ASX Announcement

4 October 2022

ODESSA MINERALS

Rare Earth Element (REE) Exploration Targets Identified at Lyndon Project

Gascoyne Province, Western Australia

HIGHLIGHTS

- ***Reprocessing of Government airborne geophysical data has defined Seven (7) thorium anomalies prospective for REE mineralisation***
- ***These thorium anomalies are similar to those coincident with the Yin REE carbonatite currently being explored by Dreadnought (ASX:DRE) 75km to the East***
- ***The Lyndon L1 thorium anomaly is coincident with a dark-coloured, 400m-wide circular feature that could be an outcropping REE carbonatite***
- ***High-resolution (50m line-spacing) airborne magnetic/radiometric survey is currently being planned to substantially improve the resolution and definition of magnetic and radiometric (thorium) exploration targets.***

Odessa Minerals Limited (ASX: ODE) (Odessa or the Company) is pleased to advise the results of recently commissioned reprocessing of Government regional-scale (200m to 400m line-spacing) and company project-scale (100m line spacing) open-file airborne geophysical data. This study resulted in the identification of seven (7) initial thorium anomalies (Figure 1) considered prospective for REE mineralisation.

The L1 thorium anomaly, shown in Figure 2, is presented as an example of one of the seven initial REE exploration targets. This thorium anomaly (L1) is coincident with a dark-coloured, 400m-wide circular feature that is possibly an outcropping REE carbonatite (Figure 2). Field checking and sampling of initial REE exploration targets will commence within the next few weeks once Heritage protocols have been completed.

In 2021, Dreadnought Resources Limited (DRE), whose Mangaroon Project adjoins Odessa's Lyndon Project (Figure 3), initially used the same Government radiometric data to identify the Yin, Y2 and Y3 carbonatite-related REE ironstones. The subsequent acquisition by Dreadnought of higher-resolution (50m line-spacing) airborne radiometric data 'resulted in the identification of 85 anomalies prospective for REE mineralisation' (DRE Quarterly Report June 2022).

Odessa Executive Director, David Lenigas, commented: ***"Apart from the significant lithium potential already announced at Lyndon, the identification of these initial thorium exploration targets, which are similar to those used by Dreadnought to discover the first of their REE-carbonatites, really does highlight the discovery potential of Lyndon. Odessa intends in the coming months to fly a high-resolution (50m line-spacing) magnetic/radiometric survey when a survey aircraft becomes available to improve the resolution and definition of magnetic and radiometric anomalies that could be related to REE mineralisation. We are moving fast to get on the ground and field checking of these exploration targets will commence shortly."***

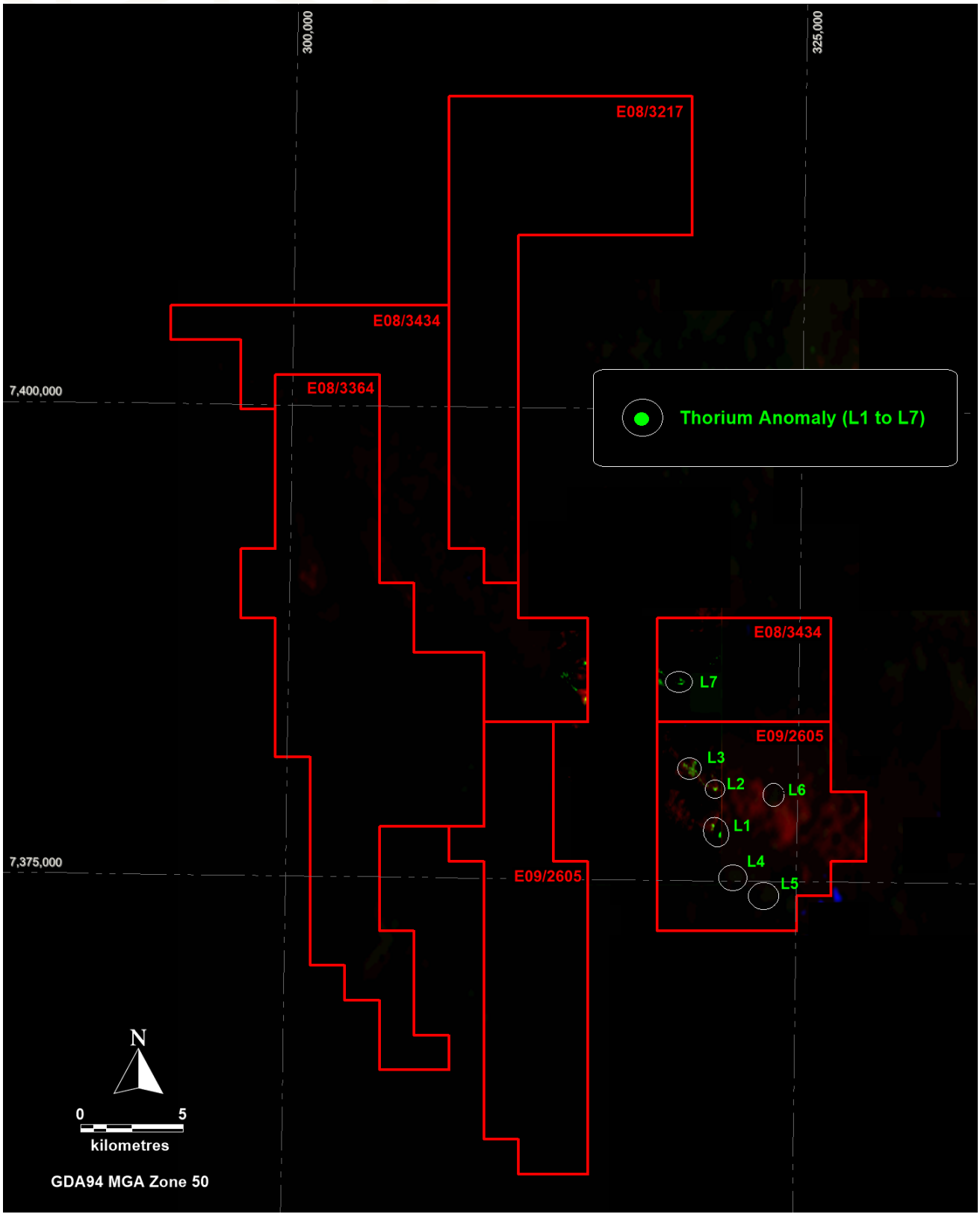

Figure 1: Lyndon Project high amplitude (strong) thorium anomalies with initial numbered exploration targets highlighted.

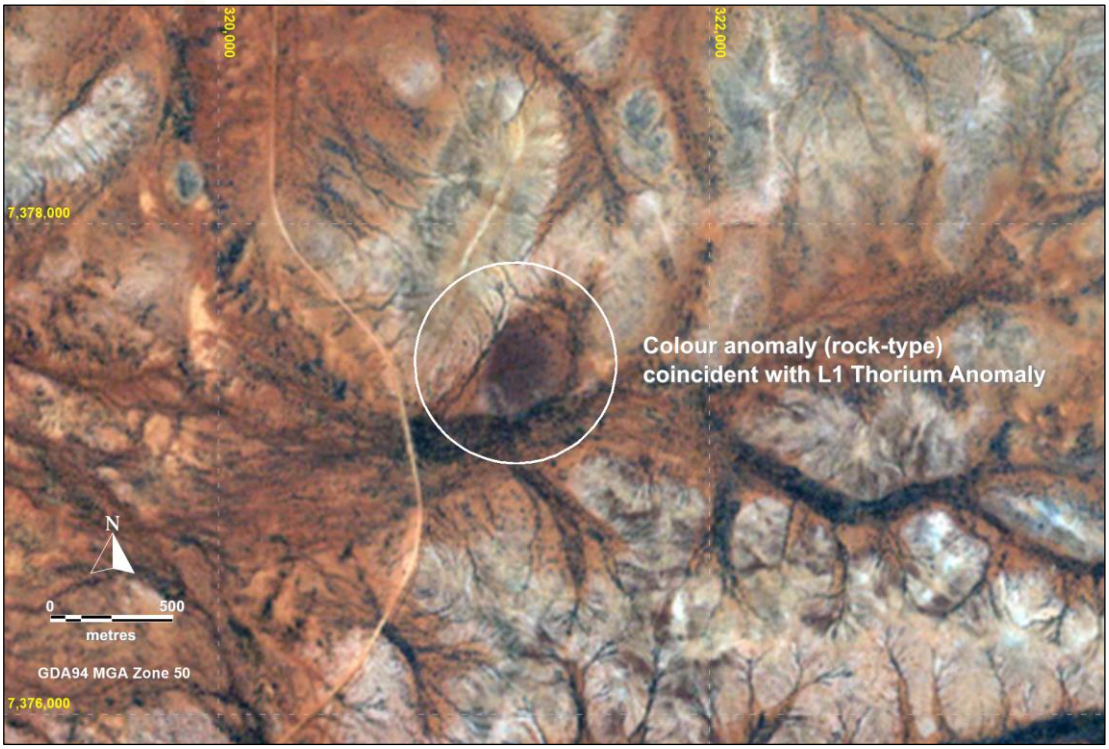

Figure 2: L1 REE Exploration Target represented by a 400m wide, dark-coloured circular feature coincident with the L1 thorium anomaly.

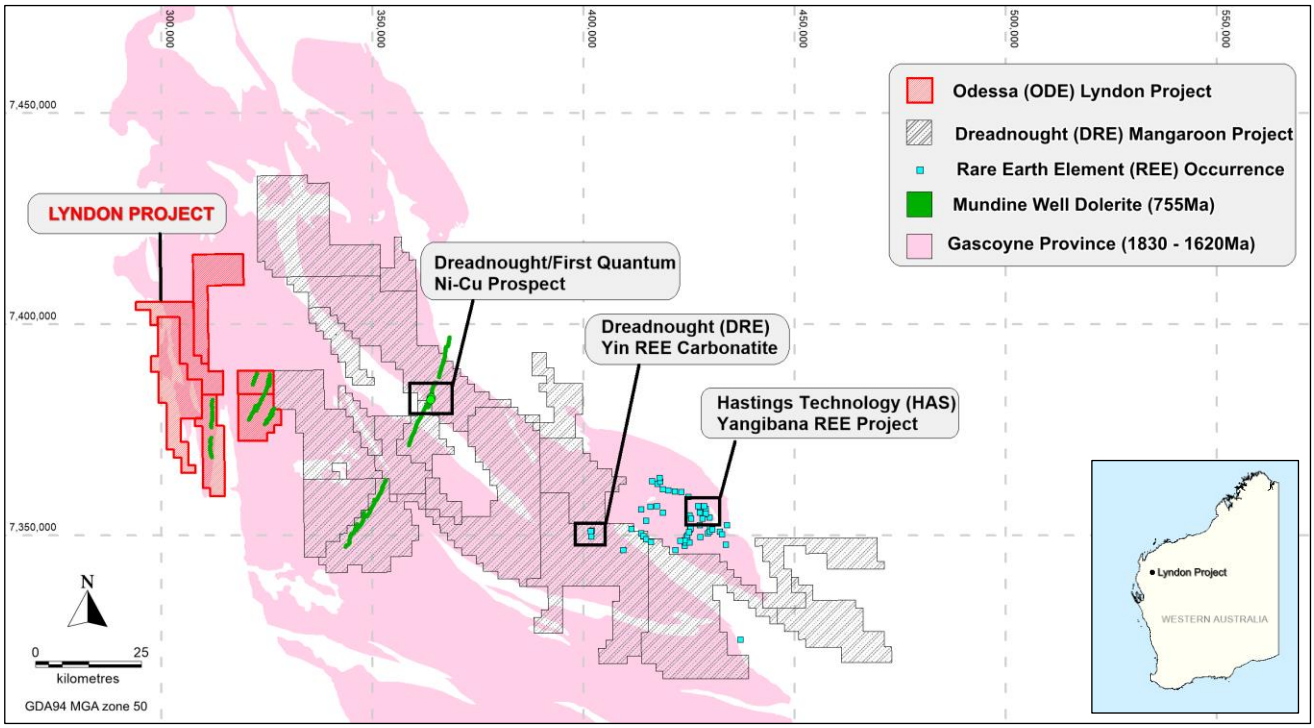

Figure 3: Lyndon Project - Location and Regional Geology

Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled and reviewed by Mr. Robert Perring who is a geologist and consultant to Odessa Minerals Limited. Mr. Perring is a Registered Professional with the Australian Institute of Geoscientists and has sufficient experience that is relevant to the styles of mineralisation and types of deposits under consideration 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' (JORC code). Mr. Perring consents to the inclusion in this report of the matters based on the information compiled by him in the form and context in which it appears.

This announcement has been approved for release by the Board of Odessa Minerals.

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JORC CODE, 2012 EDITION – TABLE 1

Section 1 Sampling Techniques and Data

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.*	• Rock-chips samples were collected using a sledgehammer from in-situ outcrop or float that hadn't been transported more than 20m from its potential source. Each sample was collected as multiple small chips from an area of approximately 4 square metres to give a typical sample weight of approximately 1kg. • Drainage samples were collected from first- or second-order streams, and each sample was sieved and the minus 10mm fraction collected to give a typical sample weighing of approximately 1kg. • The samples were pulverised in the laboratory (Intertek Genalysis, Perth) and 60 elements determined using a four-acid digest MS finish (4A/MSQ48R).
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 type, whether core is oriented and if so, by what method, etc).*	• Not applicable as no drilling was undertaken.
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*	• Not applicable as no drilling was undertaken.

Criteria	JORC Code explanation	Commentary
	occurred due to preferential loss/gain of fine/coarse material.	
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.*	• The rock samples were logged for lithology, mineralogy and grain size (pegmatoidal, coarse-grained). The data is recorded in a book in the field and entered into a digital spreadsheet in the office.
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.*	• Rock-chips samples were collected using a sledgehammer from in-situ outcrop or float that hadn't been transported more than 20m from its potential source. Each sample was collected as multiple small chips from an area of approximately 4 square metres, to give a typical sample weight of approximately 1kg. • Drainage samples were collected from first- or second-order streams, and each sample was sieved and the minus 10mm fraction collected, to give a typical sample weighing of approximately 1kg. The geochemistry of these drainage samples is considered to be indicative of the geochemistry of all rocks within the catchment. • The sample geochemistry is being used to highlight areas with favourable combinations of elements (pathfinder elements) that will be followed-up with systematic, higher density sampling. • None of the sample geochemistry is being used to determine grades in ore estimations. • No QAQC measurements (repeat samples) were conducted in the field.
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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and*	• The samples were digested using a four acid (4A) technique and analysed by ICP-MS finish. This digest is extremely effective in dissolving silicate minerals and extracting the component elements. • Laboratory QAQC was relied upon and involves the use of repeats and internal laboratory standards using certified reference material and blanks.

Criteria	JORC Code explanation	Commentary
	precision have been established.	
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.*	• Rock-chip and drainage samples information was recorded in a book in the field and entered into a digital spreadsheet. The accuracy of the data entry was checked by comparison with the original laboratory results sheet by a qualified person. • The laboratory reports assay results as element parts per million (ppm). When the oxide for an element is reported, international standard conversion factors have been used.
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.*	• Surface sample locations were collected by hand held GPS with an accuracy of +/- 5m. • Grid Datum: GDA94 MGA Zone 50
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.*	• Sample spacing is variable and is determined by the location and distribution of outcrop and streams.
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.*	• Rock sample geochemistry is considered point data and is independent of orientation and sample bias. • Drainage sample geochemistry is considered to reflect the diluted geochemistry of rocks exposed within the catchment.
Sample security	• *The measures taken to ensure sample security.*	• The samples are collected and transported to the laboratory by the person who collected the samples and at no time were the samples out of that person's control.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• The sample preparation methodology and analytical techniques are considered appropriate for the elements determined. The laboratory is an Internationally Accredited Laboratory.

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.*	• Lyndon Project area held under four Exploration Licenses. • Odessa Minerals Ltd announced to the ASX on the 26 April 2022 "Proposed Strategic Lithium Acquisition Lyndon Project Western Gascoyne". • E08/3364 Grant Date: 25 July 2022 • E08/3434 Grant Date: 7 September 2022 • E09/2605 Application Date: 30 July 2021 • Odessa Minerals Ltd then announced to the ASX on the 20 September 2022 "Lithium/REE Tenement Acquisition – Lyndon Project", which added E08/3217 to the Lyndon Project. • E08/3217 Grant Date: 04 January 2022. • CRC Minerals Pty Ltd and Odessa are not aware of any circumstances that would prevent E09/2605 from being granted in 2022. • Heritage agreements have been signed with the Native Title Holders – the Budina People and the Thudgari People.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Other than the geochemistry for 20 surface samples (ODE ASX 12 September 2022), no surface sampling or drilling exploring for Li, REE or Ni-Cu has ever been conducted within the Lyndon Project area. • Govt low-resolution airborne magnetic and radiometric data reprocessed by a qualified and experienced geophysicist for Odessa. The gridded data was downloaded via the GSWA Data Centre. The gridded thorium data was stretched and the highest 10% of thorium survey data coloured green in the figure (Figure 1) used in the announcement. • Company (Raisama Limited) airborne geophysical data (Reg. No. 70338, 100m lines, 25m sensor) downloaded from GSWA Data Centre and reprocessed. The gridded thorium data was stretched and the highest 10% of thorium survey data coloured green in the figure (Figure 1) used in the announcement.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Area considered prospective for Li-bearing pegmatites, REE-bearing carbonatites and magmatic Ni-Cu sulphide in mafic sills. Mineralisation of these types has been discovered by other explorers elsewhere within the Gascoyne Province.
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:*	• Not applicable as no exploration drilling for Li, REE or Ni-Cu has ever been conducted within the Lyndon Project area.

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	○ *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.*	
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.*	• No aggregated or weighting has been performed on the rock-chip or drainage samples. • Rock-chip sample geochemistry is considered to be point data, and drainage geochemistry is considered to be indicative of the geochemistry of outcropping rocks with the catchment, but in a diluted form. • No metal equivalents have been used. • The laboratory reports assay results as element parts per million (ppm). When the oxide for an element is reported, international standard conversion factors have been used.
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 (eg 'down hole length, true width not known').*	• The rock-chip geochemistry is considered to be point data. • While samples were collected from a range of lithologies, samples of pegmatites were preferentially sampled in some cases to determine background concentrations of pegmatite-bearing elements.
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.*	• Summary diagram showing project location and the location of thorium anomalies are included in this announcement.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low*	• Reporting in this announcement is considered fair and reasonable.

Criteria	JORC Code explanation	Commentary
	and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	
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.*	• The GSWA 1:100,000 scale Lyndon Geological Series Map (#1950) shows a large area of tourmaline-muscovite pegmatite that largely outcrops within the Lyndon Project area. • The Lyndon Project area is comprised largely of Durlacher Supersuite granitoid. A neighbouring company (DRE) continues to identify new REE carbonatites within the same Supersuite in their adjoining project area. DRE has followed-up thorium radiometric anomalies and discovered outcropping REE carbonatites, some of which are currently being drill tested.
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.*	• Helicopter-supported reconnaissance of the project area with the objectives of inspecting and sampling (1) the rocks that coincide with thorium anomalies, (2) any large pegmatite bodies, and (3) any rocks found along the margins of the mafic sills that contain sulphide. • Also in the planning stage is an initial, systematic (100m by 100m) soil sampling program centred around the lithium anomalous samples reported in this announcement. • High-resolution (50m flight line spacing) airborne magnetic and radiometric survey).