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3 March 2023

New Ironstones Defined at Lyons Additional Targets Identified from Satellite Data

- New ironstones discovered during recent sampling of Satellite Targets
- North-easterly trending ironstones up to 1.4km in length returns up to 0.4% TREO within the large LI-01 Carbonatite target
- Anomalous Carbonatite indicator minerals return up to 0.25% $Nb_2O_{5,}$ 0.3% P_2O_5 and 0.72% ZrO_2 from four newly discovered ironstones within the LI-01 Carbonatite target
- Two Carbonatite targets LI01-01 and LI03-01 are planned to be drill tested along their magnetic margins with 2 EIS co-funded 450m diamond drillholes in April.
- 25 Worldview satellite ironstone outcrop targets have been identified and planned for follow-up sampling this month
- An extensive pipeline of Worldview satellite and geophysical targets of ironstone trends and carbonatites under thin cover to be drill tested with a >10,000m drilling program starting in April

Mr Brian Thomas, Lanthanein Technical Director commented "The Lyons rare earths project has proven rare earth mineralisation within ironstones within 1.4km of the Hastings Technology Metals proposed open cuts. Continuing exploration has shown the occurrence of Carbonatite mineralisation within our main Carbonatite target at LIO1-01. Together with the financial support of the WA Government, two of our Carbonatite targets will be tested with deep diamond drill holes along their magnetic altered margins to better define the geology in an area that remarkably has no historical exploration. Following the drilling of the Carbonatite targets, Lanthanein will continue with an extensive +10,000 metre RC drilling program to test for rare earth elements associated with extensive ironstone targets defined by both geophysics and the high-resolution Worldview satellite imagery."

Lanthanein Resources Ltd (ASX: LNR) (Lanthanein or the Company) is pleased to announce the discovery of new ironstones found during recent fieldwork following up of Wordview satellite targets at the Lyons Rare Earths Project in Western Australia (Lyons Project). Anomalous Carbonatite signature mineralisation demonstrates the potential for both high grade REE mineralisation and larger tonnage REE and Nb₂O₃ within the main LIO1-01 carbonatite target areas (Figure 1).



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Anomalous Carbonatite indicator minerals from four newly discovered ironstones within the LI-01 Carbonatite target (Figure 1, Table 1) include:

- WVLY07 1400m long ironstone outcrop (LNR3430) 0.25% Nb₂O₃ and 0.25% ZrO₂ (LNR3431) 0.25% TREO, 0.22% Nb₂O₃ and 0.72% ZrO₂
- WVLY31 (LNR3435) 0.33% TREO and 0.3% P₂O₅
- WVLY32 (LNR3436) 0.4% TREO
- WVLY42 (LNR3432) 0.12% Nb₂O₃

Two Carbonatite targets LI01-01 and LI03-01 (Figures 2 and 3) are planned to be drill tested in April with WA Government co-funded EIS drilling. Carbonatites are becoming increasingly important due to potential to host economic quantities of Th, U, Nb, P, Y and rare earth elements, which are strategically important for modern technology. Drilling will be critical to understanding the mineralisation potential of the modelled carbonatites, to determine width, grade, and continuity at depth and along the modelled outer magnetic rim.

Within the Lyons Block and along the Bald Hill Lineament (Figure 2 and 3), numerous carbonatite intrusions have been modelled from the airborne magnetics with a similar dimension to the Mt. Weld carbonatite (refer to ASX Announcement dated 17 October 2022).

Worldview-3 satellite imagery (30cm Panchromatic, 1.2m Multispectral VNIR, and 3.7m SWIR Resolution) was acquired to help delineate ironstone outcrop (refer to ASX Announcement dated 9 November 2022). Follow-up rock chip sampling of these targets identified a number of ironstone outcrop extending to over 1400m in length at WVLY07 within the Carbonatite complex LI01-01 (Figure 1). With geological information gained from the ground-truthing, reinterpretation identified 25 high priority outcrop ironstone targets (Figure 2, Table 2).

The Worldview satellite ironstone target WLY021 (Figure 2) occurs as a 2,000m long east-west feature, extending into the magnetic lineament ironstone target for an additional 800m west. A number of similar magnetic lineaments along the western boundary occur as splays off from the northeast trending magnetic lineament and host the Dreadnought Resources (Y42) ironstone (Figure 4). Fieldwork to ground check and sample this and other outcropping targets is planned to commence later this month.

An extensive pipeline of Worldview satellite and geophysical targets of ironstone trends and carbonatites under thin cover set-to be drill tested with a >10,000m drilling program commencing in April.



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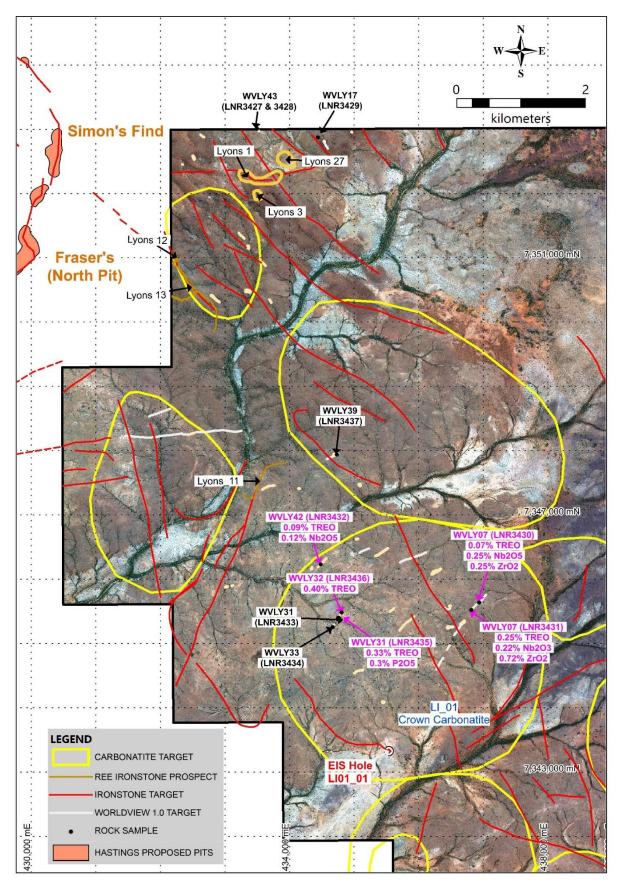


Figure 1. Location of Satellite Ironstone Targets and Outcrop Rock Samples



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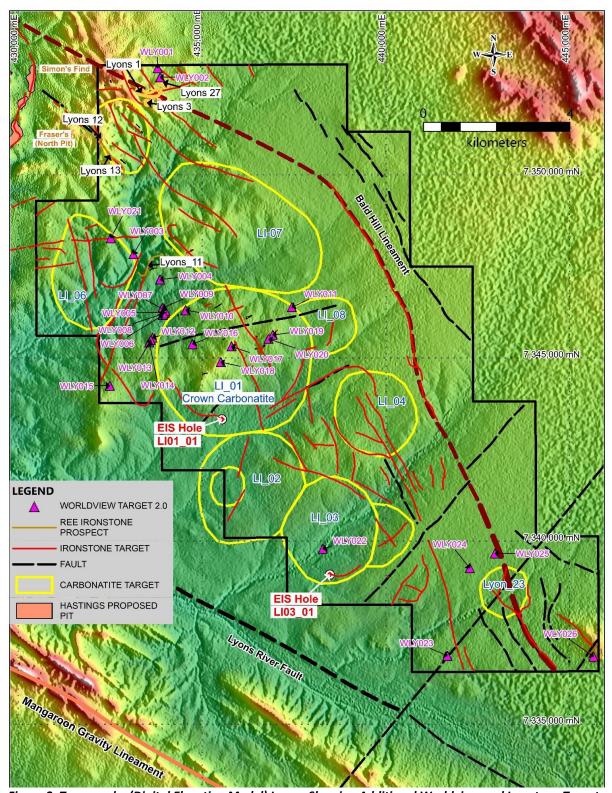


Figure 2. Topography (Digital Elevation Model) Image Showing Additional Worldview and Ironstone Targets



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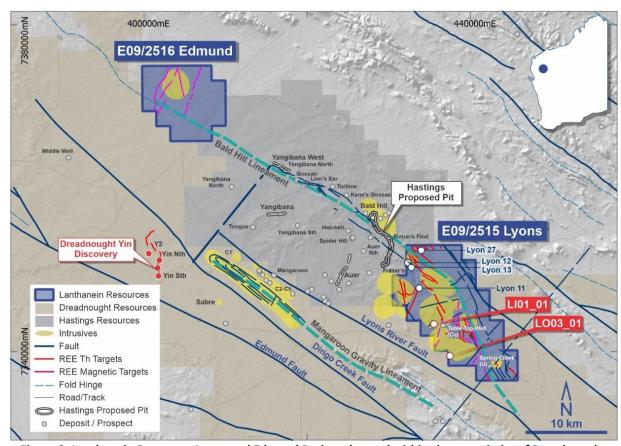


Figure 3. Lanthanein Resources Lyons and Edmund Projects located within close proximity of Dreadnought Resources Yin discovery and Hastings Technology Metals Yangibana REE mine

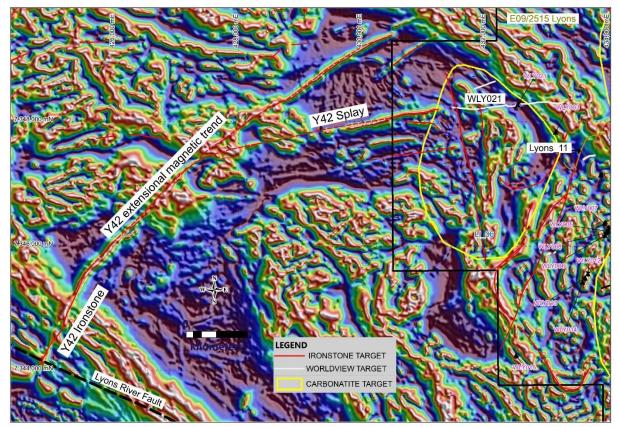


Figure 4. Magnetics Image Showing Y42 Ironstone Magnetic Trend and Splay



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Table 1: Outcrop Rock Chip Results with Highlighted Anomalous Results (GDA94 MGAz50)

Sample ID	Target	Easting	Northing	Nb ₂ O ₅	Nd ₂ O ₃	P ₂ O ₅	Pr ₆ O ₁₁	ZrO ₂	TREO%	Nd+Pr:TREO	Comments
LNR003427	WVLY043	433495	7353008	0.06	0.01	0.08	0.01	0	0.07	29%	Qtz/ironstone
LNR003428	WVLY043	433495	7353010	0	0	0.09	0	0	0.06	0%	Qtz/ironstone
LNR003429	WVLY017	434438	7352873	0	0	0.58	0	0.02	0.04	0%	Qtz/ironstone
LNR003430	WVLY007	436934	7345639	0.25	0.01	0.04	0	0.25	0.07	14%	Qtz/ironstone on 340m NE trend
LNR003431	WVLY007	436814	7345521	0.22	0.05	0.21	0.01	0.72	0.25	24%	Qtz/ironstone
LNR003432	WVLY042	434482	7346232	0.12	0.01	0.03	0.01	0.02	0.09	22%	Qtz/ironstone
LNR003433	WVLY031	434742	7345376	0.07	0.02	0.09	0.01	0.04	0.15	20%	NE trending qtz/ironstone outcrop
LNR003434	WVLY033	434666	7345256	0	0.01	0.15	0	0.06	0.06	17%	Extension of WVLY032- 31-33 qtz/ironstone
LNR003435	WVLY031	434755	7345403	0.04	0.07	0.30	0.02	0.03	0.33	27%	Highly Magnetic ironstone
LNR003436	WVLY032	434805	7345484	0.02	0.06	0.17	0.02	0.03	0.40	20%	Extension of WVLY031 qtz/ironstone
LNR003437	WVLY039	434731	7347941	0	0	0.14	0	0.03	0.06	0%	Quartz float

Table 2: Worldview Second Phase Satellite Ironstone Targets (GDA94 MGAz50)

Target_ID	Easting	Northing	Comments
WLY001	433790	7352918	Outcrop trending WNW along a Th ironstone target
WLY002	433857	7352672	Northerly trending white outcrop
WLY003	433127	7347835	East West trending outcrop with low Host Rock, Gypsum & AlunKaol imagery
WLY004	433856	7347144	Outcrop with associated low Host Rock and AlunKaol imagery
WLY005	433983	7346239	NE trending white outcrop dyke with Low Gypsum and AlunKaol imagery
WLY006	433930	7346173	NE tending white outcrop with Low Gypsum and AlunKaol
WLY007	433997	7346296	NE trending white qtz/ironstone dyke low in gypsum and Host Rock imagery
WLY008	433946	7346216	NE trending white outcropping qtz/ironstone dyke low in gypsum and Host Rock
WLY009	433918	7346370	NE trending white outcrop over 200m long. Low in gypsum, host rock and AlunKaol
WLY010	434552	7346308	NE trending outcropping dyke along same lineament as WVLY42. Low HostRock and gypsum
WLY011	437438	7346388	NE trending white outcrop part of 50m linear dyke. Low HostRock and gypsum
WLY012	433651	7345556	NE trending white outcrop. Low HostRock, gypsum and AlunKaol imagery
WLY013	433604	7345492	NE trending white outcrop. Low HostRock, gypsum and AlunKaol imagery
WLY014	433565	7345425	NE trending white dyke. Low HostRock and gypsum imagery. Part of 160m lineament
WLY015	432487	7344244	White outcrop. Low HostRock and gypsum imagery
WLY016	434738	7345379	Linear white outcrop with low Gypsum and Low Host Rock imagery with 0.15% & 0.33% TREO in outcrop sample assays
WLY017	435798	7345317	NE trending white outcrop. Low HostRock and gypsum imagery. Part of a 360m lineament
WLY018	435508	7344890	NE trending white outcrop of qtz/ironstone. Low HostRock, gypsum & AlunKaol imagery
WLY019	436921	7345630	NE trending white outcrop with 0.25% Nb in rock samples. Low HostRock, gypsum and AlunKaol imagery
WLY020	436808	7345522	ENE trending white outcrop with 0.25% TREO. Low HostRock and gypsum imagery
WLY021	432514	7348274	White linear outcrop Gypsum and Host Rock Low anomaly
WLY022	438281	7339790	Unusual white outcrop in creek near EIS hole. Low gypsum and AlunKaol, High Th
WLY023	441671	7336866	White float on edge of magnetic low. Low HostRock imagery
WLY024	442281	7339262	Linear White outcrop
WLY025	442966	7339664	Vegetation and spectral anomaly. Possible carbonatite plug?
WLY026	445643	7336846	NE trending white qtz blow in SE corner of the tenement



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

For additional information please visit our website at www.lanthanein.com

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The Company confirms that it is not aware of any new information or data that materially affects the information in the original reports, and that the format and context in which the Competent Person's findings are presented have not been materially modified from the original reports.

Competent Person's Statement

The information in this document that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr. Thomas Langley who is a member of the Australian Institute of Geoscientists (MAIG) and a member of the Australasian Institute of Mining and Metallurgy (MAusIMM). Mr. Thomas Langley is a consultant of Lanthanein Resources Limited, and is a shareholder, however Mr. Thomas Langley believes this shareholding does not create a conflict of interest, and Mr. Langley has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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. Langley consents to the inclusion in this presentation of the matters based on his information in the form and context in which it appears.

Competent Person's Statement

The information in this report that relates to Geophysical Exploration and Satellite Remote Sensing Results is based on information compiled by Peter Swiridiuk - Member of the Aust. Inst. of Geoscientists. Peter Swiridiuk is a Technical Consultant and Non-Executive Director for Lanthanein Resources. Peter Swiridiuk has sufficient experience which is relevant to the type of mineralisation and type of deposit under consideration to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code of Reporting Exploration Results, Mineral Resources and Ore Resources. Peter Swiridiuk consents to the inclusion in the report of the matters based on the information in the form and context in which it appears. Additionally, Mr Swiridiuk confirms that the entity is not aware of any new information or data that materially affects the information contained in the ASX releases referred to in this report.



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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 (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. 	Rock Chips were collected by Gascoyne Geological Services Geologist and submitted for analysis. Rock chips are random, subject to bias and often unrepresentative for the typical widths required for economic consideration. They are by nature difficult to duplicate with any acceptable form of precision or accuracy. Rock chips have been collected by Gascoyne Geological Services to assist in characterising different lithologies, alterations and expressions of mineralisation. In many instances, several rock chips were collected from a single location to assist with characterising and understanding the different lithologies, alterations and expressions of mineralisation present at the locality. Rock chips were submitted to ALS Laboratories in Perth for determination of Rare Earth Oxides by Lithium Borate Fusion XRF (ALS Method ME-XRF30).
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, facesampling bit or other type, whether core is oriented and if so, by what method, etc).	No drilling 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 	No drilling undertaken.



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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. 	No drilling undertaken.
Sub- sampling	If core, whether cut or sawn and whether quarter, half or all core taken.	Rock Chips
techniques and sample preparation	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Entire rock chips were submitted to the lab for sample prep and analysis.
	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.	
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 (ie lack of bias) and precision have been established. 	All samples were submitted to ALS Laboratories in Wangara, Perth where 1-3kg rock chips samples were crushed so that >70% of material passes through -6mm, the sample is then pulverised to >85% passing 75 micron. A 66-gram aliquot of pulverised sample is fused with 12:22 lithium borate flux containing an oxidizing agent, and poured to form a fused disk. The resultant disk is then analysed by XRF spectrometry specifically for Rare Earths (ALS Method ME-XRF30) Lithium borate fusion is considered a total digest and Method ME-XRF30 is appropriate for REE determination.



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Criteria	JORC Code explanation	Commentary
		No standards, duplicates or blanks submitted
		with rock chips.
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 Chips Rock chip and geological information is written in field books and coordinates and track data saved from handheld GPSs used in the field. Gascoyne Geological Services geologist inspected and logged all rock chips. Field data is entered into excel spreadsheets to be loaded into a database.
Location of data points	 Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control. 	All sample locations were recorded with a Garmin handheld GPS which has an accuracy of +/- 5m. GDA94 MGAz50.
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 and distribution is not sufficient to establish the degree of geological and grade continuity appropriate for a Mineral Resource.
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. 	At this early stage of exploration, mineralisation thickness's, orientation and dips are not known.
Sample security	The measures taken to ensure sample security.	 All geochemical samples were collected, bagged, and sealed by Gascoyne Geological Services staff and delivered to Bennalong Transport in Carnarvon. Samples were delivered directly to ALS Laboratories in Wangara, Perth by Bennalong Transport ex Carnarvon.



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Criteria	JORC Code explanation	Commentary
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been completed.

Section 2 Reporting of Exploration Results

(Criteria in this section apply to all succeeding sections.)

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. 	Lanthanein Resources Ltd entered into a conditional agreement to acquire all of the shares in Dalkeith Capital Pty Ltd (Dalkeith) which holds two granted exploration licences in the Gascoyne Region of Western Australia. The acquisition was completed on 4 January 2022. • The Gascoyne Project consists of 2 granted Exploration Licenses (E09/2515 and E09/2516). • All tenements are 100% owned by Dalkeith Capital. • The Gascoyne Project covers 2 Native Title Determinations including the Thudgari (WAD6212/1998) and the Combined Thiin-Mah, Warriyangka, Tharrkari and Jiwarli (WAD464/2016). • The Gascoyne Project is located over the following pastoral leases; Edmund, Gifford Creek, and Wanna.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Historical exploration of a sufficiently high standard was carried out in the region by a few parties including: Hurlston Pty Ltd 1986-1987: WAMEX Report A23584 Newmont 1990: WAMEX Report A32886 Newcrest 1990: WAMEX Report A36887 Desert Energy 2006-2007: WAMEX Reports A78056, A80879
Geology	Deposit type, geological setting and style of mineralisation.	The Gascoyne Project is located within the Gascoyne Province of the greater Capricorn Orogen – the region that records the collision of the Pilbara-Glenburgh Terrane at 2215–2145 Ma (Ophthalmian Orogeny) and eventual collision of Pilbara/Glenburgh and Yilgarn at 2005–1950 Ma (Glenburgh Orogeny), the Gifford Creek Carbonatite Complex (GCCC) intrudes the Durlacher Supersuite (including Yangibana and Pimbyana Granites) and the Pooranoo Metamorphics. The c.1360 Ma GCCC is composed of; NW striking Lyons River Sills (calcio-, magnesio- and ferrocarbonatites)



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Criteria	JORC Code explanation	Commentary
		,
		 ~NE striking fenite (alteration) veins Yangibana Ironstones (REE ore bodies) Magnetite-biotite dykes
		 Carbonatites in the region are thought to have been generated from melting of the Glenburgh Orogen-fertilized mantle during reactivation of structures (e.g. Lyons River Fault) at c. 1370 Ma followed by magma ascent along the same structures. The Gascoyne Project is prospective for Ferrocarbonatite hosted REEs.
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: a 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.	No drilling undertaken
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 drilling undertaken.
Relationship between	These relationships are particularly important in the reporting of	No drilling undertaken.



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Criteria	JORC Code explanation	Commentary
mineralisatio n widths and intercept lengths	 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'). 	
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 within this report.
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 accompanying document is a balanced report with a suitable cautionary note.
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.	Suitable commentary of the geology encountered are given within the text of this document. Targets were defined based on previous rock sampling and drilling lithology, radiometric and magnetics, and processed remote-sensed Worldview-3 imagery.
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. 	Mapping and sampling of the selected Worldview-3 Targets due to commence in the second week of November 2022 to evaluate interpretation ahead of a final interpretation. Additional RC drilling Diamond Drilling Metallurgical test work Resource Modelling