ASX Announcement **19 September 2023**

Pegmatites and REE's Identified at Barlee

HIGHLIGHTS

Barlee Project (100% DKM)

- Located 200km north of Southern Cross in the Marda Diemals Greenstone Belt.
- **Pegmatites identified** at the Barlee Project
- Soil Sampling using ultrafine fraction technique (UFF) over two gold prospects have highlighted **Li anomalism (72.6ppm max Li)**
- Field investigation in other areas of project has confirmed the presence of pegmatites, rock chip assays show **elevated indicator elements**
- **Fertile environment** for lithium bearing pegmatites, favorable element ratios considered prospective for LCT-type pegmatites
- Mount Holland Lithium Mine located 300 km to the south
- Li identified in pegmatites to the north at Youanmi and Trainers Rocks and to the south at Newington
- Anomalous **Rare Earth Elements (REEs) identified** in historic drilling in western granite
- Further field work including mapping, rock sampling and re-sampling of old drill spoils is continuing.

Duketon Mining Limited **(ASX: DKM) ("Duketon" or "the Company")** is pleased to announce early-stage exploration has identified pegmatites at the Barlee Project, 200km north of Southern Cross. The Barlee Project is an early-stage greenfield project, previous exploration on the tenement has been gold focussed.

DKM completed a soil sampling program (UFF) over two large gold prospects with results highlighting some significant low-level gold trends and several areas of lithium anomalism.

The gold anomalies in some cases have associated path finder element support including As, Cu, Bi, Pt & Pd and have not been previously drilled.

Figure 1: Outcropping pegmatites at Barlee

Some of the generated lithium anomalies (>55ppm Li) are associated with LCT pegmatite indicator elements including Be, Cs, Ga, Nb and Rb. All the lithium anomalies were field checked and are either associated with outcropping mafic lithologies or zones of shallow regolith obscuring any basement rocks.

Several anomalous lithium results (UFF) were checked using the standard minus 80 mesh sampling technique and they did not repeat at elevated levels of lithium (ranging from 10ppm to 16.7ppm Li). No pegmatites were identified from field checking the lithium anomalies generated by the UFF sampling.

However, further field checking of additional target areas has located several pegmatite outcrops extending for hundreds of metres in essentially two different geological settings (See Figure 1). Outcropping pegmatites have been located within the granite gneiss terrain along the western edge of the project separating the deformed granitoid rocks (Youanmi Fault) and greenstones. Rock chip assays of these pegmatites show elevated indicator elements (Be, Nb) and element ratios (Mg/Li & K/Rb) indicative of high degree of fractionation.

The Mount Holland lithium mine is located 300 km to the south of the Barlee Project in the same terrane. Several lithium enriched prospects are located within 120km from the Barlee Project, including Youanmi (Scorpion Minerals) and Trainers Rocks (Cullen Resources) to the north and Newington (Midas Minerals) to the south (See Figure 3).

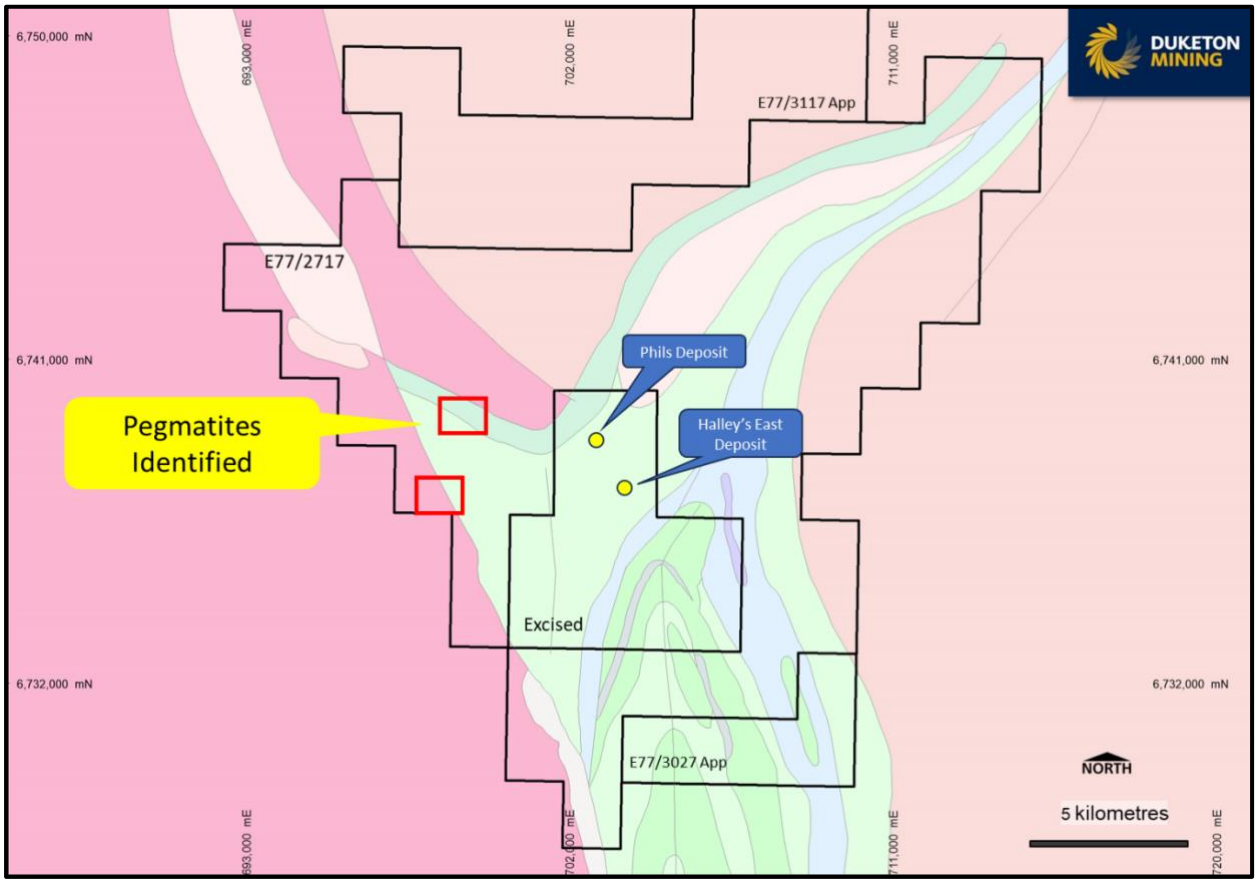

Figure 2: Barlee Tenement – to add details and legend

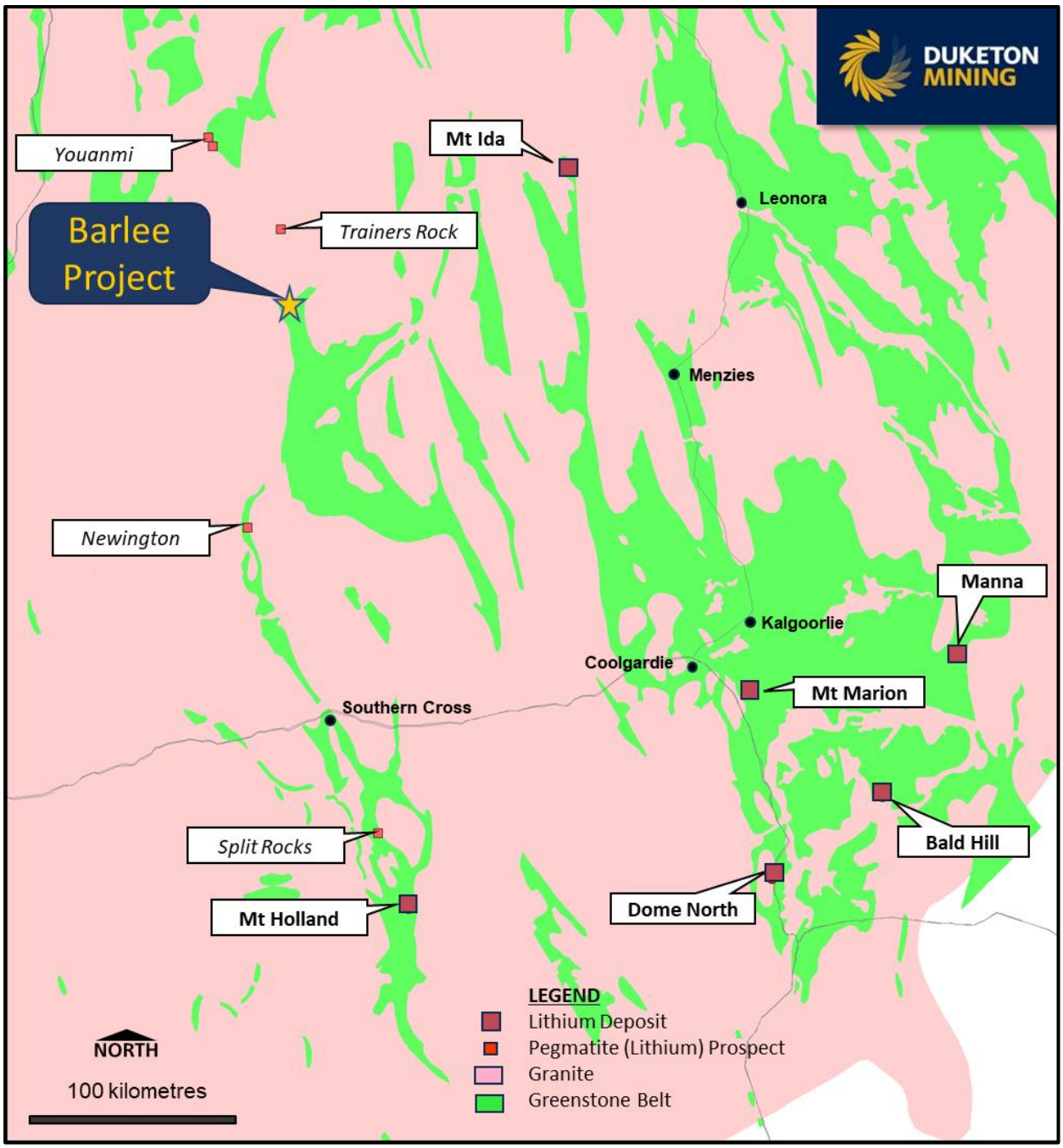

Figure 3: Barlee Project Location and Lithium Projects

Anomalous rare earth elements (REE's) have also been identified in historic aircore drilling completed by Fortescue Metal Group Ltd (FMG) in late 2018. Composite sampling was routinely collected down the hole (generally at 4m intervals) with a separate, last metre "bottom of hole" sample collected for a comprehensive multi-element suite including rare earth elements.

Drill hole LBAC0106, on the western end of a drill line, logged within granitic gneiss in the vicinity of the Youanmi Fault, has intersected anomalous REE's from the bottom of hole (11m to 12m) assaying TREO 956 ppm over this interval. The details of this drill hole are tabulated below in Table 1 & Table 2.

Hole ID	Easting	Northing	RL	Dip	Azimuth	Depth (m)
LBAC0106	698,098	6,737,677	485	-90	0	12

Table 1: Collar Details of LBAC0106

Hole ID	Depth From m	Depth To m	Interval m	TREO ppm	MREO ppm	HREO ppm	LREO ppm	Lithology
LBAC0106	11	12	1	**971**	**195**	**406**	**564**	Granite (weathered)

Table 2: Assay Results of Final Metre, LBAC0106

Note:
TREO (Total Rare Earth Oxides) = $La_2O_3 + CeO_2 + Pr_6O_{11} + Nd_2O_3 + Sm_2O_3 + Eu_2O_3 + Gd_2O_3 + Tb_4O_7 + Dy_2O_3 + Ho_2O_3 + Er_2O_3 + Tm_2O_3 + Yb_2O_3 + Y_2O_3 + Lu_2O_3$
HREO (Heavy Rare Earth Oxides) = $Dy_2O_3 + Er_2O_3 + Gd_2O_3 + Tb_4O_7 + Lu_2O_3 + Ho_2O_3 + Tm_2O_3 + Y_2O_3 + Yb_2O_3$
LREO (Light Rare Earth Oxides) = $La_2O_3 + CeO_2 + Pr_6O_{11} + Nd_2O_3 + Sm_2O_3 + Eu_2O_3$
MREO (Magnetic Rare Earth Oxides) = $Pr_6O_{11} + Nd_2O_3 + Tb_4O_7 + Dy_2O_3$

This drillhole is located on the western-most position of a drill traverse within the western granite terrain. Drillholes along this traverse are separated by 170m with the closest drill holes north at 860m and the closest southern drill traverse at approximately 1,900m but drilling did not extend into the western granite. The immediate area surrounding this hole remains untested by either geochemistry or drilling. No previous surface geochemical programs targeting REE's have been completed in this central-western portion of the tenement.

About the Barlee Project

The Barlee Project is located in the northern portion of the Archaean Southern Cross Province, approximately 200km north of Southern Cross in Western Australia. The belt contains a number of small gold deposits including the Mt Dimer, the Marda Gold Projects and the Penny Mine (ASX:RMS). The Penny Mine is located 70km to NNW of Barlee. The Project covers a poorly exposed granite-greenstone terrain, where older mafic-ultramafic BIF dominated greenstones and a younger sediment-felsic volcanic succession are intruded by or juxtaposed to granitoids.

Several previous companies have conducted gold exploration programs within the project, with two gold deposits within excised tenements central to the Barlee project, namely the Halley's East and Phils Deposits. The Halley's East gold deposit produced approximately 19,000 ounces of gold between 2013 and 2015.

Previous exploration work within the Barlee Project has identified a number of prospects outside of the main Halley's - Phils prospect area. All have returned anomalous gold intercepts and are still open in several directions, requiring further work. Gold mineralisation at the Lost Bolt prospect occurs in strongly sheared and altered sediments, controlled by a NNW shear, parallel to the granite contact. Mineralised intersections at the Lost Bolt prospect include 4m @ 1.8g/t Au from 24m and 11m @ 0.4g/t Au from 18m including 2m @ 1.3g/t Au from 25m. RAB drilling at the Fenceline prospect returned 4m @ 1.07g/t Au from 8m and 8m @ 1.28g/t Au from 8m. Outside of the Halley's East area, very few drillholes have tested the fresh bedrock with the deepest drillhole on the tenement being 130m.

FMG held the ground from 2015 to 2020 completing aircore drilling targeting gold mineralisation associated with lithological contacts and structures mainly along the western margin of the project. Drilling intersected a number of low-level gold anomalies including elevated REE's in the western granite.

A large Banded Iron Formation (BIF) unit trends north-south through the project on the eastern side, Duketon rock chipping returned assays up to 57.42% Fe.

Authorised for release by:
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Competent Person Statement:

The information in this release that relates to exploration results is based on information compiled by Ms Kirsty Culver, Member of the Australian Institute of Geoscientists (AIG) and an employee of Duketon Mining Limited. Ms Culver has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being undertaken to qualify as a competent person as defined in the JORC Code 2012. Ms Culver consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

APPENDIX 1: REE Assay Results from Historic Drill Hole LBAC0106 (11m – 12m, EOH)

Hole ID	From	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nd	Pr	Sm	Tb	Tm	Y	Yb	TREO	LREO	HREO	MREO
	m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
LBAC0106	11	12	329	33	24	4	25	7	103	4	88	23	21	5	4	270	30	**971**	564	406	195

JORC Table 1

JORC Code, 2012 Edition – Table 1 report – Barlee Project

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 (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.* • *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 (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.*	HISTORIC DATA • Various drilling methods have been employed by previous workers in the historic data presented, including RAB, aircore and RC drilling. • Drillholes have been sampled at various intervals which include multi and single metre composites. • The exact sampling methods cannot be determined, with confidence, from the historic data. DKM DATA • 250 grams of soil sample were collected using a -2mm sieve from approximately 100mm depth. Samples were sent to Labwest Minerals Analysis Pty Ltd (Labwest) in Perth. • The <2 micron fraction is separated from the sample using settling with water and a dispersant. It is then analysed for 50 elements using a Aqua Regia microwave digest and ICP-MS & ICP-OES finish. • Rock samples were analysed at Intertek Maddington by sodium peroxide fusion with ICP-MS finish.
Drilling techniques	• *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*	HISTORIC DATA • Various drilling methods have been employed by previous workers in the historic data presented, including RAB, aircore, RC and diamond

Criteria	JORC Code explanation	Commentary
	type, whether core is oriented and if so, by what method, etc).	drilling.
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.*	• Due to the historic nature of the data, recovery cannot be determined with confidence. • The relationship between sample recovery and grade has not been determined.
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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	HISTORIC DATA • Not all geological data for all drillholes is available. Where data is available, it has been compiled. The data will be unsuitable for use in a Mineral Resource or more advanced study and is to be used as an exploration aid only.
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.*	HISTORIC DATA • The nature of the sub-sampling of the RAB, aircore and RC chips has not always been determined due to the historic nature of the data. • The sample preparation and sample size information is not always available due to the historic nature of the data.
Quality of assay data	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered*	HISTORIC DATA • QAQC protocols are not always provided in the historic data and

Criteria	JORC Code explanation	Commentary
and laboratory tests	*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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	it is unlikely to be to the same level as current industry standards. DKM DATA • Quality control procedures included the insertion of standards, blanks and duplicate samples along with laboratory standards and repeats. • Some pXRF analysis has been undertaken on the field drill sample chips, however as the pXRF is not a definitive tool for REE analysis, only laboratory assayed results are reported. • Rare earth element analyses were originally reported in elemental form but have been converted to relevant oxide concentrations as is the industry standard. • TREO = La2O3 + CeO2 + Pr6O11+Nd2O3 +Sm2O3 + Eu2O3 + Gd2O3 + Tb4O7 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Lu2O3 + Y2O3 Element to Oxide Conversion Factor are:

Element	Conversion Factor (multiplier)	Oxide
La	1.1728	La2O3
Ce	1.2284	CeO2
Pr	1.2082	Pr6O11
Nd	1.1664	Nd2O3
Sm	1.1596	Sm2O3

Criteria	JORC Code explanation	Commentary
		<table><tr><td>Eu</td><td>1.1579</td><td>Eu2O3</td></tr><tr><td>Gd</td><td>1.1526</td><td>Gd2O3</td></tr><tr><td>Tb</td><td>1.1762</td><td>Tb4O7</td></tr><tr><td>Dy</td><td>1.1477</td><td>Dy2O3</td></tr><tr><td>Ho</td><td>1.1455</td><td>Ho2O3</td></tr><tr><td>Er</td><td>1.1435</td><td>Er2O3</td></tr><tr><td>Tm</td><td>1.1421</td><td>Tm2O3</td></tr><tr><td>Yb</td><td>1.1387</td><td>Yb2O3</td></tr><tr><td>Lu</td><td>1.1371</td><td>Lu2O3</td></tr><tr><td>Y</td><td>1.2699</td><td>Y2O3</td></tr></table>
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.*	HISTORIC DATA • The historic data cannot be verified and it has been collected from publicly available sources.
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.*	HISTORIC DATA • The survey method for collar co-ordinates is not always presented in historic data. Visual checks have been applied where possible using aerial photography and/or Google Earth imagery to locate holes correctly if errors are discovered. DKM DATA • Sample points were located using a handheld GPS in GDA94Z50
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.*	• Data has been collected at various spacing.

Criteria	JORC Code explanation	Commentary
	• *Whether sample compositing has been applied.*	
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.*	• The historic data is to be used as a guide to future exploration and at face value has been collected in a manner that is sensible with respect to gross geological trends however more detailed interpretation would be required to assess this further.
Sample security	• *The measures taken to ensure sample security.*	• Due to the historic nature of the data presented, this cannot be determined.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No external audits or reviews have been conducted apart from internal company reviews as this is publicly available, historic data.

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.*	• The tenement E77/2717 is 100% owned by Duketon Mining Limited and is in good standing and there are no known impediments to obtaining a licence to operate in the area. • The historic data presented, however, has not been collected by Duketon Mining Limited and was not collected originally on tenements owned by Duketon Mining Limited.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The data presented was collected by various companies including Beacon Minerals Limited, Fortescue Metals Group Ltd, , Helix Resources,, Savage Australian Exploration Pty Ltd, ,and Battle Mountain (Australia) INC..
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The anomalies and intersections presented in the historic data are sourced from typical Archaean Greenstone rocks of the Yilgarn Craton..

Criteria	JORC Code explanation	Commentary

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.*
		• N/A (drillholes not considered material as all aspects of the drillhole cannot be confirmed as they are historic)

Data aggregation methods	• *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.* • *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.*	• Results have been presented as collected from historic data sources. • No metal equivalents are reported, however elemental assay results have been converted via industry standard factors as outlined in Section 1 of this JORC table 1 above to allow reporting of total rare earth oxides (TREO).
Relationship between mineralisation widths and intercept lengths	• *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 (eg 'down hole length, true width not known').*	• Mineralisation orientations have not been determined conclusively.
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.*	• Refer to figures in document.

Criteria	JORC Code explanation	Commentary
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.*	• The historic data presented is to illustrate trends only and all available data is provided.
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.*	• Refer to document.
Further work	• *The nature and scale of planned further work (eg 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.*	• Further work will include detailed interrogation of historic data and possible follow-up and extension of this work and/or application of trends identified to other sections of the geological regime being investigated.