

5 August 2024

# 2024 MINERAL RESOURCE AND ORE RESERVE UPDATE

# Lynas announces a 92% increase in Mineral Resources<sup>1</sup> and a 63% increase in Mt Weld Ore Reserves<sup>2</sup> - with significant increase in contained Heavy Rare Earth mineralisation

- 92% increase in Mineral Resources from 55.4 Mt to 106.6 Mt at 4.12% Total Rare Earth Oxide (TREO) from 30 June 2018 to 30 June 2024<sup>1</sup>.
- 63% increase in Ore Reserves from 19.7 Mt to 32.0 Mt at 6.44% TREO from 30 June 2018 to 30 June 2024<sup>2</sup>.
- 46% increase in contained TREO compared to the August 2018 Mineral Resources estimate, adding resources and replacing depletion.
- Updated Ore Reserve supports >20 year mine life at expanded production rates for sufficient concentrate feedstock for production capacity of 12,000tpa of NdPr oxide finished product in line with Mt Weld expansion capacity (currently under construction).
- Ore reserves have a 92% increase in contained Dysprosium oxide from 30 June 2018 to 30 June 2024. All heavy rare earth element grades, including Terbium oxide, are now reported in the ore reserves statement.
- Stored tailings are added to the Ore Reserve as the Mt Weld expansion flowsheet has capability for fine grinding, enabling reprocessing to recover historical coarse losses of rare earth minerals.
- An increased inferred resource inventory primed for future infill drilling to indicated mineral resource and reserve growth.

Lynas Rare Earths Limited (ASX: LYC, OTC:LYSDY) ("Lynas") is pleased to release an updated Mt Weld Rare Earth Mineral Resource Statement which shows a significant increase in tonnage and contained TREO compared to the 2018 Mineral Resources and Ore Reserves Statement.

The Ore Reserve update will support:

- a >35 year mine life at production rates for sufficient concentrate feedstock for production capacity of 7,200 tpa NdPr (Neodymium Praseodymium) oxide finished product; and
- a >20 year mine life at expanded production rates for sufficient concentrate feedstock for production capacity of 12,000tpa of NdPr oxide finished product in line with Mt Weld expansion capacity (currently under construction).

Lynas is a proven supplier of specialty rare earth materials to customers in global markets, including high tech electronics and future facing technologies. The foundation of Lynas' success is ongoing access to an assured reserve. These results further demonstrate that the Mt Weld deposit in Western Australia is an expandable ore reserve for the rare earth elements needed to meet market requirements, including Heavy Rare Earth elements.

<sup>&</sup>lt;sup>1</sup> Mineral Resource cut-off grade of 2.5% TREO applied

<sup>&</sup>lt;sup>2</sup> Reserves cutoff of 2.8% TREO compared to 4.0% TREO used for 2018 Reserves



Lynas CEO and Managing Director, Amanda Lacaze commented: "We are delighted to release the 2024 Mineral Resources and Ore Reserves Statement which demonstrates the remarkable advantages of Lynas' Mt Weld deposit based on grades, total REO tonnage, NdPr content, and DyTb content. This updated Statement provides a 20-year life of mine at 12,000 tpa NdPr finished product production capacity, providing confidence to our customers that we can meet their needs for responsibly produced rare earth materials today and tomorrow.

"The 92% increase in Mineral Resources and 63% increase in Ore Reserves from 2018 to 2024 demonstrates the capability of our people to significantly improve orebody knowledge, assure ore reserves and continuously improve reserve extraction efficiencies. Over 84,000 metres of drilling have been performed since the previous Mineral Resource update in 2018 and the 2024 Mineral Resource includes mineralised clay zones above the saprolite ore zone of up to 3% REO.

"The updated Ore Reserve includes a 92% increase in contained Dy oxide from 30 June 2018 to 30 June 2024. Dy and Tb are essential for high performance rare earth permanent magnets used in electric vehicles and essential for high-tech electronics. The increase in reserves ensures feed for the recently announced DyTb separation circuit at Lynas Malaysia, supporting Lynas to serve the needs of existing customers and acquire new customers," Ms Lacaze added.

#### 2024 Mt Weld Rare Earth Mineral Resource

- Over 84,000 metres of drilling was performed since the previous Mineral Resource update in August 2018, targeting rare earth element mineral resources surrounding the open cut mine in the saprolite zone and to 200 metres below surface.
- The fresh carbonatite below the weathered laterite zone was encountered in all holes to 200 metres. Monazite is the major rare earth mineral in the dolomite carbonatite whilst parisite, synchysite and bastnasite are the predominant rare earth minerals in the dolomite phoscorite and calcite carbonatite surrounding the dolomite core of the Mineral Resource area.
- The Mt Weld Rare Earth Mineral Resources estimate is now 106.6 million tonnes at an average grade of 4.12% Total Rare Earth Oxide (TREO) for a total of 4.39 million tonnes of contained TREO. A Mineral Resource cut-off grade of 2.5% TREO was applied. The resource has been estimated in accordance with JORC 2012 guidelines and is summarised in Table 1.
- Compared to the August 2018 Mineral Resources estimate, the Mineral Resources has increased 92% from 55.4 Mt to 106.6 Mt and contained TREO has increased by 46% from 3.0 million to 4.39 million tonnes TREO, successfully adding resources and replacing depletion.

JORC Classification	Million Tonnes	TREO* (%)	TREO* ('000 tonnes)
Measured	20.0	7.2	1,435
Indicated	15.5	4.3	660
Inferred	71.1	3.2	2,295
Total	106.6	4.1	4,389

#### Table 1: Mt Weld Rare Earth Deposit Mineral Resource summary June 2024 at 2.5% TREO cut-off grade

\*TREO = total Rare Earth Oxides ( $La_2O_3$ ,  $CeO_2$ ,  $Pr_6O_{11}$ ,  $Nd_2O_3$ ,  $Sm_2O_3$ ,  $Eu_2O_3$ ,  $Gd_2O_3$ ,  $Tb_4O_7$ ,  $Dy_2O_3$ ,  $Ho_2O_3$ ,  $Er_2O_3$ ,  $Tm_2O_3$ ,  $Yb_2O_3$ ,  $Lu_2O_3$ ) + Yttrium ( $Y_2O_3$ ). Totals may not balance due to rounding of figures.



The mineral resource increases are due to additional drilling which identified:

- Lateral extension of mineralisation, extending outwards from the Central Lanthanide Deposit (CLD).
- Additional Heavy Rare Earth Elements mineralised zones in a general ring in the saprolite zone surrounding the CLD with concentrations up to 4,300 ppm Dy<sub>2</sub>O<sub>3</sub> to the north-west of the CLD.
- New Deep Apatite zone defined below the current pit and 2018 Life of Mine pit shell.
- Transitional (TR) and Fresh (FR) mineralisation below the 2018 Life of Mine pit shell extending outwards from the CLD.
- Mineralised clay zones above the saprolite ore zone of up to 3% REO.

#### 2024 Mt Weld Rare Earth Ore Reserve

The consistency of the saprolite weathering profile of the Mt Weld carbonatite was confirmed with lateral extensions of the central zone limonite (CzLi) and apatite (AP) rich ores in the enlarged mineral resource. A new deeper zone of apatite (DAP) below the Mt Weld open pit, was discovered during the carbonatite exploration program. This is an exciting addition to the mineral resource and, following assessment of modifying factors was converted to ore reserves for ore feed to the new processing facility currently under construction at Mt Weld.

Continuous improvements in the Lynas Rare Earths flowsheet and operational performance at Mt Weld and at Malaysia has revised the modifying factors applied to the 2024 Ore Reserve update estimate since those applied in the 2018 update. Cracking and leaching and the production of mixed rare earth carbonate (MREC) at the new Kalgoorlie Rare Earths Processing Facility has also been included in the modifying factors of the updated ore reserve.

- The Mt Weld Rare Earth Ore Reserves are now 32.0 million tonnes at 6.4% TREO for 2.0 million tonnes of contained TREO, as summarised in Table 2, and presented graphically in Figure 1.
- Compared to the August 2018 Ore Reserves, the 2024 Ore Reserve:
- i. Ore Reserves tonnage has increased 63%;
- ii. Average grade has reduced from 8.6% to 6.4% TREO, reflecting depletion and a revised cut-off grade;
- iii. Contained TREO has increased 22% from 1.690 million to 2.064 million tonnes;
- iv. Contained Dy oxide has increased 92% from 6,660 tonnes to 12,790 tonnes.

Table 2: Mt Weld Rare Eart	h Deposit Ore Reserve	summary June 202	24 at 2.8% TREO	cut-off
grade				

JORC Classification	Million Tonnes	TREO* (%)	TREO* ('000 tonnes)
Proved	21.2	7.4	1,579
Probable	10.8	4.5	485
Total	32.0	6.4	2,064

\*TREO = total Rare Earth Oxides ( $La_2O_3$ ,  $CeO_2$ ,  $Pr_6O_{11}$ ,  $Nd_2O_3$ ,  $Sm_2O_3$ ,  $Eu_2O_3$ ,  $Gd_2O_3$ ,  $Tb_4O_7$ ,  $Dy_2O_3$ ,  $Ho_2O_3$ ,  $Er_2O_3$ ,  $Tm_2O_3$ ,  $Yb_2O_3$ ,  $Lu_2O_3$ ) + Yttrium ( $Y_2O_3$ ). Totals may not balance due to rounding of figures.

- The increases in the Ore Reserves are due to:
  - Infill drilling of Inferred mineral resource to Indicated mineral resource and conversion to Probable Ore Reserves with modifying factors,
    - Lateral extensions of CzLi and AP,
    - Addition of a new Deep Apatite zone.
  - Assessment of modifying factors:



- Recoveries for CzLi and Apatite ores using plant operating results and test work applying the Mt Weld expansion flowsheet,
- Reserves cutoff of 2.8% TREO compared to 4.0% TREO used for 2018 Reserves,
- Long term price forecast of US\$22.48/kg TREO.
- Addition of separated heavy rare earth oxides with modifying factors to the Whittle optimisation of ore reserves.
- o Addition of Mt Weld processing tailings with an average 7.3% TREO.
- Updated financial modifying factors reflecting the costs of Mt Weld, Kalgoorlie and Lynas Malaysia.



Figure 1: Changes to Mt Weld Rare Earth Ore Reserve Contained TREO

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#### **Important Information**

#### Future performance

This announcement contains certain "forward-looking statements". The words "expect", "should", "could", "may", "will, "predict", "plan", "scenario", "forecasts", "anticipates" "estimates" and other similar expressions are intended to identify forward-looking statements. Forward-looking statements, opinions and estimates provided in this announcement are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Such forward-looking statements are provided as a general guide only and should not be relied upon as an indication or guarantee of future performance. There can be no assurance that actual outcomes will not differ materially from these forward-looking statements.



### Background

Lynas Rare Earths Limited (ASX: LYC, OTC:LYSDY) ("Lynas") is pleased to announce the results of its updated Mt Weld Mineral Resource Estimate and Ore Reserves.

The Mineral Resource is depleted for in situ mining up to 30 June 2023 at the end of Campaign 4 and has been reported in accordance with the JORC 2012. Mineral Resource estimation was completed by independent mining consultants Mining Plus and was based on data from reverse circulation (RC) drilling programs completed in various phases from 1990 through to 2024, with the addition of the government funded EIS diamond hole drilled to 1,000m and the carbonatite exploration and resource definition drilling. A total of 1,374 drillholes have been used to define the Mt Weld Rare Earth deposit for a total of 134,045 m of drilling.

The Mineral Resource estimate represents an update to that previously reported by Lynas on 6 August 2018, following additional 84,000 metres drilling completed from 2018 to 2024. A drill hole location plan is shown in Figure 2.



Figure 2: Plan view of hole collar points at Mt Weld. Current mined pit (grey) and dolerite dyke (green) displayed.

The REO mineralisation at Mt Weld is hosted within lateritic regolith comprising supergene-enriched material derived from the underlying intrusive carbonatite. Four distinct lithological zones have been identified and differentiated at Mt Weld, all of which are bound to the east by a northwest striking dolerite dyke. Table 3 describes the lithological zones identified and modelled at Mt Weld.



Modelled geological domains								
Lithological zone	Description							
Zone A Alluvium	A blanket of transported alluvial deposits consisting of quartz and rock material derived from hills to the east and deposited across the entire carbonatite and immediate surrounding region.							
Zone B Lake Sediments	Lacustrine sediments. These are freshwater sediments, mostly clays, calcrete and dolocrete filling constrained palaeostream channels and small lakes over the carbonatite. They are derived in part from the carbonatite, but mostly from surrounding weathered mafic rocks.							
Zone C Oxidised Bedrock	Weathered and oxidised basement rocks, mostly derived from the carbonatite intrusion, including surrounding variably metasomatised Archaean country rocks and a Proterozoic dolerite dyke bisecting the carbonatite.							
Zone D Unoxidised Basement	Unoxidised (unweathered) basement rocks including the carbonatite, metasomatised countryrocks to the intrusive complex, surrounding Archaean country rocks and younger intrusive dykes.							

#### Table 3: Lithological zones of Mt Weld Rare Earths deposit

Leapfrog Geo modelling software was used to generate the wireframes that formed the basis of this 2024 Mineral Resource estimate. The lithological zones were differentiated via contact surfaces defined by the geological logging and geochemical classification using ioGAS, for each corresponding lithological zone. These surfaces work together to generate output volumes via the assignment of a surface chronology. Figures 3 and 4 illustrate the modelled lithological zones at Mt Weld. The weathered oxidised (saprolite) zone extends laterally in all directions from the current open cut mine pit.



Figure 3: North section 6807012mE illustrating modelled lithological zones at Mt Weld, 31 May 2023 "as-mined" surface displayed in white.

# Lynas Rare Earths



Figure 4: North section 6807105mE lithological and mineralogical domains at Mt Weld

The Mt Weld carbonatite contains a central dolomite mineralogical domain which has weathered into an oxidised (saprolite) zone near surface, named the Central Lanthanide Deposit that contains the open cut mine pit. A dolomite phoscorite carbonatite forms a general ring surrounding the central dolomite which has also weathered near surface into an oxidised (saprolite) zone. A calcite carbonatite surrounds the dolomite-phoscorite carbonatite and is also weathered near surface into an oxidised (saprolite) zone.

All three mineralogical domains contain rare earth mineralisation. Monazite is the major rare earth mineral in the dolomite carbonatite whilst parisite, synchysite and bastnasite are the predominant rare earth minerals in the dolomite phoscorite and calcite carbonatite surrounding the dolomite core of the Mineral Resource area.

# Mt Weld Rare Earths Mineral Resource Estimate

Table 4 shows the 2024 Mt Weld Resource Estimate separated into the lithological domains of clay, saprolite, transitional and fresh carbonatite, tailings and stockpile resources.

Sampling at Mt Weld has been completed using Aircore (AC), Reverse Circulation (RC) and Diamond Drilling (DD) at different grid spacings. Most of the deposit has been drilled on a nominal 40 m x 40 m grid spacing, with grade control drilling (GC) occurring on 10 m x 10 m and 20 m x 20 m spacings. The exploration program used a combination of RC and DD at 100m x 100m and 80m x 80m spacing. All AC drilling has been validated, with one batch of samples not used for the estimate due to grade bias.



Domain	JORC Classification	Tonnes (Mt)	TREO* %	TREO* (Tonnes)
	Measured	-	-	-
Mineralised	Indicated	-	-	-
Clay	Inferred	0.8	2.98	24,446
	Total	0.8	2.98	24,446
	Measured	20.0	7.17	1,434,790
Contolito	Indicated	15.5	4.25	659,701
Sapronie	Inferred	13.4	6.00	433,213
	Total	49.0	5.92	2,527,704
	Measured	-	-	-
Transitional &	Indicated	-	-	-
Carbonatite	Inferred	56.8	3.23	1,837,573
	Total	56.8	3.23	1,837,573
	Measured	20.0	7.17	1,434,790
Total Insitu	Indicated	15.5	4.25	659,701
Resource	Inferred	71.1	3.23	2,295,231
	Total	106.6	4.12	4,389,722
	Measured	1.5	7.64	117,265
Tailings	Indicated	-	-	-
Resource	Inferred	-	-	-
	Total	1.5	7.64	117,265
	Measured	1.49	11.9	17,764
Stockpiles	Indicated	-	-	-
Resource	Inferred	-	-	-
	Total	1.49	11.9	17,764
	Measured	23.0	7.51	1,569,819
Total Mineral	Indicated	15.5	4.25	659,701
Resource	Inferred	71.1	3.23	2,295,231
	Total	109.6	4.28	4,524,751

 Table 4:
 Mt Weld Rare Earth Deposit Mineral Resource detailed summary June 2024 at 2.5% TREO cut-off grade

\* TREO = total Rare Earth Oxides ( $La_2O_3$ ,  $CeO_2$ ,  $Pr_6O_{11}$ ,  $Nd_2O_3$ ,  $Sm_2O_3$ ,  $Eu_2O_3$ ,  $Gd_2O_3$ ,  $Tb_4O_7$ ,  $Dy_2O_3$ ,  $Ho_2O_3$ ,  $Er_2O_3$ ,  $Tm_2O_3$ ,  $Yb_2O_3$ ,  $Lu_2O_3$ ) + Yttrium ( $Y_2O_3$ ). Totals may not balance due to rounding of figures. Mineral Resources have been reported above a cut-off of 2.5% TREO. The Mineral Resources are inclusive of Ore Reserves.

The total tonnage of the Mt Weld Rare Earth insitu mineral resource has increased by 92% since last updated in August 2018. The increase is a result of exploration and resource definition drilling programs that have extended mineralisation models in both the saprolite and fresh carbonatite. The mineral resource update includes drilling from the recently completed carbonatite exploration project (22 January 2024 ASX release) and infill drilling programs.

Exploration and resource definition drilling has defined an increase in heavy rare earths (HRE) mineralisation within the measured and indicated category, associated with the Deep Apatite zone and lateral extensions to



CzLi ore within the saprolite zone. This increase in measured and indicated HRE resources is further reflected in the conversion to ore reserves and Life of Mine plan.

The carbonatite exploration drilling has defined further increases in HRE within the inferred resource category, attributed to lateral extensions to mineralisation within the saprolite zone but is mostly associated with HRE mineralisation in the fresh carbonatite. The Mt Weld Rare Earth deposit mineral resource now contains 29,800 combined tonnes of terbium and dysprosium oxides.

The HRE mineralisation has a relatively higher concentration in a roughly circular annulus surrounding the CLD which contains the current Life of Mine ore reserve. The HRE mineralisation is associated with the underlying dolomite-phoscorite-carbonatite, characterised by magnetite, olivine, apatite and phlogopite. Mineralogy measurements with Mineral Liberation Analyser show that the heavy rare earths appear to be associated with churchite, a hydrated form of xenotime, and yttropyrochlore. Figure 5 illustrates the distribution of  $Dy_2O_3$  grades above 300ppm as light yellow and above 500 ppm as darker yellow.



Figure 5: Dy<sub>2</sub>O<sub>3</sub> >300ppm distribution around the Central Lanthanide Deposit

A secondary apatite zone below the Mt Weld open pit, named "Deep Apatite" was discovered during the carbonatite exploration drilling, this was promptly followed up by extensive resource definition drilling and metallurgical test work to achieve an indicated resource status and conversion to reserve. This secondary apatite zone is an exciting addition to the resource and reserves as ore feed for the new processing facility currently under construction at Mt Weld.

The carbonatite exploration drilling program, drilled to 200m below surface, added 37.1 million tonnes and 1.08 million tonnes of contained TREO into the inferred resource, taking the fresh carbonatite inferred resource from 10.2 million tonnes to 47.0 million tonnes at 3.08% TREO for 1.45 million tonnes of contained TREO. Results from the assays and mineralogy test work define key units of the carbonatite: dolomite, dolomite



phoscorite and calcite carbonatite. Rare earth mineralisation is observed as vuggy zones, veins and disseminated through the dolomite and dolomite-phoscorite carbonatite with REE fluoro-carbonates (parisite, synchysite, bastnaesite)  $\pm$  sulphides (pyrite, sphalerite and chalcopyrite)  $\pm$  amphiboles, with monazite and apatite. Calcite carbonatite is largely associated with niobium and apatite mineralisation.

Drilling results from the clay horizon has also added 0.8Mt at 2.98% TREO.

The Mt Weld carbonatite REE mineralised regolith profile contains three layers of saprolite represented by limonitic and silica rich nodules known as the Limonite (Li) zone; a goethitic and haematitic silty layer of saprolite known as the Central (CZ) zone and a layer of apatite rich material known as the Apatite (AP) zone. REEs are found predominantly in monazite with minor cerianite, churchite, crandallite, florencite and xenotime. Below the regolith is the partially weathered saprock of the Mt Weld Carbonatite called the Transition (TR) zone followed by the unweathered Fresh (FR) zone. Figure 6 illustrates the lithological classification layers in cutback 4.



Figure 6: Mt Weld pit wall photograph looking west field of view 700 m, August 2023.

The insitu mineral resource dry bulk densities were assigned based on lithology, which were coded into the model using Leapfrog. Table 5 shows the assigned density values.



Table 5: Density assignment of rock lithologies								
Lithology	Rock Code	Density						
Alluvium	ACA	2.20						
Hematitic Clay	BBH	2.20						
Plastic Clays	BPC	2.20						
Calcrete	BCS	2.20						
Mineralised Clay	BMC	2.20						
Caprock	CCBCR	2.10						
Limonitic Ore	CCBLI	1.90						
Monazite Ore	CCBCZ	1.60						
Apatite Ore	CCBAP	1.92						
Transitional	CCBTR	2.30						
Deep Apatite	DAP	1.92						
Dolomite	DCM	3.00						
Dolomite Carbonatite- Phoscorite	DCMP	3.00						
Calcite Carbonatite	DCC	3.00						
Carbonatite - Undiff	DCB	3.00						
Dolerite	DO	3.00						

#### Tailings

Mt Weld operations beneficiates rare earth ores into concentrates for shipment to cracking and leaching operations and final separation of REEs. The process involves mining of ores, crushing, ball milling, reagents and flotation plant, producing a concentrate and tailings. The tailings from the flotation cells are pumped as slurry into the three Tailings Storage Facilities (TSFs 1, 2 and 3) onsite. The concentrate from the flotation process is thickened, filter pressed and solar dried before final shipment as bagged concentrate or bulk loaded into rotainers.

Mt Weld operations utilise accelerated mechanical consolidation or "mud farming" by consolidating the deposited tailings in situ with an amphiroller machine to remove excess water which drains to a collection point. This results in a consolidation of the tailings solids producing an in-situ increased bulk density and mechanical strength.

From May 2011, when ore beneficiation commenced, up to December 2023 a total of 1,278,000m<sup>3</sup> of total deposited tailings equivalent to 1.53Mt (dry metric tonnes) at a bulk density of 1.20m<sup>3</sup>/t has been recorded within the three TSFs at Mt Weld. The volume of tailings is measured monthly through Lidar drone surveying and the REO grade of the tailings is sampled daily and analysed in the metallurgical laboratory. Since August 2014, the daily samples of tailings are prepared into a monthly composite and sent to an external laboratory to determine the REO composition used in monthly production reconciliation. The average REO content in tailings is 7.6% REO.

The tailings resource and reserve has been calculated using monthly lidar survey data and measured discharge of the tailings, including grade and density information that has been confirmed by bulk sampling. Metallurgical analysis has verified the reprocessing of existing tailings through the expansion flowsheet as economically feasible. As a result, tailings have been classified as measured resource and proven ore reserve.





Figure 7: Mt Weld Tailings Storage Facilities (Mt Weld Mining Survey, June 2024)

#### Mineral Resource Estimate – Material Information Summary, in accordance with ASX Listing Rule 5.8.1

#### **Geology and Geological Interpretation**

The Mt Weld Carbonatite (MWC) is a sub-vertical cylindrical igneous intrusion approximately 3.6 kilometres in diameter which has intruded strongly deformed Archaean volcanic and sedimentary rocks of the Laverton Tectonic Zone situated within the north-eastern section of the Yilgarn Craton. Wall rocks are generally unaltered approximately 500m away from the MWC boundary, with alteration progressively increasing towards the contact with the intrusion and associated dykes.

The carbonatite is generally massive with no evidence of large-scale shearing or faulting. This suggests that emplacement was after the last major regional deformation event. Local deformation has occurred from a dolerite dyke intrusion which runs from southeast to northwest through the centre of the MWC.

A complex regolith of variably oxidised carbonatite, residual mineral concentrations, palaeo-soils and locally transported alluvial sediments varying from a few metres to more than 50 metres has developed over the MWC. Prior to the sedimentation, a prolonged widespread lateritic weathering process over the Laverton geological region has concentrated rare earth element (REE) minerals in the carbonatite's upper oxidised (saprolite) zone while more mobile carbonate minerals were removed by fluids during the weathering process. The saprolite zone has variable thickness from about 80m to 120m below the surface. The mineralised regolith profile contains fours zones of



economic significance which form a concentric zonation of grades with light rare earths in the centre and heavy rare earths enrichment on the outside. The central zone is predominantly monazite with an overprint of cerianite and the outer zone comprises monazite with an overprint of xenotime, churchite, florencite and crandallite.



# Figure 8: Plan view of Mt Weld deposit showing Life of Mine pit outline and surrounding deposits

The four zones of economic significance are:

- LI Limonitic Zone. Limonitic and silica rich nodules. A yellow-brown nodular to concretionary variably cemented ironstone gravel to limonitic clay with an irregular thickness and distribution. It is generally gradational into Caprock (CR) above and variably gradational down into the CZ zone below. Geochemically and macroscopically it is difficult to distinguish from CZ lithology, with the main criterion being a subjective estimate of the amount of nodular or cemented iron oxides and silica present. The REE Content may be up to 30%.
- CZ Central Zone. Goethitic and haematitic silty zone. This zone constitutes the main REE mineralised lithology of the MWC. It comprises mainly friable, extremely fine-grained low density, goethitic silty clay with variably visible secondary monazite. The major components are typically 30-50% iron oxides, 15-30% lanthanide oxides, 5-10% phosphate, 1-5% alumina, 2-6% silica and 1-10% manganese oxide. The material is medium yellow-brown in colour grading into grey-brown or black below approximately 50m depth where minor manganese oxides stain the otherwise homogeneous lithological zone. Textures and features indicative of the origin of the REE mineralisation are not clearly diagnostic. Very fine to medium-grained crystals and aggregates of earthy to euhedral secondary monazite occur scattered through the siltstone



matrix and clustered in irregular sub-horizontal lenses or layers. Most commonly the monazite-rich siltstone has a sedimentary aspect.

- AP Apatite Zone. Apatite rich material. The underlying Apatite Zone is the residual mineralised part of the carbonatite regolith. Apatite is not as heavily weathered as the lithological zones above with lower REE content, generally between 2% and 10%, however does exceed 10% below the central part of the deposit. The AP lithology varies from unconsolidated magnetite-apatite of pristine primary minerals to various states of oxidation, solution, reprecipitation and cementing with iron oxides, secondary carbonate, secondary apatite and crandallite. The diagnostic feature is the presence of at least some recognisable primary apatite. Over most of the carbonatite the upper contact is reasonably sharp (1-2m) with medium to heavily weathered supergene derivatives, which becomes less oxidised with depth. The basal contact of AP is an irregular karstic surface with residual transitional carbonatite. The thickness of the unit is variable due to this karstic surface, with the deepest part of the unit located centrally and decreasing in thickness and depth, outwards to the periphery of the deposit. Metallurgical test work has shown the main REO mineral is monazite, but possibly not the same variety as that found within the LI and CZ stratigraphy above. Furthermore, the ratio of individual lanthanide elements is generally the same.
- DAP Deep Apatite Zone. A second, deeper apatite zone approximately 15 to 20 meters below the Apatite zone. The thickness and extent of the zone is variable. Mineralisation is similar to that of the Apatite Zone above.

Additional units which are significant geologically include the:

- MN Manganese Zone. Secondary manganese oxidation is common along the boundary between residual apatite and the supergene regolith above. Localised areas of manganese mineralisation have been identified where the original lithology is indurated and cemented by MnO approximately greater than 10%.
- QA Alluvium Zone. Transported Alluvium.
- BH Hematitic Clay Zone. Clay with Lake sediment hematite clay.
- BP Plastic Clay Zone. Lake sediment plastic clay.
- MC Mineralised Clay Zone. Clay zone with mineralisation ranging from 0.5% up to 3%REO.
- BC Calcrete Zone. Calcretised sediments.
- CR Caprock Zone. Hematitic caprock; vuggy and fissured.
- DO Dolerite dyke.

Below the regolith is the partially weathered saprock of the Mt Weld Carbonatite called the Transition (TR) zone followed by the unweathered Fresh (FR) zone.

The primary (i.e. unweathered) carbonatite rock is a combination of dolomite carbonatite with fluorite and ankerite, dolomite with phoscorite, characterised by magnetite, olivine, apatite and phlogopite, and medium grained sovite (calcite carbonatite mineral). Mineralisation within the Transition and Fresh Carbonatite units is consistent with the mineral zonation found within the enriched regolith profile, with higher grades in the central area decreasing outwards. Coarse grained carbonate rare earths such as parisite, synchysite and bastnaesite are also present within the fresh carbonatite. Figures 9 and 10 illustrate the carbonatite units and mineralisation.





Figure 9: Red rare earth carbonate mineral grains observed in MWDD10101 @ ~70m below surface





A

В



(A). Grey Dolomite Carbonatite shows concentrations of red rare earth fluorocarbonates such as synchysite, parisite and bastnaesite, often found in bands through this unit. Forms inner ring of Mt Weld carbonatite. (MWDD10101, 142m from surface.)

(B). Pink Calcite carbonatite showing thin repetitive 'flow bands' enriched in magnetite, tetraferriphlogopite, pyrochlore and apatite. Thick dykes of black phoscorite often intrude this unit. Forms outer ring of Mt Weld carbonatite. (MWDD10126, 85m from surface.)



(C). Creamy orange and purple fluoro-dolomite carbonatite. Creamy colour caused by orange fluorapatite and monazite, purple fluorite overprinting white dolomite. Forms the central zone of Mt Weld carbonatite. (MWDD10108 drilled from current pit floor at 360rl, 72 m downhole.)

С





(D) and (E). Two phases of phoscorite comprising varying amounts of apatite, magnetite, phlogopite and pyrochlore. Black phoscorite dominated by magnetite; brown phoscorite dominated by phlogopite. Swarms in metre plus dykes through outer rings of Mt Weld carbonatite, and occasionally through the central fluoro-dolomite carbonatite. (MWDD10123, 101m from surface; MWDD10112, 44m from surface.)

D and E

Figures 10(A) to 10(E): Types of Mt Weld Carbonatite



The Mt Weld Carbonatite also hosts other ore deposits of niobium, tantalum and phosphates annotated in Figure 8 above. Lynas has adopted local Wongatha Aboriginal language to rename the deposits within the Mt Weld carbonatite and the whole carbonatite deposit, as shown in Figure 8 above.

#### Sampling and Sub-sampling

The Mt Weld deposit has been evaluated using Reverse Circulation RC, Air core AC and Diamond Drill DD holes. RC and AC drill chip samples were collected at 1 m intervals into PVC and woven polypropylene bags. Geological logging of lithology is used to determine where sampling intervals start downhole.

RC: Historically 1 m or 2 m composites were collected into calico bags with a scoop, depending on where the lithology boundary falls. Each sample was weighed during compositing to take an equal weight from each 1 m interval, with samples averaging 2.5 kg. Current sampling technique involves collecting a 2.5 to 3kg sample directly off the rig from a cone splitter, a duplicate sample is also collected for metallurgical purposes.

AC: 1 m, 2 m, 3 m and 6 m composites were collected into calico sample bags using a scoop. Samples were weighed during compositing to take equal amounts per 1 m interval.

DD: A combination of PQ, HQ and NQ2 hole diameters have been drilled during the recent diamond drilling campaigns. The core is measured and placed in core trays with core blocks showing depth and core recovery. The core was split in half using an automatic core cutting machine, with half and sometimes quarter core samples collected for analysis. Minimum sample interval is 0.1m, maximum 1m.

With each batch of samples sent to the laboratory, one certified geological standard for every 20th sample (every 50th sample for drill programs pre-Lynas) and one field repeat every 50th sample was inserted to check analytical accuracy and sampling precision.

# **Drilling Techniques**

RC drilling used 110–140 mm diameter drill bits. RC drilling employed face sampling hammers and returning to the collection point inside the drill rods via a sampling cyclone, ensuring minimal contamination during sample extraction.

AC drilling used 87 mm, 112 mm and 150 mm diameter drill bits. Samples were collected from the face of the drill bit and returning to the collection point inside the drill rods via a sampling cyclone.

DD drilling used a combination of PQ, HQ and NQ2 diameter diamond drilling. PQ holes were drilled from the hole collar past the clay zone (approx. 45m) then down to HQ diameter (hole diameter 96.1mm, core diameter 63.5mm) and NQ2 (hole diameter 75.6mm, core diameter 50.7mm). RC pre-collars were drilled through the saprolite zone for several diamond holes, with HQ or NQ diamond tails into fresh rock.

#### **Classification criteria**

The Mt Weld Mineral Resource Estimate has been classified in accordance with the Australasian Code for Reporting of Mineral Resources and Ore Reserves (the JORC Code as prepared by the Joint Ore Reserve Committee of the AusIMM, AIG and MCA and updated in December 2012). All classifications and terminologies have been adhered to. All guidelines and recommendations have been followed in keeping with the spirit of the code.

The categories of the Mineral Resource are as follows:

• **Measured** - Tonnage, densities, shape, physical characteristics, grade, and mineral content can be estimated with a high level of confidence. Drill density of 20 m x 20 m, estimated within pass one or two, and reports a slope of regressions greater than 0.8.



- **Indicated** Tonnage, densities, shape, physical characteristics, grade, and mineral content can be estimated with a reasonable level of confidence. Drill density of 40 m x 40 m, estimated within pass one or two, and reports a slope of regressions greater than 0.5.
- **Inferred** Tonnage, grade, and mineral content can be estimated with a reduced level of confidence. Drill density of 80 m x 80 m, including the remaining blocks estimated in passes one to three.

A drill hole spacing analysis was conducted by Mining Plus on the Mt Weld drill hole database, that verified the current drill hole spacing for measured and indicated as appropriate, the inferred drill hole spacing analysis allowed for broader spacing and changed to 80m x 80m spacing compared to 60m x 60m as reported in the 2018 resource report.

Lithology domains Alluvium, Hematitic Clay, Plastic Clays and Calcrete currently have no demonstrated expectation of economic extraction and have been excluded from the reportable Mineral Resource. Extensive metallurgical test work was completed on the Deep Apatite material and has been classified as Indicated where it meets the classification criteria. The material within the Mineralised Clay zone and Fresh Carbonatite has early-stage metallurgical test work to demonstrate a reasonable prospect of eventual economic extraction and both have been classified as Inferred.

Figure 11 shows an example block model cross section of the distribution of resource categories (RESCAT) while **Error! Reference source not found.** 12 shows a plan view.



Figure 11: Mt Weld block model cross-section at Y: 6806955 N displayed by Resource Category Drillhole traces displayed in white

Resource Category: RESCAT 1 = Measured, 2 = Indicated, 3 = Inferred, 0 = Unclassified





Figure 12: Plan view of Mt Weld Mineral Resource category boundaries Drillhole collars and dolerite displayed. Resource Category: RESCAT 1 = Measured, 2 = Indicated, 3 = Inferred, 0 = Unclassified

#### Sampling Analysis Method

Samples have been analysed using ICP-MS (FP6/MS) and ICP-OES (FP6/OE) methods. ICP-MS and ICP-OES instruments were calibrated to industry standard requirements.

#### **Estimation Methodology**

The 2024 Mt Weld Mineral Resource was completed by consultant company Mining Plus using Supervisor geostatistical analysis software and Leapfrog Edge.

The parent block sizes selected for Mt Weld are approximately half the dominant drill hole spacing within the deposit. Sub-celling was used to account for the varying thickness of the mineralised lodes and to accurately represent the wireframe volumes. Parent block estimation has been undertaken where all sub-cells within a single parent block have adopted the estimated grade of the parent cell.

Variography was conducted for every mineralisation domain. Top cuts were determined by individual analysis of histograms, log probability plots and disintegration curves. Not all elements in all domains required top cuts and relatively minor changes were observed when top cuts were applied.

All variables were estimated using block ordinary kriging (OK) in three expanding search-ellipse passes honouring semi-variogram models. Hard boundaries have been used to estimate the mineralised stratigraphy



for the Mt Weld mineral resource. The domains have been rigorously defined using advanced geochemical analysis and interpretation by personnel from the Lynas geology team and reviewed by Mining Plus.

Estimates of the final grades for each domain were validated statistically against the input drillhole composites. The input composites have been top-cut and declustered where appropriate to undertake the validation. Sectional validation graphs were created to assess the reproduction of local means and to validate the grade trends in the block model by Easting, Northing and Elevation. These graphs compare the mean of the estimated block model grades to the mean of the input composite grades and the mean of the declustered input composites within block model slices or bins. The plots indicate that there is good local reproduction of the input grades in both the horizontal and vertical directions. A detailed visual comparison by plan and section was also completed, to ensure the estimated variables honour the input composite data.

#### Cut-off grade

The adopted reporting cut-off grade of 2.5% REO is considered to be the minimum grade required to cover costs associated with beneficiation and cracking and leaching processing technology and using long term REO prices.

#### Mining and Metallurgical Methods and Parameters

Open pit mining using selective mining of the rare earth mineralisation has been assumed for the entire deposit. A 30–40 m layer of waste is pre-stripped using a large excavator and then the mineralisation is mined selectively using a smaller excavator. While Mt Weld has been mined on a campaign basis in the past, mining is now planned to be continuous mining of waste and ore.

Considerable metallurgical testwork on the different mineralisation types has been carried out over the life of the project. Current production figures demonstrate that LI and CZ mineralisation can achieve economic recovery with the current processing facility. Reconciliation of milled grades through the plant gives a high confidence on the metallurgical recoveries, costs and methods used in the resource estimation.

In addition, and in anticipation of the processing facility expansion (Mt Weld Expansion), Lynas has undertaken additional testwork to characterise the metallurgical response of the AP zone ores with the new expansion flowsheet. The results indicate that a concentrate product can be achieved from the AP zone with the new flowsheet.

#### 2024 Ore Reserves

The Ore Reserves are based on the Mt Weld Rare Earth Mineral Resource June 2024 estimate, which includes insitu open pit resources, run of mine (ROM) stockpiles and processed tailings in the Tailings Storage Facility.

The insitu open pit Ore Reserves are based on the Whittle pit optimisation using measured and indicated resources from the Mt Weld Mineral Resource Estimate 2024 and described in the attached JORC Code (2012) Table 1 Section 3. The design with pit revenue factor 1.0 pit shell generated by Whittle was used to determine the open pit Ore Reserves.

The tonnage of the Mt Weld open pit Ore Reserve inclusive of ROM stockpiles has increased by 63% from 19.7Mt to 32.0Mt since it was last estimated in August 2018. The average grade has reduced by 25%, from 8.60% to 6.44% TREO, for a 22% increase of contained TREO to 1.95Mt. Processing of ores since 2018 to 2024 and a revised Ore Reserve cut-off grade of 2.8% TREO have both contributed to the average 6.44% TREO for the Ore Reserve at 30 June 2024. Process tailings has been estimated and included in the 2024 Ore Reserve estimate and contains approximately 1.6Mt at 7.3% TREO. Table 6 provides a summary of the Ore Reserves that were estimated for Mt Weld.



Approximately 114Mt of waste material will be mined including mineralised waste, resulting in a waste material to economic ore reserve ratio of 3.86 to 1 over the life of mine.

Source	Ore Reserve Class	Mt	TREO %	TREO ('000 tonnes)
	Proved	18.7	7.2	1,340
Pit	Probable	10.8	4.5	490
	Sub-Total	29.5	6.2	1,830
Stockpilos	Proved	1.0	12.2	120
Stockpiles	Probable			
Toilingo	Proved	1.6	7.3	120
rainings	Probable			
	Proved	21.2	7.4	1,580
Total	Probable	10.8	4.5	490
	Total	32.0	6.4	2,060

Table 6: Mt Weld Rare Earth Deposit Ore Reserve June 2024 at 2.8% TREO cut-off grade

Mining has been conducted at Mt Weld on a campaign basis since the commencement of mining in 2007 at a rate sufficient to meet the 300kt concentrator throughput. The current Mt Weld Expansion will increase throughput to 1.3Mt with the capacity to also treat apatite ore containing rare earth mineralisation. It is anticipated that mining will operate on a continuous basis to meet the increased ore feed requirements.

The key modifying factors that informed the 2024 pit optimisation and guided the 2024 pit design are explained in the attached JORC Code (2012) Table 1, Section 4 and summarised below:

Pit Design

- Only Measured and Indicated Resources were considered, as required by the JORC Code when estimating Ore Reserves.
- Mining dilution was set at 4% and mining recovery was set at 98% for the pit optimisation and mine design.
- The Mt Weld current operational geotechnical parameters were used. The average overall pit slope is 41 degrees.
- Pit access is designed to suit up to 150t class trucks.

Tailings

• Tailings mining dilution was set at 4% and mining recovery was set at 98%.



JORC Classification	Tonnes (Mt)	TREO %	La <sub>2</sub> O <sub>3</sub> %	CeO₂ %	Pr₀O₁₁ ppm	Nd₂O₃ ppm	Sm₂O₃ ppm	Eu₂O₃ ppm	Gd₂O₃ ppm
Pit									
Proved	18.7	7.2	1.8	3.3	3,680	13,110	1,810	410	870
Probable	10.8	4.5	0.9	1.9	2,230	8,390	1,340	360	940
Stockpiles									
Proved Probable	1.0	12.2	3.1	5.4	6,140	22,230	3,230	780	1,820
Tailings Proved Probable	1.6	7.3	1.6	3.6	3,330	11,660	1,470	320	620
Total									
Proved	21.2	7.4	1.8	3.4	3,770	13,420	1,850	420	900
Probable	10.8	4.5	0.9	1.9	2,230	8,390	1,340	360	940
TOTAL	32.0	6.4	1.5	2.9	3,250	11,730	1,680	400	910

#### Table 7: Mt Weld Rare Earth Deposit Ore Reserve June 2024 at 2.8% TREO\* cut-off grade

\*TREO = total Rare Earth Oxides (La<sub>2</sub>O<sub>3</sub>, CeO<sub>2</sub>, Pr<sub>6</sub>O<sub>11</sub>, Nd<sub>2</sub>O<sub>3</sub>, Sm<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Gd<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, Dy<sub>2</sub>O<sub>3</sub>, Ho<sub>2</sub>O<sub>3</sub>,  $Er_2O_3$ ,  $Tm_2O_3$ ,  $Yb_2O_3$ ,  $Lu_2O_3$ ) + Yttrium (Y<sub>2</sub>O<sub>3</sub>). Totals may not balance due to rounding of figures.

Table 7	(continued	l): Mt	Weld	Rare	Earth I	Depo	osit Or	e Rese	erve .	June	2024	at 2.8	% TR	EO* d	cut-off	grade
JO	RC	<b>T</b>			D	•		<u> </u>		Τ.		Vh	~	1 /		V O

JORC Classification	Tonnes (Mt)	Tb₄O <sub>7</sub> ppm	Dy₂O₃ ppm	Ho₂O₃ ppm	Er₂O₃ ppm	Tm₂O₃ ppm	Yb₂O₃ ppm	Lu₂O₃ ppm	Y₂O₃ ppm
Pit									
Proved	18.7	80	290	40	78	9	34	4	980
Probable	10.8	120	570	86	181	18	77	8	2,230
Stockpiles									
Proved Probable	1.0	200	870	128	265	28	114	12	490
Tailings Proved	16	50	180	22	39	4	18	2	470
Probable								-	
Total									
Proved	21.2	80	310	42	84	10	36	4	920
Probable	10.8	120	570	86	181	18	77	8	2,230
TOTAL	32.0	100	400	57	117	13	50	5	1,360

\*TREO = total Rare Earth Oxides (La<sub>2</sub>O<sub>3</sub>, CeO<sub>2</sub>, Pr<sub>6</sub>O<sub>11</sub>, Nd<sub>2</sub>O<sub>3</sub>, Sm<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Gd<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, Dy<sub>2</sub>O<sub>3</sub>, Ho<sub>2</sub>O<sub>3</sub>,  $Er_2O_3$ ,  $Tm_2O_3$ ,  $Yb_2O_3$ ,  $Lu_2O_3$ ) + Yttrium ( $Y_2O_3$ ). Totals may not balance due to rounding of figures.



Processing

- The Mt Weld concentrator was modelled at 1.3Mtpa throughput.
- The Mt Weld and Lynas Malaysia operations are currently in production with actual and forecast operating values, parameters and costs utilised.
- The Mt Weld capacity expansion in construction and the Kalgoorlie Rare Earths Processing Facility in commissioning, are based on similar process workflows to the existing operations for which operating values, parameters and costs supported by additional laboratory test work are well understood.
- Process cost and recovery inputs were aggregated into multi factor expressions representing the full process flow from Mt Weld concentrate feed split to:
  - Kalgoorlie Rare Earths Processing Facility for cracking & leaching to produce mixed rare earth carbonate and then to Lynas Malaysia for separation production.
  - Lynas Malaysia cracking & leaching and separation production.

Financial

- Exchange rate: AUD:USD 0.70:1
  - Commodity price: US\$22.48 per kg TREO



Figure 13: Mt Weld Life of Mine pit shell June 2024



Costs

- Mining costs and modifying factors were sourced from the current mining services contract and operational inputs.
- Process costs include fixed, variable operating costs and sustaining capital for Mt Weld, Kalgoorlie, Lynas Malaysia and corporate overheads.
- Selling costs at current levels.

The resulting Life of Mine pit shell is shown in Figure 13 with the red outline for the pit crest at surface. The current open cut mine pit shell is shown in the green outline. The Ore Reserve includes ores in the Limonitic Zone, Central Zone, Apatite Zone and Deep Apatite Zone.

#### Ore Reserves – Material Information Summary, in accordance with ASX Listing Rule 5.8.2

#### **Geology and Geological Interpretation**

Refer to details in the Mineral Resource section above in accordance with ASX Listing Rule 5.8.1.

#### **Classification criteria**

Only the Measured and Indicated Mineral Resource classified material types were used in the optimisations; while the final design may contain Inferred material as part of the final material inventory, Inferred classified material was not utilised as an economic driver and thus not included for consideration for any of Ore Reserve calculations. 100% of the Measured Mineral Resources contained within the Life of Mine pit shell was converted into Proven Ore Reserves. 100% of the Indicated Mineral Resources contained within the Life of Mine put shell was converted into Probable Ore Reserves. Existing run of mine stockpiles were converted into Proven Ore Reserves. Existing tailings resources were converted into Proven Ore Reserves with a 2% dilution factor.

Any material classified as an Inferred Mineral Resource was not included in any of the updated Ore Reserves calculations. There is minimal, less than 0.25Mt of Inferred Material of CZ, LI, MN and AP ore type within the LOM Pit design. Any material designated as Transitional or Fresh was not included in any of the updated Ore Reserves estimates June 2024.

#### Mining method

The mining method currently used on site and planned for future operations is conventional open pit using drill and blast followed by load and haul. Drilling and blasting is performed on 5m benches, and 10m benches in the alluvium waste. The mining fleet consists of 120t to 200t class hydraulic excavators in backhoe configuration mining 2.5m flitches and loading into 80t to 150t class rear dump haul trucks, supported by standard ancillary machinery of grader, dozer and water cart.

The Mt Weld pit geotechnical parameters are regularly reviewed both internally and by external geotechnical consultants to ensure they are appropriate for the prevailing ground conditions. The current operational geotechnical parameters have been adopted for the whittle optimisation and reserve work.

Mining dilution and ore loss has been observed to be low, due mainly to the flat lying nature of the orebody, with dilution and ore loss occurring predominantly between adjacent ore domains than between ore and waste domains. Mining dilution was set at 4% and mining recovery was set at 98% for the pit optimisation and mine design.

#### **Processing method**

The Mt Weld concentrator adjacent to the Mt Weld mine uses existing, well tested and conventional technology of ore crushing, ball mill, flotation, thickeners and pressure filters. The concentrator has been adequately tested at full scale having been in operation since 2011. The Mt Weld concentrator is currently a 0.3Mtpa facility with the Mt Weld Expansion currently under construction due for completion in 2025 will increase throughput to



1.30Mtpa. The Expansion flowsheet includes ore crushing, semi-autogenous mill and ball mill, flotation, regrind mill, thickener and pressure filters.

The lanthanide concentrate produced from Mt Weld is treated at the Lynas Malaysia advanced materials plant in Gebeng, Malaysia. The Lynas Malaysia plant has been operating since commissioned in 2013 and uses existing, well tested and conventional technology of cracking & leaching, solvent extraction for rare earth separation, precipitation and calcination. Rare earth oxides, carbonates and chlorides are produced for sale. The suitability of this plant for processing the Mt Weld concentrate has been adequately demonstrated at full scale on three of the four mineralisation types. Lynas' new Rare Earths Processing Facility in Kalgoorlie, Western Australia, further increases the cracking & leaching capacity of the concentrates produced at Mt Weld. The Kalgoorlie plant produces a mixed rare earth carbonate product which is fed to the Lynas Malaysia plant.

Further test work conducted during 2023 demonstrated the benefits of the technological improvements in the beneficiation of Central Zone, Limonitic ores with the addition of hydrocarbon as flotation reagent and new flotation equipment, which resulted in improved PrNd and TbDy recoveries. Metallurgical test work during 2022 to 2024 demonstrated the economic processing of Apatite ores and Deep Apatite ores through an improved flowsheet that is being constructed in the Mt Weld expansion.

Laboratory testing has validated that the reprocessing of existing tailings through the expansion flowsheet is economically feasible. The new regrinding capability in the Expansion flowsheet recovers previous coarse losses of monazite.

#### Basis of the cut-off grade

Ore Reserves are based on a net revenue calculation considering revenue, processing and selling costs, excluding mining costs. A cut-off grade of 2.8% TREO was selected for the Ore Reserves. This is a revision from the 2018 Reserves of a reported cutoff of 4% TREO. The revision is due to the updated Central Zone, Limonitic and Apatite recoveries demonstrated with plant performance and laboratory test work completed. The Whittle optimisation applies regression equations for mill recovery from this data and processing costs equations. Sensitivity analysis was performed through multiple Whittle optimisations to validate the economic cut-off grade.

#### **Estimation Methodology and Modifying Factors**

Modifying Factors considered for Ore Reserves include, but are not limited to, mining, processing, metallurgy, infrastructure, economic, marketing, legal, environmental, social and governmental factors.

Ore Reserves were estimated using industry standard Whittle pit optimisation software to define pit limits from the resource model. Whittle considers insitu material tonnes and grade, ore loss and dilution, ore processing and selling costs, metallurgical recoveries and product grades, revenue, geotechnical inputs, and spatial constraints such as waste dumps and significant sites, to generate a series of economic pit shells for a range of revenue factors. Mine design was completed using the Geovia Surpac software suite.

Mining costs and modifying factors were sourced from the current open pit mining contract and operational inputs. Geotechnical inputs were sourced from the current operational parameters which have been verified by independent Geotechnical Engineers.

Process recoveries have been modelled from operational costs and process performance data for the Mt Weld and Lynas Malaysia plants in addition to test work and modelling for the Mt Weld expansion and Kalgoorlie plant. Process cost modelling has been based on a Lynas Malaysia plant production rate of 12,000 tonnes per annum of separated and refined PrNd oxide over the life of mine. Overhead costs and sustaining capital costs are included in the cost models. Ore grade dependent regression formula have been derived for both process recovery and costs.



The current configuration of the Mt Weld concentrator has capability to process the ore materials into a concentrate for further treatment at Kalgoorlie cracking & leaching and Lynas Malaysia cracking & leaching and then combined ahead of solvent extraction separation at Lynas Malaysia.

Sensitivity studies were carried out. The project displayed physical robustness to variation in Modifying Factors. Optimisation work used a sell price that to a US\$22.48/kg TREO basket price as the basis for the ore reserve work. All selling costs, royalties and other related operational expenses have been accounted for as part of the processing cost equations. Exchange rates were set at 0.70 AUD:USD.

#### **Material Modifying Factors**

The Mt Weld deposit is located on Mining Leases M38/58, M38/59, M38/326 and M38/327 for which mining approvals have been granted by the State Government of Western Australia. Renewal of the 21 year mining leases is reasonably expected.

Lynas launched a Social Cultural Heritage Management Plan (SCHMP) for Mt Weld that was co-developed with senior elders of the Nyalpa Pirniku Traditional Owner group in February 2023. The SCHMP aims to ensure future best-practice management of Cultural Heritage sites across the expansion area, to ensure that risks to heritage sites are minimised. The Nyalpa Pirniku Native Title Claim was subsequently determined on 31 October 2023 by the Federal Court of Australia that covers the Mining Leases of Mt Weld Mining Pty Ltd.

Electricity supply infrastructure, water supply from groundwater and road and rail logistics is well established in Western Australia and Malaysia.

#### **Competent Person's Statement**

#### **Mineral resources**

The mineral resource and geology information in this report that relates to the 2024 Mineral Resources is based on information compiled by Dr Ganesh Bhat. Dr Bhat is the Principal Geologist to Lynas Rare Earths. Dr Bhat is a Member of The Australasian Institute of Mining and Metallurgy. Dr. Bhat has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). Dr Bhat consents to the disclosure of information in this report in the form and context in which it appears.

The information in this report that relates to the 2024 Mineral Resources is based on information compiled by Marcelle Watson. Ms Watson is the Geology Manager within Lynas Rare Earths. Ms Watson is a Member of The Australasian Institute of Mining and Metallurgy and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which she is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). Ms Watson consents to the disclosure of information in this report in the form and context in which it appears.

#### Reserves

The reserves information in this public statement that relates to the Mt Weld Rare Earths Project is based on works carried out by the Lynas Rare Earths mine planning team led by Mr Brett Hampel. Mr Hampel is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify him as a Competent Person as defined in accordance with the 2012 Edition of the Australasian Joint Ore Reserves Committee (JORC). Mr Hampel consents to the inclusion in the document of the information in the form and context in which it appears.



#### Metallurgy

The metallurgical information in this public statement that relates to the Mt Weld Rare Earths Project is based on works carried out by the Lynas Rare Earths technical team led by Mr Chris Torrisi. Mr Torrisi is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify him as a Competent Person as defined in accordance with the 2012 Edition of the Australasian Joint Ore Reserves Committee (JORC). Mr Torrisi consents to the inclusion in the document of the information in the form and context in which it appears.

#### **Qualifying Statement**

This release may include forward-looking statements. These forward-looking statements are based on a number of assumptions made by the Company and its consultants in light of experience, current conditions and expectations concerning future events which the Company believes are appropriate in the present circumstances. Forward-looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of Lynas Rare Earths, which could cause actual results to differ materially from such statements. The Company makes no undertaking to subsequently update or revise the forward-looking statements made in this release to reflect the circumstances or events after the date of this release.

# JORC Code, 2012 Edition – Table 1 report

# Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Criteria Sampling techniques	JORC Code explanation 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.in the area.	CommentaryThe Mt Weld Rare Earth deposit has been evaluated using reverse circulation (RC), aircore (AC) and diamond (DD) drilling.RC: Historically 1 m or 2 m composites were collected into calico bags with a scoop, depending on where the lithology boundary falls. Each sample was weighed during compositing to take an equal weight from each 1 m interval, with samples averaging 2.5 kg. Current sampling technique involves collecting a 2.5 to 3kg sample directly from a cone splitter, a duplicate sample is also collected for metallurgical purposes.AC: 1 m, 2 m, 3 m and 6 m composites were collected into calico sample bags using a scoop. Samples were weighed during compositing to take equal amounts per 1 m interval.DD: Diamond drilling is a combination of PQ, HQ and NQ2 hole diameters. The core length is measured and placed in core trays with core blocks showing depth and core recovery. The core was split in half then quarters using an automatic core cutting machine. Minimum sample interval is 0.1m, maximum 1m.One certified standard for every 20th sample (every 50th sample for drill programs pre-Lynas) and one field repeat every 50th sample for drill programs pre-Lynas) and one field repeat every 50th sample for drill programs pre-Lynas) and one field repeat every 50th sample for drill programs pre-Lynas) and one field primary assay laboratory were re-analysed in two other analytical laboratories as umpire analyses. Assay results matched with the original assay results. Collar positions were surveyed using global positioning system (GPS) Real Time Kinematic (RTK) equipment, accurate to 0.1 m in the Z direction.Tailings – bulk samples were collected from the tailing's storage facility using a backhoe style excavator. Sample locations were selected around various
		Tailings – bulk samples were collected from the tailing's storage facility using a backhoe style excavator. Sample locations were selected around various positions within the tailings dam, 3 samples were collected from each excavated hole so as to gather information from the top, middle and bottom of the tailings profile.

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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).	RC drilling used 110–140 mm diameter drill bits. RC drilling employed face sampling hammers and returning to the collection point inside the drill rods via a sampling cyclone, ensuring minimal contamination during sample extraction.
		DD drilling used a combination of PQ, HQ and NQ2 diameter diamond drilling. PQ holes were drilled from the hole collar past the clay zone (approx. 45m) then down to HQ diameter (hole diameter 96.1mm, core diameter 63.5mm) and NQ2 (hole diameter 75.6mm, core diameter 50.7mm). RC precollars were drilled through the saprolite zone for several diamond holes, with HQ or NQ diamond tails into fresh rock.
		Continuous downhole gyro survey was conducted by the drilling company using the Reflex- gyro survey instrument through the drillhole.
		Tailings – no drilling has been completed for the tailings resource calculation. There is extensive data measured daily, monthly and yearly on the discharge of the tailings including grades and densities. The mill feed weightometer is calibrated each planned shutdown and recovery calculations estimate the volume of tailings produced. Independent measurement each month of discharge has been surveyed using aerial drone survey with high resolution digital terrain models available. Grade and density information has been verified by collecting bulk samples mentioned in the previous section.

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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.	RC: The RC drill rig had metre marks on the mast and as each metre was reached the driller stopped and alerted the offsider to change the sample bag to ensure the correct 1 m interval was sampled. The use of a "drop box" was used on RC drill rigs to open and close when the 1 m interval is reached. Parent and duplicate samples are checked and weighed periodically to ensure equal weight and size.
	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.	DD: The length of each diamond drill rod was measured and compared to the measured length of the core returned. Drilling techniques to ensure adequate sample recovery and quality included careful slow drilling especially in the weathered saprolite zone to maximise the core recovery. A similar process was adopted at structural zones where PQ and HQ size diamond core was collected. In a few drill intervals in the weathered zone, small amount of core loss (<10%) was recorded. Downhole core orientation mark was recorded on core to facilitate structural logging. Orientation marks were reliable which could be linked to multiple drill runs. A competent employee geologist was engaged during the drilling process to ensure all geological QA, QC protocols for reliable, representative, least contaminated sample collection was maintained. Logging of all samples followed the established company procedures which included recording of qualitative fields to allow discernment of sample reliability. This included (but was not limited to) recording: sample condition and sample recovery.
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	Each 1 m sample was logged by a competent employee geologist to a level of detail sufficient to support geological interpretations. The logging is qualitative in nature with a review of the logging carried out after the assay data was received to ensure the logging agreed with the geochemistry of the sample.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography	RC: A grab sample from each 1 m sample was sieved and logged by the geologist.
	The total length and percentage of the relevant intersections logged.	DD: Each length of core was logged by a competent employee geologist to a level of detail to support the various studies carried out using the geological interpretations and future resource estimation process. The logging is qualitative in nature with a review of the logging carried out after the assay data is received to ensure the logging fits with the geochemistry of the sample.

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		During logging, Rock Quality Designation (RQD) data was collected. Using the downhole core orientation mark in PQ, HQ and NQ2 drillcore, structural logging was conducted.
Subsampling techniques	If core, whether cut or sawn and whether quarter, half or all core taken.	The core was split in half and in some drillholes quarter split samples were generated using an automatic core cutting machine.
and sample preparation	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Each metre of half and quarter core was collected in pre-numbered calico bags and dispatched to Intertek Genalysis assay laboratory, Perth. Samples, in their entirety, are placed into an appropriately sized clean aluminium tray
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	and labelled in a suitable manner. The samples are placed on trolleys in a specific order. The trolleys are wheeled into a drying oven and dried for 8 hours at approximately 105°C. Samples are routinely jaw crushed to a nominal 10mm particle size. Crushed samples were pulverised to -100 micron
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	size. The RC sampling technique involves collecting a 2.5 to 3.0kg sample directly
	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.	from a cone splitter, a duplicate sample is also collected for metallurgical purposes. Sample weights are checked to ensure both samples are equal weight. Cone splitter and cyclone are cleaned at every rod change and thoroughly cleaned at the end of the saprolite zone and end of hole.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sampling followed established company sampling and quality assurance/quality control (QA, QC) procedures. Composites are weighed for equal measures from each 1 m interval.
		A field duplicate was collected for approximately every 50 samples submitted to the laboratory to ensure the field sampling had good repeatability. Field repeats correlated very well with original samples showing the sampling method was appropriate.
		The grain size of the particles in the samples is generally less than 1 mm and hence 2.5 kg of sample is considered an appropriate sample size.
		Geological logging determines the samples to be submitted for analysis, alluvium is generally not submitted for analysis.

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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.	A considerable amount of work was carried out by Lynas Rare Earths and Intertek Genalysis Laboratory in Perth to develop accurate assaying of rare earths and associated gangue elements using ICP-MS (FP6/MS) and ICP- OES (FP6/OE). This was achieved, and the techniques developed have been implemented for analysis of the drill samples. ICP-MS and ICP-OES used and calibrated to industry standard requirements. ICP-MS = Agilent 7900, which uses a dilution factor of 1,000 then 1:30 for the instrument read to give a final factor of 30,000. Instrument read cycle time is 1 minute 45 seconds. Calibration check of equipment per job to machine specifications and certified standards. With each batch of samples sent to the laboratory, one certified geological standard for every 20th sample (every 50th sample for drill programs pre- Lynas) and one field repeat every 50th sample was inserted. The repeatability of the sampling and the accuracy of the laboratory results are within acceptable limits. OREAS geological standards of appropriate REE analytical values have been submitted with each batch of samples to ensure the accuracy of geochemical assay. As part of laboratory QAQC process, control blank samples and standard samples were also introduced by Intertek Genalysis. Upon receiving the assay results, analytical data were compared with the know data corresponding to the standard samples. Results within a range of 2 standard deviation are accepted and assimilated into the geological database. 2 to 3 standard deviations are flagged. Outside 3 standard deviations are requested for re-analysis by the laboratory. The volume of tailings is measured monthly through drone aerial surveying and the REO grade is recorded daily through assays analysed in the metallurgical laboratory through EDXRF (Epsilon 3 Malvern). Since August 2014, a monthly composite is created from daily samples and sent to an external laboratory (Bureau Veritas, using WD-XRF) to determine the REO composition used in the monthly production reconciliation.

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Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Field sample interval details were manually recorded in field sampling booklet by a trained geology Technician. Simultaneously representative rock chip samples were collected into RC chip trays. Representative rock chip samples were collected from each 1 metre depth interval from every hole drilled during
	The use of twinned holes.	the drilling campaign. Samples in the chip trays were photographed by high- resolution digital camera. Sample photos were uploaded into a cloud hosted geological photo database, developed by a commercial service provider
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	called IMAGO. Using IMAGO photo viewing software, drill samples are reviewed and assessed by employee geologists. Entire geological profile photos can be compared and correlated with adjacent drillholes or series of
	Discuss any adjustment to assay data.	multiple drill noies drilled along a section line.
		Employee geologists conduct lithologging of the drillholes from the representative RC chip tray samples. Lithologging data will be entered into a digital Toughbook laptop computer into LogChief software portal provided by Maxgeo, a commercial database service provider. Logging data was uploaded into cloud hosted encrypted SQL geological database called, DataShed, which is managed by a commercial service providing company, Maxgeo.
		Geochemical assay data from Intertek Genalysis were uploaded into "holding bay" in the DataShed portal. Employee geologists will review the assay results and import into ioGAS geochemical software. Using ioGAS software, multiple analytes (example CaO%, MgO%, Al2O3%, REO% etc) in a sample assay are compared with each other at 1 meter lithological intervals, or smaller intervals if a diamond hole. Whenever required field litho-logging data will be corrected based on the geochemical assay results.
		Assay results are compared with the known assay results of geological standards. If the results are withing two standard deviations, the results will be accepted into the final geological database. Results within 3 standard deviations will be flagged. Outside the range of 3 will be rejected and notified to the assay laboratory manager.
		Employee geologists will communicate with DataShed database manger to integrate all acceptable assay results into the geological base.

Criteria	JORC Code explanation	Commentary
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	Each drillhole collar has been surveyed to an accuracy of ±1 cm by an authorised mine surveyor. Holes are predominantly vertical. Downhole surveys for angled holes were taken using an electronic single shot instrument – Reflex EZ-Shot™ or Axis technology. MGA 94 – Zone 51. Each metre downhole is measured from marks on the drill rig mast indicating to the drilling crew when the end of one metre finishes and the start of the next metre. The depth of each metre interval is likely to have an accuracy of ±10 cm.
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.	<ul> <li>The Mt Weld Rare Earth deposit has been drilled as follows:</li> <li>Exploration drilling - 100m x 100m spacing in the peripheral areas of the deposit</li> <li>Inferred drilling – 80m x 80m</li> <li>Resource and reserve definition 60m x 60m and 40m x 40m drill spacing</li> <li>Grade control holes are spaced at either 10m x 10m and 20m x 20m respectively.</li> </ul> The drilling supplied consistent spacing on section and between section, which allowed clear and even-spaced widths for the mineralisation intercepts and surfaces to be modelled. Historic samples prior to 2021 have been composited in 1 m, 2 m, 3 m and 4 m composites. Composites were made following established company procedures, with samples weighed to ensure equal weight is collected per 1 m interval. The database is now predominantly made up of 1m samples.

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		Tailings: From May 2011 up to 15 June 2024 a total of 1,228,000m <sup>3</sup> of total deposited tailings equivalent to 1,534,885 dmt at a bulk density of 1.20 tonnes/m <sup>3</sup> has been recorded within the three Tailings Storage Facilities (TSFs) at Mt Weld. The deposition of tailings slurry is conducted through assisted mechanical consolidation "mud-farming cycles" where the different tailings storage facilities (TSF1, TSF2 and TSF3) are either in any of these four stages: fresh tailings deposition, solar surface drying, mud farming with amphi-roller, or in preparation for the next deposition cycle. TSF1 is no longer used in the farming cycle where it has reached its design capacity by April 2019. The distribution of REO throughout the three TSFs is deemed to be of limited variability.
Orientation of data in relation to geological	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The rare earth mineralisation in the carbonatite regolith is in sub-horizontal layers derived by weathering and oxidation processes. Vertical holes were drilled to intersect the mineralisation at approximately 90° to the strike and dip of the mineralisation.
structure	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.	Angled exploration RC and DD holes have been drilled at various orientations to drill through the NNW trending dolerite dyke and designed to intersect interpreted structures at depth.
		No sampling bias has been introduced by the drilling orientation.
Sample security	The measures taken to ensure sample security.	All samples were collected and bagged by Lynas staff and transported directly to the analytical laboratory by a reputable trucking company
		Geologist and geology Technician have cross checked the sample submission sheets against the sampling spreadsheet to eliminate sampling errors.
Audits or reviews	The results of any audits or reviews of sampling techniques and data	Internal review of all analytical data was completed for this Mineral Resource Estimate by undertaking umpire assaying by a third-party laboratory.
		Snowden Optiro completed a review of the sampling and data capture during a site visit in April 2023, including inspections of the RC drill rig and in pit

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		geology. Snowden Optiro also completed a geostatistical review of the drillhole database.
		Mining Plus completed a review of the drill hole database and Leapfrog geology model in April 2024.

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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 Mt Weld Rare Earths Project is covered by four mining tenements with long-term tenure that can be renewed for 21-year periods upon application. These tenements are M38/58, M38/59, M38/326 and M38/327. Mt Weld Mining Pty Ltd, a subsidiary of Lynas Rare Earths Limited, has 100% rights to all mining tenements outlined above. No current ownership issues or native title determinations are known.
	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.	There are no known impediments to operations at Mt Weld with mining and environmental operating licenses secured
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Exploration drilling at the Mt Weld Project has been undertaken by Utah Development company (1969–1973), Union Oil (1981–1984), Wesfarmers (1985–1987) and Carr-Boyd/Ashton Joint Venture (1988–1990) using AC, RC and diamond core drilling techniques.
		Feasibility studies were carried out by Wesfarmers on mining of phosphates in the 1980s and Ashton on mining the rare earths in the 1990s.
Geology	Deposit type, geological setting and style of mineralisation.	The Mt Weld Rare Earth deposit is hosted within a supergene enriched zone of the Mt Weld Carbonatite (MWC) regolith. REOs found within the fresh carbonatite are concentrated due to the removal of calcium carbonate and other elements during the weathering and oxidation process. This has created sub-horizontal units enriched in REOs.
		The project covers a near-vertical carbonatite plug known as the MWC. The MWC has intruded strongly deformed Archaean volcanic and sedimentary rocks of the Laverton Tectonic Zone (LTZ) which are situated within the north-eastern section of the Yilgarn Craton.
		A series of Proterozoic dolerite dykes have intruded the LTZ in the project area, with one crosscutting the MWC trending along northwest-southeast direction. The carbonatite is generally massive with no evidence of large- scale shearing or faulting. This suggests that emplacement was after the last major regional deformation event.

# Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
		The mineralisation in the saprolite zone reflects the distribution of rare earth minerals within the underlying carbonatite. Extensive weathering and erosion of carbonate minerals has caused supergene enrichment and secondary mineralisation of rare earth minerals. The central core of the MWC is the highest grade of REOs, with decreasing zonation of grade towards the margins of the MWC. Heavy REO enrichment forms a halo surrounding the central high-grade core. The regolith units consist of sub-horizontal weathering surfaces that are deepest in the central area of the deposit on the western margin of the dolerite dyke.
		<ul> <li>Identified REO, rare metal, and phosphate mineral resources of the MWC are distributed within four main, sub-horizontal regolith units. The layers are:</li> <li>An iron oxide and monazite-rich saprolite layer, containing limonite, goethite, and silica nodules known as the "LI" zone. This is yellow-brown variably cemented ironstone gravel to limonite clay, with an irregular thickness and distribution.</li> <li>A saprolite layer termed "CZ" contains monazite and goethite, which constitutes the main REE mineralised lithology of the Mt Weld Rare Earth deposit.</li> <li>At the base of the regolith is a variably oxidised, apatite-rich residual mineralised layer termed "AP". The AP lithology varies from unconsolidated magnetite-apatite of pristine primary minerals to various states of oxidation, with iron oxides, secondary carbonate, secondary apatite and crandallite. The basal contact of AP is an irregular karstic surface with residual transitional carbonatite. Secondary manganese oxidation is common along the boundary between residual apatite and the supergene regolith above and is known as the "MN" zone</li> <li>Below the AP zone is a secondary apatite zone named Deep Apatite or "DAP" separated by a thin zone of transitional dolomite carbonatite. The DAP is of similar geology and mineralogy to the AP zone.</li> </ul>

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		There are rare metal deposits surrounding the central REE mineralised core of the MWC; these are known as Gunyala (previously Anchor), Marloo (previously Crown), Mingkiri (previously Coors), Warla Wurdu (previously Swan) and Karlaya (previously Emu) and contain niobium, tantalum and phosphates. Mineralisation is hosted within the same weathered carbonatite regolith units with niobium and tantalum concentrated within the supergene enriched LI and CZ layers, and phosphates concentrated within the residual AP layer. These deposits also contain REO mineralisation in the range of 1% to 5% but are not included within this Mineral Resource Estimate.
Drillhole Information	summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:	Exploration results are not being reported. Mineral Resources are being disclosed (see Section 3).
	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.	Exploration results are not being reported. Mineral Resources are being disclosed (see Section 3).
	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.	

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	should be clearly stated	
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	Not relevant. Exploration results are not being reported. Mineral Resources are being disclosed (see Section 3).
	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.	Appropriate diagrams contained in the report to which this Table 1 applies.
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.	Exploration results are not being reported. Mineral Resources are being disclosed (see Section 3).
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.	Exploration results are not being reported. Mineral Resources are being disclosed (see Section 3).
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 is expected to consist of grade control infill drilling. Further metallurgical test work is required to assess potential economic pathways for mineral beneficiation of REE minerals in the fresh carbonatite and mineralised clays. There may be future step out drilling and resource spaced drilling to define the REE mineralisation.

Section 3: Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used.	Drillhole data was provided by Lynas Rare Earths in a Microsoft Access database format with tables for collars, surveys, geology and assays. Lynas ensured the database was a true representation of their working database by internal data validation protocols. Lynas has strict procedures for data capture, flow, data storage and validation of drilling information.
		Lynas geological database is SQL system which is maintained and managed by Maxgeo, a professional database management company.
		Data was further validated by Mining Plus upon receipt, and prior to use in the estimation by simple checks for out of range data using mining software (Datamine) validation protocols, and visually in plan and section views.
		Tailings samples – the daily data of tailings composition is stored in the metallurgical accounting database MPX:DS by Nutava. The monthly composites data are received from Bureau Veritas as a report and kept in a Microsoft database.
Site visits	Comment on any site visits undertaken by the Competent Persons and the outcome of those visits.	The competent person for mineral resources works onsite at Mt Weld and completes frequent checks of the data and field processes. Mining Plus also completed a review of the geological model and validation of the database onsite in April 2024.
		SnowdenOptiro completed a site visit in April 2023.
		Mining Plus completed a site visit in April 2024.
Geological interpretation	Confidence in (or conversely, the uncertainty of the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made.	The rare earth deposits are sub-horizontal layers within the carbonatite regolith and have good horizontal continuity. There is a high level of confidence in the geological interpretation based on the drilling results, continued refinement of the interpretation methodology, re-logging of drill holes and experience during mining operations.
	estimation.	
	The use of geology in guiding and controlling Mineral Resource estimation.	The Mineral Resource estimation has been limited to the wireframes of each of the lithological units of the MWC. Both assay (ICP-MS and ICP-OES) and geological data were used for the interpretation. Alternative interpretations
	The factors affecting continuity both of grade and geology.	are likely to change the local estimates where closer spaced drilling is completed however in the CP's opinion the global Mineral Resource estimate would not change materially.
		The location of the carbonatite and ancient weathering control the grade continuity and extents of the defined lithological horizons.

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Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The reported Mineral Resource extends approximately 2,000m east to west, 1,500m north to south and extends 200m below local surface topography which is relatively flat between 410 to 420m above mean sea level. Tailings Dam dimensions – At 25 June 2024, there are three Tailings Storage Facilities (TSFs) in Mt Weld: TSF1: 484,200 m <sup>3</sup> capacity, 309,967 m <sup>3</sup> utilised TSF2: 612,673 m <sup>3</sup> capacity, 556,092 m <sup>3</sup> utilised TSF2: 612,673 m <sup>3</sup> capacity, 556,092 m <sup>3</sup> utilised TSF3: 581,092 m <sup>3</sup> capacity, 411,987 m <sup>3</sup> utilised A summary of tailings engineering properties is provided below. These were compiled based on a TSF3 Stage 1 Design Report by ATCW (2017), TSF and return water pond design by Hatch (2015) and tailings density reconciliation from TSF1, 2 and 3: Slurry density ex-plant: approx. 11% solids • Average tailings density (dry): 1.20 t/m <sup>3</sup> • Specific gravity: approx. 3.7 to 3.73 • Particle size distribution: 83 to 100% passing 75 µm • Tailings beach slope: approximately 2.8% to 30 m, 0.5% from 30 – 150 m, 0.25% from 150 – 210 m. 0.00% from 210m – end of beach.
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance	The distribution of most elements estimated within each domain are approximately log-normal with very few distributions exhibiting outliers therefore it was appropriate to choose ordinary kriging was as the estimation technique. Grade estimation for all elements has been completed using

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	of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. Description of how the geological interpretation was used to control	Ordinary Kriging (OK) into 13 domains using Leapfrog Edge software. The drillholes have been flagged with the domain code and composited using the domain code to segregate the data. Hard boundaries have been used at
	the resource estimates.	all domain boundaries for the grade estimation.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	The estimations used an initial search of 70m by 70m by 50m oriented by the continuity models. A minimum of nine and maximum of 14 composites were used to estimate a block. Second and third searches were employed which used factors of three and eight respectively.
	The assumptions made regarding recovery of by-products.	A maximum of five composites may be taken from one drill hole. Each
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	distribution was examined to determine if any composites were outliers, that is of unusually high grade not consistent with the distribution. Where appropriate top-cuts were applied. No check estimates were completed. No
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	assumptions were made regarding recovery of by-products. The drillholes have been flagged with the domain code and composited using the domain code to segregate the data. Hard boundaries have been used at all domain
	Any assumptions behind modelling of selective mining units.	boundaries for the grade estimation.
	Any assumptions about correlation between variables.	The Mineral Resource used a block size of 10 mV by 10 mV by 5 m7. No
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	assumptions behind modelling of selective mining units were made. The correlation between variables was acknowledged by modelling similar variogram parameters and keeping estimation parameters constant for each element.
		The estimates were validated using a three-stage comparison between composites, top-cut and declustered where appropriate, and the estimated grades. The first stage involves calculating the global statistics of the composites compared to the tonnage weighted averages of estimated variables. The second stage involves comparing statistics in slices along the mineralisation and the third involves a detailed visual comparison by section to ensure the estimated variables honour the input composite data. For tailings, the volume and grade of deposited tailings is recorded daily through a sample collected using a metallurgical sample cutter in the final tails section of the flotation circuit.

Criteria	JORC Code explanation	Commentary
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Wet samples were collected from 120 small-scale test pits dug by an excavator and weighed using calibrated weightometer on a Cat 777 dump truck. These were measured for wet and dry bulk density and were then verified against large-scale excavation pits.
		A sample of the material was taken within each test pit and dried at the laboratory to determine the moisture content and cross reference against the average of the smaller pit moistures. The pits were surveyed to determine the volume to an accuracy of $0.01m^3$ .
		Moisture content was calculated by the difference in original sample weight to dry sample weight. The dry weight was then used to calculate density from the volume of material taken. Therefore, tonnages have been estimated on a dry, in situ basis.
		Moisture of tailings change depending on the stage of the "farming cycle" a particular TSF is under. Upon deposition, the tailings density is close to 1.10t/m <sup>3</sup> , however after consolidation and farming the density increases to 1.24-1.30t/m <sup>3</sup> with an average density of 1.20 t/m <sup>3</sup> through the deposition and consolidation cycle. Samples used for metallurgical testwork are tested for moisture in the laboratory in a similar way as ore samples.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The cut-off grade of 2.5% REO used for the resource estimation is considered to be close to breakeven for flotation process followed by direct cracking & leaching processing technology at long term REO prices.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous.	Open pit mining has been carried out successfully on a portion of the MWC deposit. Open pit mining using selective mining of the rare earth mineralisation lithologies has been assumed for the entire deposit. The 30-40 m layer of waste is pre-stripped using a large excavator and then the mineralisation lithologies is mined selectively using a smaller excavator. The mining is carried out in campaigns with one year of mining producing approximately three years of feed to the processing plant. As of 2024, a continuous mining method has been adopted, ie. no further campaign mining as occurred 2008 to 2023.
		It is considered that there are no mining factors which are likely to affect the assumption that the reported Mineral Resource has reasonable prospects for eventual economic extraction.

Criteria	JORC Code explanation	Commentary
		For tailings, it is assumed the materials can be dug and transported as is to the ore stockpiles (BOS) area, and then become mixed as the mill feed.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous.	Considerable metallurgical testwork on the different mineralisation types have been carried out over the life of the project. Production data confirms that CZ and LI mineralisation can achieve economic recovery using the existing processing facility. Reconciliation of milled grades through the plant gives a high confidence on the metallurgical recoveries, costs and methods used in the ore resource estimation.
		Extensive metallurgical testwork has been completed on the AP ores, including approximately 6,000 tonnes of material from a 2017 mining campaign. The material was crushed and screened and then sent through a laboratory scale flotation circuit. Metallurgical test work has also been completed on the forecast AP, CZ and LI ores to confirm recoveries are consistent for the new processing flowsheet currently under construction.
		Metallurgical testwork has been completed for the HRE ore types.
		300kgs of fresh carbonatite has undergone gravity and flotation separation testwork which indicate reasonable prospects for eventual economic extraction allowing the fresh carbonatite to be classified as inferred. Tailings – metallurgical test work on the tailings samples were completed to confirm recoveries, grades and processing technique. A total of 28 samples were tested in the laboratory scale flotation circuit consistent for the new processing flowsheet currently under construction
		Mineralised clay – metallurgical test work on clays were completed. A total of 30 samples were tested.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation.	There are no known significant environmental impediments to the project's viability from the currently available information. Western Australia Ministerial Statement No.1216 was issued 20 December 2023.
		All waste disposal is currently included in the mining plan and included in the Mine Closure Plan.

Criteria	JORC Code explanation	Commentary
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	Bulk density testwork was carried out on 71 samples of diamond core in 1986 and again during a feasibility study carried out in 2003 before mining commenced. Since then, mining and processing has been carried out with a good reconciliation between the feasibility study bulk densities and the tonnes mined and processed since the operation began.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	In 2018, testwork was completed within the current exposed saprolite ore zones LI, CZ, and AP to confirm historical density values. Wet samples were collected from 120 small-scale test pits dug by an excavator and weighed using calibrated weightometer on a Cat 777 dump truck. These were measured for wet and dry bulk density and were then verified against large-scale excavation pits. A sample of the material was taken within each test pit and dried at the laboratory to determine the moisture content and cross reference against the average of the smaller pit moistures. The pits were surveyed to determine the volume to an accuracy of 0.01m <sup>3</sup> . The densities for the main mineralised lithologies LI, CZ and AP range from approximately 1.6 t/m <sup>3</sup> to 1.9 t/m <sup>3</sup> .
		Density testwork was completed on the diamond drill holes to improve confidence in the density for Transitional and Fresh Carbonatite. These two domains have been assigned a density of 2.3 and 3.0 t/m <sup>3</sup> respectively.
		Densities have also been confirmed using pycnometer testing at Intertek.
		Bulk density samples from drill core and bulk test pits adequately account for the nature of the mineralisation, voids and moisture of material. Bulk density values are derived from DD core samples, test pits and are reconciled against mined to milled figures.
		Recovery of the RC samples is reviewed by collecting the primary and duplicate sample and capturing the residue in green bag. The samples are all weighed together using hiab scales and bulky bag, the weight of the samples are used together with the volume to verify density.

Criteria	JORC Code explanation	Commentary
Classification	The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). Whether the result appropriately reflects the Competent Person's view of the deposit	The Mt Weld Mineral Resource was classified on the basis of data quality, sample spacing and grade and geological continuity of the mineralised domains. The deposit shows consistent continuity of mineralisation within well-defined geological constraints which have been supported by recent drilling. Measured Mineral Resources occur where the drillhole spacing is nominally 20m by 20m or closer and lithologically comprise Caprock, Limonitic Ore, Monazite Ore, or Apatite Ore. Indicated Mineral Resources occur where drillhole spacing is greater than approximately 20m by 20m, closer than approximately 40m by 40m and lithologically Caprock, Limonitic Ore, Monazite Ore, Apatite Ore or Deep Apatite. Inferred Mineral Resources occur where spacing is greater than approximately 40 m by 40 m, closer than approximately 80 m by 80 m and lithologically Caprock, Limonitic Ore, Monazite Ore, Apatite Ore, Deep Apatite, Mineralised Clays or Transitional. Fresh material with a drillhole spacing closer than approximately 80 m by 80 m is also classified as Inferred. Material not achieving the previous criteria remains unclassified. Alluvium, Hematitic Clay, Plastic Clays, Calcrete and Dolerite material are unclassified. The assigned classification of Measured, Indicated and Inferred reflects the view of the Competent Person and their assessment of the accuracy and confidence levels in the MRE. Tailings have been classified as Measured. The tailings are a product of the processing and beneficiation of the ores fed to the mill between 2011 and 2024.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	Mining Plus completed a review of the variography, domains and estimation strategy in early 2024 with results used for this Mineral Resource estimate.
		Mining Plus also completed a drill hole spacing analysis to confirm appropriate drillhole spacing for resource classification.

Criteria	JORC Code explanation	Commentary
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person	The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation	The assigned classification of Measured, Indicated and Inferred reflects the Competent Person's assessment of the accuracy and confidence levels in the MRE.
should include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	The confidence levels reflect potential production tonnages on an annual basis, assuming open pit mining. Reconciliation of actual mined production to the Mineral Resource models has supported the relative accuracy of Mineral Resource models.	
		For tailings, the grade of the deposited tailings is measured daily as per metallurgical accounting standards. A monthly composite sample is used for the reconciliation of production figures.

Section 4: Estimation and Reporting of Ore Reserves

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.	Lynas Rare Earth's Mt Weld 2024 Ore Reserve estimate is based on the Mineral Resource estimate - "Mt Weld Resource estimate 2024" and described in Table 1 - Section 3.
Reserves	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources for the deposit have been reported inclusive of the Ore Reserves estimated.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case.	The Ore Reserve competent person is Mr Brett Hampel – Manager of Mining, a full time employee of Lynas Rare Earths. Mr Hampel is responsible for the Mt Weld mine operations, the mine plan, ore extraction and mining process workflow at Mt Weld.

Criteria	JORC Code explanation	Commentary
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves	Lynas have been operating the Mt Weld mine and concentrator since 2011, and the Lynas Malaysia advanced materials plant in Gebeng, Malaysia since 2013. The Mt Weld concentrator is currently undergoing an expansion that will increase mill throughput from 0.3Mtpa to 1.30Mtpa.
	The Code requires that a study to at least Pre-Peasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been	The recently constructed Kalgoorlie Rare Earths Processing Facility adds cracking and leaching capacity to the business in addition to the Lynas Malaysia cracking and leaching capacity.
	considered.	Modifying Factors for both the Mt Weld and Lynas Malaysia plants incorporate current operational data in addition to Feasibility Study level test work and modelling for the Mt Weld expansion and Kalgoorlie Facility, resulting in the Modifying Factors used in the preparation of this Ore Reserve estimate being at a Feasibility Study level of assessment. Mining costs and modifying factors were sourced from the current mining contract and operational inputs.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Ore Reserves are based on a net revenue calculation considering revenue, processing and selling costs, excluding mining costs. The process costs and recoveries are ore grade dependent. A cut-off grade of 0.65% PrNd oxides or 2.8% TREO equivalent was selected for the Ore Reserves. This is a revision from the 2018 Reserves of a reported cutoff of 4.0% TREO. The change is due to the updated CZ, LI and AP recovery test work completed and the application of regression equations for process cost and recovery equations.
Mining factors or assumptions	The method and assumptions used as reported in the Pre- Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).	Ore Reserves were estimated using industry standard Whittle pit optimisation software to define pit limits from the resource model. Whittle considers insitu material tonnes and grade, ore loss and dilution, ore processing and selling costs, metallurgical recoveries and product grades, revenue, geotechnical inputs, and spatial constraints such as waste dumps and significant sites, to generate a series of economic pit shells for a range of revenue factors. Revenue factor 1.00 pit shell was selected for the Life of Mine pit.
	The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.	

Criteria	JORC Code explanation	Commentary
		Mining operations commenced at Mt Weld in 2011. The mining method currently used on site and planned for future operations is conventional open pit using drill and blast followed by load and haul. Drilling and blasting is performed on 5m benches, and 10m benches in the Alluvium waste. The mining fleet consists of 120t to 200t class hydraulic excavators in backhoe configuration mining 2.5m flitches and loading into 100t to 150t class rear dump haul trucks, supported by standard ancillary machinery – grader, dozer and water cart. The selective mining method is considered appropriate for the deposit geometry and production rates and has been in use since commencement of mining.
	The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.	Stockpiles are reclaimed by conventional loader and truck. Tailings will be reclaimed at the end of mine life by conventional loader and truck once the moisture levels are sufficiently low. Lynas has utilised assisted mechanical consolidation of tailings using an amphiroller machine which increases the mechanical shear strength of the consolidated tailings permitting conventional mining recovery of insitu tailings.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate). The mining dilution factors used. The mining recovery factors used.	The Mt Weld pit geotechnical parameters have been under regular review since the commencement of mining both internally and by external geotechnical consultants. The current operational geotechnical parameters have been adopted for the whittle optimisation and reserve work. Grade control drilling has been provisioned for based on current drill spacing and operational practice, and costs have been included in the optimisation
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	cost inputs. The Mineral Resource model – "mt_weld_mre_2024.mdl" and described in Table 1 - Section 3 was used as the basis for the pit optimisation and Ore Reserve estimate. Mining dilution was set at 4% during the Ore Reserve works. Mining recovery was set at 98% during the Ore Reserve works. Minimum mining width of 20m was applied to the pit optimisation and Ore Reserve pit design.
	The infrastructure requirements of the selected mining methods.	Inferred Mineral Resources have been treated as waste rock in the pit optimisation, mine design and the Ore Reserve estimation. Infrastructure required for the selected mining method has already been

Criteria	JORC Code explanation	Commentary
		established on the Mt Weld Project with onsite diesel storage and water supply.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	Ore is currently treated through the existing 0.3 Mtpa facility at Mt Weld to produce a flotation lanthanide concentrate.
	Whether the metallurgical process is well-tested technology or novel in nature.	The Mt Weld concentrator uses existing, well tested and conventional technology of ore screening/crushing, ball mill, flotation, thickening and pressure filters. The existing concentrator has been adequately tested at full scale. The Lynas Malaysia process plant uses existing, well tested and conventional technology of cracking and leaching, solvent extraction, precipitation and calcination. The Lynas Malaysia plant has been adequately tested at full scale.
		The lanthanide concentrate produced from Mt Weld is treated in the Lynas Malaysia advanced materials plant in Gebeng, Malaysia. The plant was commissioned in 2013. The suitability of the cracking and leaching plant for processing the Mt Weld ore concentrate has been adequately demonstrated at full scale on three of the four mineralisation types. Laboratory testwork has been performed on the cracking and leaching of lanthanide concentrates produced from AP and DAP ore type.
		From 2024, an additional processing facility in Kalgoorlie further increases the cracking and leaching capacity of Mt Weld lanthanide concentrates to produce a mixed rare earth carbonate. The mixed rare earth carbonate is then processed at the Lynas Malaysia plant.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	The existing Mt Weld concentrator has processed three of the four mineralisation types (CZ, LI, and MN). The fourth type (AP) requires additional flowsheet capability to the existing flowsheet before it can be treated. This additional flowsheet capability is currently being constructed.
		The 2018 Ore Reserve Update, geological modelling and metallurgy test work determined that the Central Lanthanide Deposit (CLD) and Duncan were not separate ore bodies. The current configuration of the Mt Weld concentrator has current capability through blending to process the material to a concentrate for downstream processing facilities.

Criteria	JORC Code explanation	Commentary
		The CZ and LI ore types are mined combined as one ore feed source for blending. The MN ore type contains high manganese and is blended as a feed source in small quantities. Processing of AP ore type will occur after completion of an expansion to the Mt Weld concentrator plant, which will also increase throughput capacity to 1.3Mtpa. Test work has been completed on the AP ore type that confirms grade-recovery performance.
	The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.	Metallurgical test samples, representative of a range of REO grades within the major mineralisation types (CZ, LI and AP), were selected from drill chips by the Geological department. Laboratory flotation testwork was conducted on these selected samples to product REO flotation concentrate.
		Laboratory cracking, leaching and precipitation tests have been completed to confirm the amenability of the flotation concentrate from the various mineralisation types to confirm viability of treatment at Lynas Malaysia and Kalgoorlie. Modelled or forecast at Lynas Malaysia REO recovery includes allowances for changes in the flotation concentrate REO grade feeding the plant.
	Any assumptions or allowances made for deleterious elements.	Several deleterious elements in the flotation concentrate are monitored and mitigated as per operating procedures and plans.
	For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	The processing characteristics of the CZ, LI and Mn ore types are well understood having constituted the mill feed since Mt Weld operations began. Several quantitative mineralogy reports using Mineral Liberation Analyser instrument have been performed. The Mt Weld plant expansion has been designed to process AP ore, and a significant amount of test work, including bulk sampling and plant trial, have been carried out to inform the plant expansion design and business modelling.
		Flotation Tailings are well understood, being created from the processing of CZ, LI and Mn ore types since 2011, which involved laboratory flotation test work and mineralogy conducted on samples over that period. Recent laboratory testwork on flotation tailings samples through the laboratory version of the Mt Weld Expansion show that a REO flotation concentrate of treatable REO grade can be produced at 50% REO recovery.

Criteria	JORC Code explanation	Commentary
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	Detailed environmental studies have been carried out. Western Australian Ministerial Statement No.1216 was received 20 December 2023. The Western Australia Environmental Protection Authority has prepared assessment Report 1752 Mt Weld Rare Earths Project – Life of Mine proposal, 3 November 2023.
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	The Mt Weld project is currently in operation and as such all the necessary infrastructure already exists. The Mt Weld expansion project will see additional infrastructure installed such as process plant expansion, power generation, warehouse, additional tailings storage facility, waste facility to support the planned increased process throughput. Lynas has secured leases outside of the carbonatite area that have been converted to General Purposes Leases to accommodate the Mt Weld expansion project infrastructure.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study. The methodology used to estimate operating costs. Allowances made for the content of deleterious elements.	Lynas has existing process plants at Mt Weld and in Gebeng, Malaysia. An expansion of the Mt Weld plant is under construction and the new Rare Earths Processing Facility in Kalgoorlie is in ramp up. Capital for these projects has not been included in the pit optimisation costs, however sustaining capital, specifically for tailings storage facility and byproduct storage facilities, has been included in cost estimates. The Mt Weld plant and Lynas Malaysia plant are currently in operation, and as such operational costs exist for the processing stream. Thus, where available, actual operational costs, values and parameters have been utilised for Modifying Factors as part of this updated Ore Reserve estimate. Mining costs and modifying factors were sourced from the current mining contract and operational inputs.
	The source of exchange rates used in the study.	Mt Weld manages the mill feed blend to control the levels of various deleterious elements to within acceptable operational limits. This is achieved operationally by managing the following: block model ore zone classification, mine design, mining ore block classification (lithology, mineralogy), ore spotting, stockpile management and hygiene, and mill feed blending. Unit operations are designed in the flowsheet to reduce selected impurities. Exchange rate was set at USD\$0.70/AUD\$ based on a number of financial institution foregoete

Criteria	JORC Code explanation	Commentary
	Derivation of transportation charges.	Transportation charges have been sourced from Lynas operations data, existing transport contracts and have been accounted for in the processing cost model and algorithms.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	The Mt Weld plant and Lynas Malaysia plant are currently in operation, and as such all treatment and refining charges that form part of the processing cost equations are actuals.
	The allowances made for royalties payable, both Government and private.	All selling costs, royalties and other related operational expenses have been accounted for as part of the processing cost equations.
Revenue factors	The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.	The head grade is derived from the Mineral Resource and applied Modifying Factors as described above. All revenue was attributed to Lynas Malaysia produced rare earth products. The product price of US\$22.48/kg TREO comprised from a basket of rare earth oxide prices was applied in the pit optimisations. Assumptions of rare earth oxide prices were derived from market published prices and internal forecasts.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	
Market assessment	The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.	Rare earths are essential for numerous new technologies in high growth industries, (including electric vehicles and wind turbines). China currently produces approximately 85% of the global rare earths market
		supplies.
	A customer and competitor analysis along with the identification of likely market windows for the product. Price and volume forecasts and the basis for these forecasts.	Lynas is the second largest producer of Neodymium-Praseodymium (NdPr) material in the world and the leading supplier of NdPr to the free market. Lynas has quality, long term relationships with direct customers and end users around the world, primarily magnet and automobile component
		manufacturers in Japan and China.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Lynas currently supplies a range of products to a wide base of customers – NdPr oxide, Nd oxide, Pr oxide, SEGH oxide, La oxide, Ce carbonate, LaCe carbonate, Ce oxide, LaCe oxide and Ce chloride.
		The highest value product produced is NdPr oxide. There has been strong demand for NdPr, and the demand is forecast to increase with the growth of new technologies including wind turbines and electric vehicles.

Criteria	JORC Code explanation	Commentary
		Lynas Malaysia has been operating at above design rates and is in the process of ramping up production capacity further. In addition, Lynas has announced (ASX, 27 June 2024) the approved reconfiguration of the Lynas Malaysia plant to produce Dy and Tb from the SEGH product, providing flowsheet capability to increase the HRE product range to five products: Tb oxide, Dy oxide, unseparated Sm/Eu/Gd oxide, Ho concentrate and unseparated SEGH oxide.
Economic	The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.	A discount rate of 12.5% was applied to the optimisation work. Inputs to the economic analysis include Modifying Factors as described above.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivity studies were carried out. Standard linear deviations were observed. The project displayed physical robustness to variation in Modifying Factors.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Lynas launched a Social Cultural Heritage Management Plan (SCHMP) for Mt Weld that was co-developed with senior elders of the Nyalpa Pirniku Traditional Owner group in February 2023. The SCHMP aims to ensure future best-practice management of Cultural Heritage sites across the expansion area, to ensure that risks to heritage sites are minimised. The Nyalpa Pirniku Native Title Claim was subsequently determined 31 October 2023 by the Federal Court of Australia. Lynas Rare Earths has a good working relationship with Mt Weld Pastoral Station stakeholder.

Criteria	JORC Code explanation	Commentary
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	Fibrous minerals have been identified in the transitional and fresh carbonatite zones. These zones are not targeted as part of the mine plan or included in the Ore Reserves but small quantities may exist in material mined as ore.
	Any identified material naturally occurring risks.	Management Plan. There have been no recorded occurrences of fibrous minerals in the oxide zone.
		There are no known acid forming materials that could impact the operation.
		Any radioactive material is managed under Mt Weld Mining, DEMIRS approved Radiation Management Plan that meet NORM-II guideline.
		There is a risk of sheet flow flooding the project. To mitigate this, we have constructed flood control bunds to direct water around the project (Approved by the WA DEMIRS).
	The status of material legal agreements and marketing arrangements.	Existing marketing arrangements are in place.
	The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	All current deposits are located on granted Mining Leases and mining will be subject to the DMIRS approval process through the Mining Act, 1981. There are no currently identified grounds upon which it is likely that mining approvals will be withheld; all Mining Proposal and clearing permits and Project Management Plans have been submitted for review.

Criteria	JORC Code explanation	Commentary
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	The main basis of classification of Ore Reserves is the underlying Mineral Resource classification. All Proved Ore Reserves have been derived from Measured Mineral Resources and all Probable Ore Reserves have been derived from Indicated Mineral Resources within the Life of Mine pit shell in accordance with JORC Code (2012) guidelines. The Ore Reserves include insitu Mineral Resources, run of mine stockpiles and process tailings in the tailings storage facility. Inferred Mineral Resources have not been considered and do not form part of the Ore Reserve estimate.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The estimated Ore Reserves are, in the opinion of the Competent Person, appropriate for this style of deposit.
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	The Ore Reserves consist of 67% Proved Reserves and 33% Probable Reserves. No Probable Ore Reserves have been derived from Measured Mineral Resources.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	The Lynas technical team have prepared the inputs and modifying factors used in the 2024 Mt Weld Ore Reserve estimate.
		In 2023 an external mining consultant was involved in a technical review of the inputs and modifying factors used in the preparation of the Ore Reserves.

Criteria	JORC Code explanation	Commentary
Criteria Discussion of relative accuracy/ confidence	JORC Code explanation Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.	CommentaryStandard industry best-practice procedures and techniques were applied to obtain the Mt Weld Deposit Ore Reserves.This included the optimisation of the block model within the Whittle software program via application of updated Modifying Factors and subsequent design to obtain the Mt Weld Deposit Ore Reserve. A continuous Life of Mine schedule was constructed for the purposes of the Ore Reserve works.Sensitivity studies were carried out. Standard linear deviations were observed. The project displayed physical robustness to variation in Modifying Factors.All applicable standard cross checks were carried out during the process. The Mt Weld and Lynas Malaysia operations are currently in production and actual operational costs, values and parameters have been utilised, validated by ongoing test work.The Mt Weld expansion under construction and the Kalgoorlie Facility in ramp up are based on similar process workflows to the existing operations for which cost and recovery inputs supported by additional test work are well understood.
	It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	understood.