DGPS, carried out by a licensed surveyor.</li> <li>A surface DTM was created locally using the surveyed drill collars, AC holes were snapped to the DTM.</li> </ul>
Data spacing and distribution	Data spacing for reporting of Exploration Results.	<ul> <li>Exploration RC drilling was drilled on panels spaced between 40 – 160m apart with drill holes 40-80m apart, dependent on the size of the target area.</li> <li>Diamond drilling at the Cade Deposit was spaced 80m from existing drill panels with holes spaced 80m apart.</li> <li>AC drilling traverses were nominally 200-400m apart with individual holes spaced 40-80m apart.</li> </ul>
	• 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.	<ul> <li>Data spacing and distribution is sufficient to establish geological and grade continuity for three deposits within the Dome North project resulting in three Resource Estimates.</li> <li>An updated mineral resource estimate has been complete for the Cade Deposit of 8.2Mt at 1.26% Li<sub>2</sub>O and classified as Indicated 5.4Mt and Inferred 2.8Mt.</li> <li>Maiden resource estimates have been complete for the Davy and Heller Deposits of 2.2Mt @ 1.13% Li<sub>2</sub>O and 0.7Mt @ 1.02% respectively and classified as Inferred.</li> </ul>
	• Whether sample compositing has been applied.	<ul> <li>No sample compositing has been applied for the reported assays.</li> <li>All reported assays are of 1m samples for RC and AC drilling.</li> <li>Diamond drilling assays are geology dependent and sample intervals range from 20cm – 120cm.</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>The strike of the mineralisation at the Cade Deposit is estimated at to be broadly north-south, and dipping east, therefore angled diamond drill holes at -60° have been drilled towards 2700 to intersect the mineralisation as close to perpendicular as possible.</li> <li>RC and AC drilling was designed to intersect the target perpendicular to the mapped geology and angled at -60° for the best representation of lithological thickness.</li> <li>Down hole intersection widths are estimated to closely approximate true widths based on the</li> </ul>



Criteria	JORC Code explanation	Commentary
		interpreted dip of the pegmatite bodies and the orientation of the drilling.
Sample security	• The measures taken to ensure sample security.	<ul> <li>The Company uses standard industry practices when collecting, transporting and storing samples for analysis.</li> <li>Drilling pulps are retained by the Company off site.</li> </ul>
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <li>Sampling techniques for assays have not been specifically audited but follow common practice in the Western Australian exploration industry.</li> <li>The assay data and quality control samples are periodically audited by an independent consultant.</li> </ul>



# 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	<ul> <li>The drilling reported herein is entirely within E15/1515 which is a granted Exploration Licence.</li> <li>The tenement is located approximately 60km N of Norseman WA.</li> <li>The Company Limited is the registered holder of the tenement and holds a 100% unencumbered interest in all minerals within the tenement.</li> <li>The tenement is on vacant crown land.</li> <li>The Ngadju Native Title Claimant Group has a determined Native Title Claim which covers the Project area.</li> </ul>
	<ul> <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>	• At the time of this Statement E15/1515 is in Good Standing. To the best of the Company's knowledge, other than industry standard permits to operate there are no impediments to the Company operations within the tenement.
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	• There has been no previous lithium exploration drilling or sampling on the Project other than by the Company. Previous mapping by the Western Australian Geological Survey and Western Mining Corporation (WMC) in the 1970's identified several pegmatite intrusions however these were not systematically explored for Lithium or associated elements.
Geology	<ul> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	• The Project pegmatites are consistent with records of highly differentiated Lithium Caesium Tantalum (LCT) pegmatite intrusion. This type of pegmatite intrusions are the target intrusions of hard rock lithium deposits. The Dome North Deposits and reported lithium occurrences are considered part of the LCT Pegmatite group and Albite-Spodumene Type.
Drill hole Information	<ul> <li>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, including 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 plus 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>	<ul> <li>Refer to Tables and Figures herein and Appendices of this announcement/report.</li> <li>Refer to previous ASX Announcements for significant intersections from The Company's drilling, including:</li> <li>23/07/2020 - Dome North Lithium Project Update</li> <li>04/02/2020 - Successful 2nd drill programme at Dome North Area</li> <li>10/10/2019 - Drilling Results from Cade Spodumene Deposit</li> <li>16/09/2019 - Dome North Drilling Update</li> <li>22/08/2019 - Dome North Drilling Advancing and Pegmatites Intersected</li> <li>17/07/2019 - Spodumene results from Pioneer Dome North</li> </ul>



Criteria	JORC Code explanation	Commentary
Data aggregation methods	<ul> <li>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.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent welves about be about the approximation.</li> </ul>	<ul> <li>Intersections noted are from 1m sample intervals.</li> <li>Li<sub>2</sub>O intercepts calculated using 0.5% cut off with a maximum 3m internal dilution and no external dilution typically applied except where drill hole logging (e.g. continuous pegmatite) and assays indicate wider internal dilution is warranted.</li> <li>There are no metal equivalent values reported.</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 (eg 'down hole length true width not known')</li> </ul>	<ul> <li>The current geological interpretation, based on drilling and mapping, suggests that the true widths approximate the down hole widths. (See the cross sections and maps within the report/release)</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>	• Refer to figures and tables herein and Appendices in this report/ 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.	• Comprehensive reporting of all exploration results has previously been reported by the Company.
Other substantive exploration data	<ul> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater,</li> </ul>	• For the metallurgical test work, composites for test work were selected from five HQ drill holes from the Cade Deposit, with each intended to represent the mean grade and lithology of the Cade deposit. Geological logging, elemental assays and an open pit optimisation were used to check that the composites were as representative of the ore body as is practical, given the samples available.



Criteria	JORC Code explanation	Commentary
	geotechnical and rock characteristics; potential deleterious or contaminating substances.	<ul> <li>All other meaningful and material metallurgical test work data has been reported elsewhere in this document.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Geological mapping and target generation for additional lithium resources.</li> <li>Extensional and exploration drilling for lithium and potential co-products within the Project.</li> <li>Metallurgical test work at the Cade Deposit is in progress.</li> </ul>