ASX Announcement

27 July 2021

Yangibana Rare Earths Project
Significant Ore Reserve tonnes increase of 37%
NdPr tonnes up 18% to 58kt

Highlights

- **Yangibana Rare Earths Project total Ore Reserve increased 37% to 16.7Mt at 0.95% TREO.**
- **TREO tonnes rise 15% to 158,400t, with contained Neodymium + Praseodymium (NdPr) - the key component in electric vehicle permanent magnets – increasing 18% to (58,300t).**
- **The increased Yangibana Ore Reserve includes the maiden Ore Reserve for the Simon's Find deposit – 1.7Mt at 0.57% TREO, of which 52% is NdPr – unmatched for any rare earths project.**
- **Yangibana's updated Ore Reserve extends mine life to at least 15 years. Ore sorting technology will be incorporated in Yangibana's mine development for a fourfold economic and operational boost including through:**
    - removing 4Mt of waste material from being processed over the life of mine (LOM);
    - increasing the TREO plant feed grade by 26%.
    - reducing plant reagent consumption and tailings storage volumes by 24%, and
    - improving sorted ore beneficiation recoveries at Simon's Find by 7.1%.

Australia's next rare earths producer Hastings Technology Metals Ltd (**ASX: HAS**) (**Hastings** or the **Company**) is pleased to announce a significant increase in the Ore Reserve Estimate at its Yangibana Rare Earths Project (**Yangibana**) in Western Australia's Gascoyne region.

Total Proven and Probable Ore Reserves have increased to 16.7Mt at 0.95% Total Rare Earths Oxide (**TREO**) including 0.37% Nd_2O_3 and Pr_6O_{11} (together, **NdPr**), a 37% increase in Ore Reserve tonnes compared with the previous Ore Reserve Estimate announced in 2019 (see ASX announcement, dated 4 November 2019 18% *Increase in Ore Reserves, Mine Life Extended 2 Years To 13 Years)*. The major increase in Ore Reserve was built on the successful 2020 Exploration Program targeting five of ten key deposits at Yangibana, which delivered a significant Mineral Resource increase (see ASX announcement dated 5 May 2021 *Yangibana Project Updated Measured and Indicated Resource Tonnes up 54%, TREO Oxides up 32%*).

Table 1: Total JORC (2012) Proved and Probable Reserve July 2021

Category	Mt	% TREO	% Nd_2O_3+Pr_6O_{11}	t TREO
Proved	4.69	0.99	0.38	46,605
Probable	12.00	0.93	0.34	111,184
TOTAL	***16.70***	***0.95***	***0.35***	***158,419***

Commenting on the major increase in Yangibana's Ore Reserve, Hastings Technology Metals Executive Chairman Charles Lew said:

"I am delighted to announce this significant increase in the Ore Reserve at Yangibana, which is the result of our successful exploration programs across existing and new deposits last year and will allow us to plan for a mine operating life of at least 15 years. Importantly, there remains substantial mineral resource upside potential at Yangibana, which we will further assess in due course.

"Today's announcement means Hastings has maintained its outstanding record of organic growth. This, exceptional rare earths inventory increase will underpin our production target of 15,000t per annum of MREC – equivalent to 3,400t of NdPr oxides when separated.

"There is no comparable rare earths project like Yangibana. This Ore Reserve update is a key milestone in our effort to finalise debt financing so that we can get on with launching into construction activities in the second half of this year.

"Hastings is now well positioned to capitalise on this world-class rare earths project, with its unrivalled ratios of up to 52% NdPr:TREO and located in arguably the best Tier 1 mining jurisdiction in the world, as we target strong financial returns and generate significant value for our shareholders."

Proved and Probable Ore Reserves

Based on Definitive Feasibility Study (**DFS**) information and recent updates to Yangibana's forecast operating costs, product pricing, geological, geotechnical, metallurgical and environmental work, independent consultant Intermine Engineering Consultants (**Intermine**) completed an updated Ore Reserve estimate based on Measured and Indicated Mineral Resources at each of the Bald Hill, Fraser's, Simon's Find, Auer, Auer North, Yangibana, Yangibana West and Yangibana North deposits. This Ore Reserve estimate used Whittle pit optimisation software to maximise ore recovery using conventional drill and blast, load and haul mining methods.

Modifying Factors used to estimate the new Ore Reserves are provided in the Table 1 Section 4 of the JORC Code (2012) at the end of this announcement.

The total Project Ore Reserve estimate, as of 30 June 2021, is set out in Table 2 below:

Table 2: Total JORC (2012) Ore Reserves by deposit June 2021

Deposit	Mt	%TREO	%Nd_2O_3+Pr_6O_{11}	Nd_2O_3+Pr_6O_{11} as % of TREO
Bald Hill	6.75	0.86	0.34	39
Fraser's	1.40	1.09	0.47	43
Simon's Find	1.72	0.57	0.30	52
Auer	2.07	0.96	0.35	35
Yangibana	1.35	0.79	0.37	47
Yangibana North	3.42	1.31	0.34	26
TOTAL	***16.70***	***0.95***	***0.35***	***38***

The increase in the Ore Reserves is based on the re-estimated and updated Mineral Resources for the Bald Hill, Fraser's, Simon's Find, Auer and Yangibana deposits plus the previously announced and unchanged Yangibana North deposit. The new Mineral Resource is the result of a successful 23,739m drilling campaign during 2020 to target new rare earths mineralisation and extensions to previously defined deposits. Additional drilling was undertaken to provide samples for metallurgical test work and geological re-interpretation of the mineralisation delineating the deposits. A significant increase in the Measured and Indicated Mineral Resources was generated through the re-interpretation and re-estimation process of the Mineral Resources based on the infill drilling completed during the drilling campaign. This process saw mineralisation previously classified as uneconomic or inferred within the original geological wireframes reclassified in the updated wireframes, as reported in the Company's ASX announcement dated 5 May 2021 *Yangibana Project Updated Measured and Indicated Resource Tonnes up 54%, TREO Oxides up 32%*.

The resultant Mineral Resource upgrading generated a new Ore Reserve of 16.7Mt at 0.95% TREO extending the Yangibana mine life to 15 years. The extension to mine life is underpinned by a maiden Ore Reserve for the Simon's Find deposit along with increases in the Ore Reserves of the closest pits to the site of the proposed processing plant, being Bald Hill, Fraser's Pits and Auer Pits. The Bald Hill pit alone continues to represent around 40% of the total Ore Reserves and is forecast to supply feed to the processing plant for nine of the 15 years of mine life.

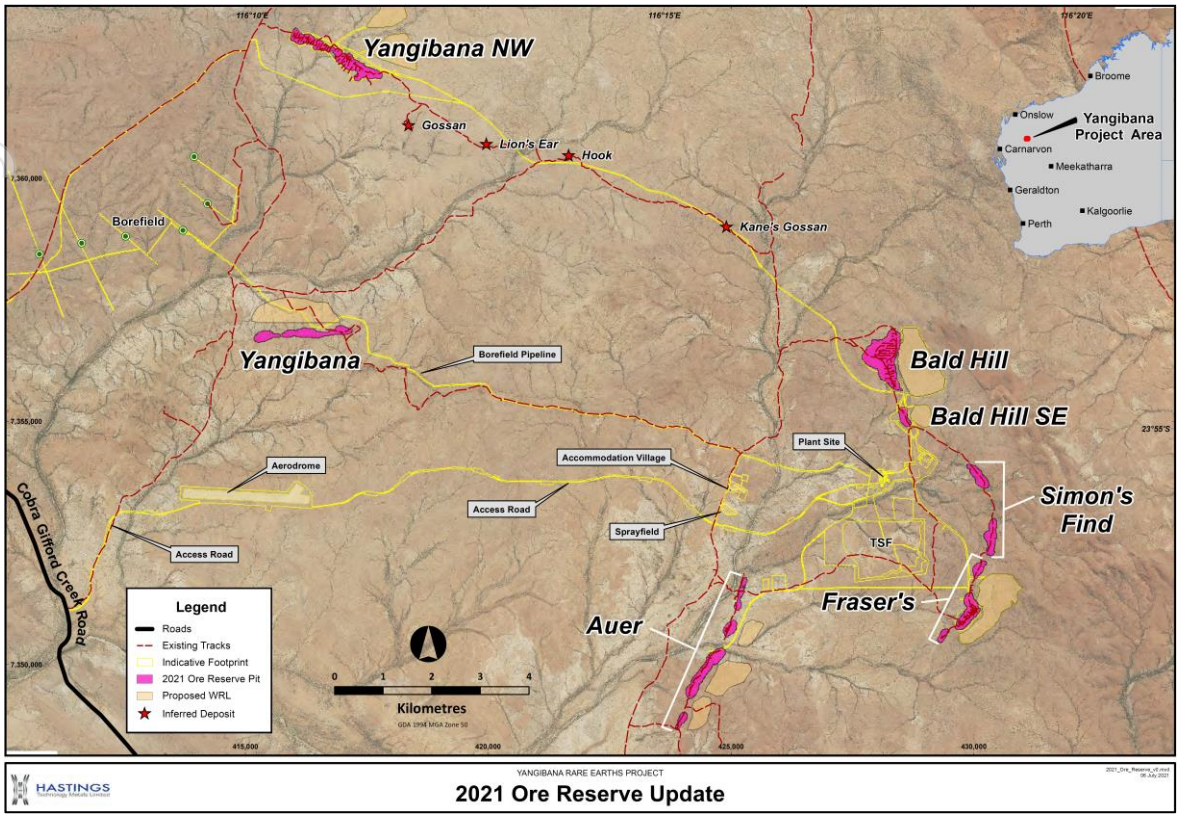

Figure 1. Location of Yangibana Project's Ore Reserves open pits.

Mineral Resources

The Mineral Resources as at 3 May 2021 are reported according to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the 'JORC Code') 2012 edition. The Mineral Resources are reported inclusive of Ore Reserves.

Table 3: Total JORC (2012) Mineral Resources May 2021

Category	Mt	% TREO	% Nd_2O_3+Pr_6O_{11}	t TREO
Measured	4.90	1.01	0.38	49,450
Indicated	16.24	0.95	0.33	154,750
sub-total	***21.14***	***0.97***	***0.34***	***204,200***
Inferred	6.27	0.99	0.31	62,250
TOTAL	***27.42***	***0.97***	***0.33***	***266,400***

Numbers may not add due to rounding. Includes JV tenement contributions.

Geology

The near surface mineralisation throughout the Yangibana Project is hosted by iron oxides and hydroxides termed ironstone, being the alteration products of the primary hosts ferro-carbonatite and phoscorite intrusive veins. The main rare earths-bearing mineral is monazite, which has locally undergone alteration at shallow depths (to 25m depth) to its hydrous equivalent rhabdophane and to rare earths-bearing aluminium-phosphates such as florencite.

The deposits occur as narrow but strike-extensive veins that have a range of dips from almost horizontal (10-20^{o}) to sub-vertical. The Fraser's deposit has the most extreme range from 5^{o} in portions towards its north-eastern end to 65^{o} at its south-western end. Average true thickness varies from 2.2m to 3.5m throughout the Yangibana deposits though locally true thicknesses in excess of 20m occur.

Drilling

During 2020 Hastings completed an extensive drilling program, comprising 341 reverse circulation (RC) holes for a total of 23,739m and 46 diamond holes totalling more than 1,605m.

Holes were initially drilled at 40m spacings along strike and down dip. Infill drilling in areas with Mineral Resource potential were undertaken at 37.5m or less spacing.

Most drill holes were vertical, subject to access availability, with holes into the steeper mineralised zones (Auer, the south-eastern portion of Fraser's, Bald Hill and Yangibana) being at -60^{o} or - 70^{o}. Internal surveys were carried out at 30m intervals downhole by the drilling contractors using a Reflex electronic single-shot camera within a stainless-steel drill rod.

Collar surveys were undertaken by RM Surveys using a DGPS surveying technique, with accuracies of approximately 10cm. The high-resolution Digital Terrain Model (DTM) commissioned by the Company was used as the topographic control for all drill holes. A Relative Level (RL) was assigned to each drill hole collar based on the high-resolution DTM using Mapinfo Discover 3D.

RC holes were drilled using a nominal 5¼-inch diameter face-sampling bit. Samples were collected through a built-in cyclone with a triple-tier riffle-splitting system to provide a large sample of approximately 25kg and a sub-sample of 2-4kg, of which selected samples were sent for analysis from each metre drilled. Field duplicates, blanks and Reference Standards were inserted at a rate of approximately 1 in 20.

Diamond core was drilled at HQ size. The core was logged and prospective zones sawn into half, with one half then quartered and one quarter sent for analysis. Assayed intervals were based on geology with a minimum length of 0.2m.

Block Modelling Parameters – re-estimated Mineral Resources only

Due to the complexity and generally narrow nature of the mineralisation, the Mineral Resource estimates were undertaken on 'flattened' block models following the allocation of block proportions from the updated mineralisation wireframes. This flattening process allowed for the use of Ordinary Kriging estimation techniques. One metre down hole compositing based on the assay data and wireframes was used to regularise the assayed intervals. Summary statistics for each deposit were used to identify the presence of outliers. Due to the distribution of grades within the mineralisation and the relatively un-skewed data population no top cuts were deemed necessary.

For each deposit, variograms of TREO were defined and used in the Mineral Resource Estimate. In all instances, the directional trends evident in the variogram maps were evident to some extent in plan views of the sample data and they normally conformed to the orientation of the mineralisation within the wireframes. As expected, variogram model ranges in the vertical direction were relatively short due to the predominantly thin nature of the mineralisation. The majority of variograms displayed reasonable structure, with anisotropies reflecting those observed in the variogram maps.

All re-estimated Mineral Resources were created with the same block size of 2m x 2m x 1m. This size was chosen as a compromise between the average drill spacing (up to 40m x 40m in some areas), size of the mineralisation wireframes (in order to limit resulting low-mineralised proportions), orientation of mineralisation (ideally the blocks would have been orientated with the mineralisation; however, this results in a model that is unusable for pit optimisation purposes), grade distribution within the mineralisation and the models' ultimate use for mine planning. A re-blocked (to 4m x 4m x 2m) model was provided for mine planning purposes in order to reduce the overall size of the Mineral Resource models. This resulted in the addition of minor amounts of dilution being incorporated into these models. The reporting of Mineral Resources within this announcement is based on the original block models.

The Mineral Resources have been classified in the Measured, Indicated and Inferred categories, in accordance with the 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC) by the Competent Person. A range of criteria has been considered in determining the classification including geological and grade continuity, data quality, drill hole spacing, and modelling technique and kriging output parameters.

As a general rule, the following spacings characterise the Mineral Resource classification.

- Infill drilling between 20m by 20m and 35m by 35m – Measured Category
- Drill spacing up to 50m by 50m – Indicated Category
- Drill spacing 100m by 50m to 100m by 100m – Inferred Category

Re-Estimated JORC 2012 Mineral Resources – by Deposit

The Ore Reserves quoted in this document are derived from Measured and Indicated Resources as reported in the ASX announcement dated 3 May 2021 *Yangibana Project Updated Measured and Indicated Resource Tonnes up 54%, TREO Oxides up 32%*. The current total Mineral Resources for the Yangibana Project that include the Probable Ore Reserves are as shown in Table 4.

Table 4 Yangibana Project – Total JORC Mineral Resources May 2021

Category	Mt	% TREO	% Nd_2O_3+Pr_6O_{11}	t TREO
Measured	4.90	1.01	0.38	49,450
Indicated	16.24	0.95	0.33	154,750
sub-total	***21.14***	***0.97***	***0.34***	***204,200***
Inferred	6.27	0.99	0.31	62,250
TOTAL	***27.42***	***0.97***	***0.33***	***266,400***

Note. Cut-off grades for the recently updated Mineral Resources (Bald Hill, Fraser's, Auer, Auer North, Simon's Find and Yangibana) is 0.24% TREO, for all others the cut-off grade is 0.2% NdPr

These resources are located across 12 different deposits within the overall project area as shown in Figure 1.

Proved and Probable Ore Reserves have been derived from the Measured and Indicated Mineral Resources at Bald Hill (M09/157 and M09/162 – Table 5), Fraser's (M09/158 – Table 6), Auer (E09/1989, E09/1989 and E09/2018 – Table 7), Yangibana (M09/165 – Table 8) and Yangibana West (M09/160 – Table 9) within tenements in which Hastings holds 100% interest, and from the eastern extension of Yangibana (M09/163 – Table 8) and Yangibana North (M09/159 – Table 9), in which Hastings holds a 70% interest.

Table 5 Bald Hill Re-Estimated Mineral Resource, 100% Hastings

Category	Mt	% TREO	% Nd_2O_3+Pr_6O_{11}	t TREO
Measured	3.51	0.86	0.35	30,369
Indicated	3.78	0.83	0.32	31,172
sub-total	***7.29***	***0.84***	***0.33***	***61,541***
Inferred	1.17	0.63	0.26	7,446
TOTAL	**8.46**	**0.82**	**0.32**	**68,986**

Table 6 Fraser's Re-Estimated JORC Mineral Resource, 100% Hastings

Category	Mt	% TREO	% Nd_2O_3+Pr_6O_{11}	t TREO
Measured	0.73	1.36	0.58	9,899
Indicated	1.01	0.77	0.34	7,797
sub-total	***1.74***	***1.02***	***0.44***	***17,695***
Inferred	0.25	0.9	0.36	2,255
TOTAL	**1.99**	**1.00**	**0.43**	**19,950**

Table 7 Auer Re-Estimated Mineral Resource, 100% Hastings

Category		Mt	% TREO	% Nd_2O_3+Pr_6O_{11}	t TREO
Measured		-	-	-	-
Indicated		3.54	0.93	0.32	32,796
sub-total		***3.54***	***0.93***	***0.32***	***32,796***
Inferred		1.10	0.76	0.24	8,297
TOTAL		**4.64**	**0.89**	**0.30**	**41,093**

Table 8 Yangibana Re-Estimated Mineral Resource, Total

Category	Mt	% TREO	% Nd_2O_3+Pr_6O_{11}	t TREO
Measured	-	-	-	-
Indicated	1.98	0.71	0.34	14,034
sub-total	***1.98***	***0.71***	***0.34***	***14,034***
Inferred	0.33	0.64	0.31	2,146
TOTAL	**2.31**	**0.70**	**0.33**	**16,180**

Yangibana M09/165, 100% Hastings

Category	Mt	% TREO	% Nd_2O_3+Pr_6O_{11}	t TREO
Measured	-	-	-	-
Indicated	1.82	0.72	0.34	13,168
sub-total	***1.82***	***0.72***	***0.34***	***13,168***
Inferred	0.09	0.78	0.37	714
TOTAL	**1.91**	**0.73**	**0.34**	**13,882**

Yangibana M09/163, 70% Hastings

Category	Mt	% TREO	% Nd_2O_3+Pr_6O_{11}	t TREO
Measured	-	-	-	-
Indicated	0.16	0.54	0.25	866
sub-total	***0.16***	***0.54***	***0.25***	***866***
Inferred	0.24	0.59	0.29	1,431
TOTAL	**0.40**	**0.57**	**0.28**	**2,298**

Table 9 Yangibana North Mineral Resource, Total

Category	Mt	% TREO	% Nd_2O_3+Pr_6O_{11}	t TREO
Measured	0.66	1.39	0.36	9,179
Indicated	4.15	1.41	0.36	58,609
sub-total	***4.81***	***1.41***	***0.36***	***67,788***
Inferred	0.97	1.43	0.37	13,914
TOTAL	***5.78***	***1.41***	***0.36***	**81,702**

Yangibana North M09/160, 100% Hastings

Category	Mt	% TREO	% Nd_2O_3+Pr_6O_{11}	t TREO
Measured	0.29	1.35	0.35	3,862
Indicated	1.66	1.43	0.37	23,824
sub-total	***1.95***	***1.42***	***0.37***	***27,686***
Inferred	0.60	1.43	0.37	8,548
TOTAL	**2.55**	**1.42**	**0.37**	**36,234**

Yangibana North M09/159, JV Tenement with 70% of total to Hastings

Category	Mt	% TREO	% Nd_2O_3+Pr_6O_{11}	t TREO
Measured	0.38	1.42	0.36	5,317
Indicated	2.49	1.40	0.36	34,785
sub-total	***2.87***	***1.40***	***0.36***	***40,101***
Inferred	0.37	1.45	0.37	5,366
TOTAL	**3.24**	**1.41**	**0.36**	**45,467**

Note. Mineral Resources for the Yangibana North deposit are reported at a 0.2% NdPr cut-off grade

Of the total Mineral Resources at Yangibana, 1.91Mt are within Mining Lease 09/165, which is held 100% by Hastings, and 0.40Mt are within Mining Lease 09/163, in which Hastings holds a 70% interest.

Yangibana North lies within Mining Lease 09/160, held 100% by Hastings. The mineralisation is continuous and extends into Mining Lease 09/159, in which Hastings holds a 70% interest, as Yangibana North.

Of the total Mineral Resources at Yangibana North, 2.55Mt are within Mining Lease 09/160, held 100% by Hastings, and 3.24Mt are within Mining Lease 09/159, in which Hastings holds a 70% interest.

Mineral Resources at Simon's Find are shown in Table 9. These resources are located within Mining Lease 09/158 and Exploration Licence 09/1943, both held 100% by Hastings.

Table 10 Simon's Find Mineral Resource, 100% Hastings

Category	Mt	% TREO	% Nd_2O_3+Pr_6O_{11}	t TREO
Measured	-	-	-	-
Indicated	1.79	0.58	0.30	10,437
sub-total	***1.79***	***0.58***	***0.30***	***10,437***
Inferred	0.63	0.53	0.27	3,365
TOTAL	**2.42**	**0.57**	**0.30**	**13,802**

Note The cut-off grade for the Simon's Find deposit is 0.24% TREO

Mineral Resources for Gossan, Lions Ear and Kane's Gossan are not utilised in the Ore Reserve calculation and are unchanged from the previous Mineral Resource Estimate. They are shown here for the purpose of clarity only.

Table 11 Mineral Resources – all Inferred only – and not updated, 100% Hastings

Category	Mt	% TREO	% Nd_2O_3+Pr_6O_{11}	t TREO
Gossan	0.25	1.43	0.35	3,518
Lion's Ear	0.71	1.54	0.39	10,934
Hook	0.29	1.52	0.33	4,393
Kane's Gossan	0.57	1.04	0.29	5,970
TOTAL	**1.82**	**1.39**	**0.34**	**24,814**

Note. The cut-off grade for the Gossan, Lion's Ear, Hook and Kane's Gossan deposit is 0.20% NdPr

JORC-compliant Inferred Mineral Resources at Gossan, Lion's Ear, Hook and Kane's Gossan are shown in Table 11. These deposits are all within Mining Lease 09/159, in which Hastings holds a 70% interest.

Metallurgical Factors and Assumptions

A Definitive Feasibility Study (DFS) was completed in November 2017 on the Bald Hill and Fraser's deposits and is now progressing to detailed design. The metallurgical flowsheet developed from that study was then used as the basis of assessment of additional satellite deposits.

The metallurgical performance of samples from each satellite deposit has been assessed through the standard bench-scale flowsheet. The results of the test work as well as impacts on operating costs have been used for the prefeasibility level study on each satellite deposit. The deposits of Auer, Auer North, Yangibana, Yangibana North/West were included in the reserves update 4th November 2019.

Test work has been completed with the same methodology in 2020-2021 for inclusion of Simon's Find mineralisation in the Ore Reserves estimates. A change to the DFS process flowsheet has been developed after publication of the study. Test work has been undertaken across the project deposits to assess the metallurgical performance impact, both in the ore sorting unit process and also downstream impacts on the DFS flowsheet due to the addition of this processing step.

Process and Flowsheet

The metallurgical process comprises ore beneficiation followed by hydrometallurgical (**hydromet**) extraction to produce a valuable Mixed Rare Earths Carbonate (**MREC**) product. The beneficiation unit processes include crushing, ore sorting, grinding, rougher flotation, regrinding and cleaner flotation. The ore sorting unit process was added following the completion of the DFS.

The hydromet unit processes include acid bake, water leach, impurity removal and MREC product precipitation. Since the DFS was completed, the hydromet process has been geographically relocated to a coastal location to improve access to services and ports. No major changes to the process flowsheet were made.

The simple and effective metallurgical process flowsheet has been developed with the best-known available technology and industrial practice by the Hastings technical team, which has been well tested in both laboratory scale and pilot scale during the Bald Hill and Fraser's DFS, with the exception of ore sorting. Ore sorting has been tested to a Pre-feasibility Study (**PFS**) level post-DFS, including assessment of the impact on downstream unit processes. The unit processes selected for inclusion in the beneficiation and hydromet process flowsheet are based on known technologies, both in the rare earths industries and other mining applications.

Ore Feed Chemistry Tolerances

Assessment of ore mineralogy across the project deposits has identified the main rare earths-bearing mineral in the ore is monazite. The main gangue minerals are iron oxides and hydroxides, biotite-type minerals and apatite. Iron carbonate (siderite) has been identified at depth in Yangibana West and Yangibana North. The siderite boundary has been mapped and higher siderite-bearing portions have been excluded from the planned mill feed ore.

The ratio of rare earths elements contained in the monazite differs between the deposits. This is reflected in the financial analysis but has no impact on the performance of the beneficiation flowsheet. Compared to DFS ore

source concentrate, there may be some variation on concentrate mineralogy. This can be managed in the hydromet circuit through varying process conditions.

Where required, limits have been set for TREO and deleterious elements in the beneficiation circuit feed and these limits have been considered in the mine development and ore scheduling process.

Metallurgical Test Work

Pilot plant campaigns for both the beneficiation flowsheet and the hydromet flowsheet have proved the circuits can be run on a continuous basis and that the selected unit processes are able to selectively concentrate the rare-earths-bearing mineral monazite and remove or control the major product impurities of manganese, iron, thorium and uranium within an acceptable product range. More than 50kg of high-purity MREC produced from the pilot plant was sent to 11 customers for evaluation. The product quality is acceptable to separation plant operators.

Bench-scale test work for the satellite deposits of Auer, Auer North, Yangibana and Yangibana North/West was mostly carried out in 2017 and 2018 at a number of commercial laboratories in Australia. Bench-scale test work on Simon's Find was carried out in 2020-2021. Beneficiation test work has been completed at KYSPY Met and ALS Metallurgy. Hydromet test work has been completed at SGS Minerals Metallurgy and ANSTO (Australia Nuclear Science and Technology Organisation).

Assessment of the metallurgical processing performance of all satellite deposits was based on batch test work using the standard DFS comminution and flotation flowsheet and comparison against the performance achieved with DFS ore sources. A standard acid bake and water leach test was completed for assessment of the hydromet performance. Liquor chemistry post-water leach was used to compare against DFS ore sources. A dedicated program to understand the impact on precipitation circuit performance from varying levels of manganese in the leach liquor was also undertaken.

Assessment of comminution requirements was undertaken using a standard suite of comminution tests including SMC (SAG Mill Comminution), UCS (Unconfined Compressive Strength), Bond Ball Mill work index, Bond Crusher work index and abrasion index.

All results indicate that the satellite deposits are suitable for processing through the comminution circuit as designed in the DFS.

Detailed mineralogy and variability test work have been carried out on multiple samples for each deposit, as shown below. Mineralogical assessment has been undertaken using QEMSCAN at the target primary grind size to understand mineralogy as well as liberation and association of the minerals. Variability flotation test work has been undertaken of the samples and concentrate from selected samples tested through the hydromet variability program.

More recently, ore sorting was added to the front end of the beneficiation process flowsheet. After initial scoping test work to prove the concept, a bulk sample (approximately 1.6t) was tested through the ore sorting process. The bulk sample was produced by trenching within the Bald Hill deposit area. Following bulk test work, a total of 12 PQ diamond drill core variability samples were tested through the ore sorting process, followed by flotation of sorted product versus unsorted samples to assess the impact of the ore-sorting outcomes on the flotation process.

The Life of Mine average metallurgical recovery for all deposits is

- 96.0% TREO recovery though ore sorting;
- 87.6% TREO recovery in the beneficiation circuit;
- 86.3% TREO recovery in the hydrometallurgy circuit; resulting in
- an overall metallurgical recovery of 72.6%.

Environmental Factors

This feasibility study (FS) was updated for the Environmental and Social Baseline section and includes data from the 2017 DFS but has been updated to reflect:

- Flora and fauna: Baseline flora and fauna surveys have been conducted over 55,650ha of tenements. Targeted flora surveys have been conducted over all disturbance areas including the pits and waste rock landforms of the 2020 drilling program. No significant impact will occur to conservation-significant terrestrial flora or fauna. Subterranean fauna sampling has been completed at Yangibana and Auer and is currently underway at Simon's Find.
- Baseline ground and surface water: A hydrology study has determined that mining and the majority of infrastructure falls outside flood impact zones. Groundwater studies of fractured rock aquifers within the ore body at Yangibana, Auer and Simon's Find are underway and expected to further supplement the project's water demands. The remaining 80% of water demands will be sourced from the paleochannel bore field. A pit dewatering assessment and post-closure pit lake modelling have been completed for Yangibana West and are planned to be undertaken for the Auer, Auer North and Yangibana pit areas.
- Baseline soil and radiation: Topsoil analysis has been conducted and mapped over project areas including Auer, Yangibana and Simon's Find. Baseline radiation surveys and radiation waste characterisation studies have determined that naturally occurring radioactive materials (NORM) are associated with the orebody. Gamma radiation surveys are required over the Auer, Yangibana and Simon's Find areas.
- Waste rock geochemical characterisation: The Yangibana, Auer and Simon's Find pit lithologies are consistent with other pits on-site, which have been characterised geochemically and classify as benign and non-acid forming. The mineralogy of the project is not associated with asbestiform minerals. Erodibility parameters were determined for waste rock and topsoil and will inform the waste rock landforms' design for Yangibana, Auer and Simon's Find. Waste rock geochemical characterisation for Yangibana, Auer and Simon's Find is underway.
- Baseline air quality: A baseline air quality assessment and greenhouse gas emissions assessment for the project have been completed. A radiation impact assessment has determined that dust containing NORM will not pose a risk to the surrounding environment. However, these studies will be reviewed to confirm the conclusions are current for the expansion of additional pits and waste rock landforms and tailings storage facilities.
- Cultural heritage: Yangibana, Auer and Simon's Find pit areas and the majority of waste rock landform footprints have been surveyed for cultural heritage sites. There are no cultural heritage sites within the pit areas. Waste rock landforms will be designed to avoid impact to cultural heritage sites in areas that are yet to be surveyed.
- Closure: The mine closure plan has been approved for the Bald Hill, Fraser's and Yangibana NW and an addendum is ongoing for the addition of the Auer, Simon's Find and Yangibana deposits. A landform

evolution study has identified landform design specifications that aim to ensure site landforms will maintain their integrity for 1,000 years post-closure. A landform evolution study will be revised subject to outcomes of waste rock characterisation studies' findings in Auer, Yangibana and Simon's Find if results differ from those of the DFS ore sources.

- The mining plan has been approved for Bald Hill, Fraser's and Yangibana NW, an addendum is required for Auer, Simon's Find and Yangibana and will be submitted after EPA approvals are granted for Simon's Find, Auer and Yangibana.
- Water abstraction license (5c) has been approved and addendums for pit dewatering for the Auer, Simon's Find and Yangibana deposits are ongoing.

Yangibana Expansion 1 includes Auer, Yangibana and an amalgamated Bald Hill-Simon's Find-Fraser's pit and associated WRLs, and additional capacity of the Tailings Storage Facility. The Yangibana Expansion 1 was referred to the Western Australian (WA) Environmental Protection Authority (EPA) and Commonwealth Department of Water, Agriculture and the Environment (DAWE) under the Environmental Protection Act 1986 (WA) and Environment Protection and Biodiversity Act 1999 (Commonwealth), respectively. The EPA and DAWE determined that the Proposal would be assessed as a Public Environmental Review with a four-week advertisement assessment. The proposal is currently in Phase 3 of the assessment with the Environmental Scoping Document under assessment for approval by the EPA Board.

Market Assessment

The Yangibana project will produce a MREC that has a high neodymium (Nd) and praseodymium (Pr) content (averaging 35% with a maximum of 52% of TREO content) as the predominant value elements. It is estimated that Pr_6O_{11}, Nd_2O_3, Tb_4O_7 and Dy_2O_3 will contribute around 96% of the economic value per kilogram of production.

- With Nd_2O_3 and Pr_6O_{11} oxides, substantial supply shortages and rapid demand growth are anticipated over the next decade.
- CRU Consulting * supplied non-disclosable price forecasts for rare earth oxides in January 2021 covering the period 2023 to 2038.
- The Yangibana plant has a design capacity of 15,000t of MREC per annum.
- The MREC, when further processed and separated, results in TREO of 8,500t per annum.

Hastings has previously announced that it has entered into four offtake MOUs with customers covering approximately 11,000t of the planned annual MREC production volume. The MREC product price is based on the average of the last three months' separated oxide prices referenced to Asian Metals published prices. Of these four MOUs, two have progressed to the signing of offtake contracts, with Sky Rock Rare Earth New Materials Co Ltd, as announced on 29 November 2018, and thyssenkrupp Materials Trading GmbH, as announced on 20 April 2021. These two contracts make up around 76% of MREC sales in the first five years of production at Yangibana.

**CRU Consulting is an independent research and advisory service group that provides data-backed insight, analysis and forecasting in select emerging areas such as the rare earths industry. The company monitors key industry and market developments to support its price forecasting.*

Social

Hastings is implementing a Stakeholder Engagement Plan. The overall response to the project has been very positive. A Land Access Agreement has been negotiated and ratified with the pastoral lessee. A Native Title Agreement has been negotiated and ratified with the Native Title claimants as reported in the ASX announcement dated 14 November 2017 *Hastings Signs Native Title Agreement with Thiin-Mah Warriyangha, Tharrkari and Jiwarli People.*

The workforce will be recruited from the region and, where this is not possible, more broadly with most plant operations specialists sourced from Perth.

Hastings is currently developing systems and processes to ensure it maintains its social licence to operate, to ensure its workforce is competent in its respective roles and adopts a culture of safety and compliance.

Infrastructure

The Yangibana project is located approximately 200km north of Gascoyne Junction in the Upper Gascoyne region. Recent changes to the project include the de-coupling of the process plant facilities, with the beneficiation and production of a concentrate remaining onsite. The concentrate is then trucked to a coastal hydromet facility for cracking and leaching before the resultant MREC product is transported to a local container port.

The beneficiation process plant is located on a greenfield site and all supporting infrastructure must be constructed. The proposed infrastructure for the project will include:

- Comminution plant
- Beneficiation plant
- Access and site roads
- Water supply bore field
- Tailings storage facility (TSF) and hydromet waste storage
- Mining buildings
- Fuel storage
- Security and fencing
- Employee housing and transportation
- Water treatment and mine site sewage
- Data and communications infrastructure
- LNG fuelled power station.

The hydromet process plant infrastructure for the project will include:

- Hydromet plant (kiln and water leach)
- Access and site roads
- Water supply bores
- Evaporation pond
- Process buildings
- Security and fencing
- Water treatment and mine site sewage
- Data and communications infrastructure

- Natural gas let down station.
- Mains grid electrical switchyard

As of December 2018, early site works were identified as the construction of the water supply bore and pipeline, the 340-room accommodation village and the access road from the Cobra–Gifford Creek Road to the plant site. Of the above, construction has started on the bore and pipeline. Off-site fabrication of the accommodation village buildings has commenced, and the first units have been delivered to site. Designs have been completed for the site access roads and airstrip. Additionally, for the longest lead item, the kiln design is being progressed with FLSmidth.

Mining Plan

Mining at the Yangibana Project will be undertaken by a mining contractor utilising a standard truck-and-shovel arrangement. Ore and waste will be broken by conventional drill and blast practices and mined on discrete flitches, the height of which will be dependent on material type (ore or waste) and ore body geometry.

Grade control is likely to be undertaken on a campaign basis by close-spaced, angled RC drilling at 20m intervals.

The deposits considered in this new mining plan have different degrees of weathering, with each of the deposits hosted by:

- An upper horizon comprising saprolite that requires little or no blasting;
- A transition zone of decreasing alteration that will require blasting; and
- Deeper, fresh granite that will require blasting.

The deposits occur in a range of dips as shown in Table 12, with Fraser's having the most extreme variation from 5° towards its north-eastern end to 65° at its south-western end.

Average true thickness varies from 3.0m to 4.9m throughout the Ore Reserve deposits though locally true thicknesses in excess of 20m occur.

Table 12 Basic dimensions of the Yangibana deposits hosting Ore Reserves

Deposit	Declination (degs)	Ave true thickness (m)
Bald Hill	0 to 60	4.6
Fraser's	5 to 65	3.0
Auer	60 to 80	4.3
Auer North	65 to 85	3.2
Simon's Find	25 to 55	3.4
Yangibana	30 to 65	3.3
Yangibana West	10 to 30	3.9
Yangibana North	5 to 20	4.9

Cut-Off Parameters

A cut-off grade of 0.20% TREO has been used to interpret the mineralisation of potential economic interest. The cut-off coincides generally with the visual geology of the deposits, with target minerals being hosted predominantly by ironstone and, to a much lesser extent, by phoscorite or carbonate.

The economic cut-off grade for the project was determined on a block value basis and based on calculating revenue from recovered metal and selling and processing costs on a block-by-block (diluted) basis. With the introduction of ore sorting there are now two ore streams that will be reporting to the process plant. The determination of blocks that require sorting and blocks that bypass the sorter and report directly to the SAG mill is based on the combined Al-Si content, determined at the grade-control phase. Blocks with an Al-Si content of less than 25% are considered clean and bypass sorting. Cut-off grades for both ore-types are based on a revenue basis. Blocks with revenue greater than the sum of the processing costs were above the cut-off for processing and included as ore in the optimisation process:

- Sorted Ore - $109.50/t
- Direct Feed Ore - $107.60/t

Mining Factors

Mining Recovery and Dilution

The ironstone unit that hosts the bulk of the rare earths is visually distinct from the host rock, providing good visual control for ore identification. RC grade-control drilling will be carried out prior to mining to clearly delineate the mining boundaries of the blocks containing economic rare earths against blocks containing uneconomic waste material, ore-types by TREO grades and deleterious elements for blending via stockpiles and sortable and non-sortable ore-types. An ore loss of 2% has been applied to all blocks mined selected for processing.

Blasting and mining near and in the ore-zones will require careful planning to minimise dilution and allow removal of the hanging-wall waste to expose and selectively mine the ore. Due to the high value of the ore, a high ore recovery is the focus of mining. As such, the recent resource update has extended the wireframes out to the edge of TREO mineralisation with a 0.20% limit, which effectively emulates an inflated grade envelope.

All re-estimated mineral resources were created with the same block size of 2m x 2m x 1m. This size was chosen as a compromise between the average drill spacing, size of the mineralisation wireframes, orientation of mineralisation, grade distribution within the mineralisation and the models' ultimate use for mine planning. A re-blocked (to 4m x 4m x 2m) model was provided for mine planning purposes in order to reduce the overall size of the Mineral Resource models. This resulted in the addition of minor amounts of dilution being incorporated into these models.

On this basis no additional dilution has been factored into the optimisation and reserve reporting.

Geotechnical

Based on geotechnical studies, pit optimisations incorporated a conservative 28^{o} overall wall angle in the saprolite and 35-40^{o} to weathered and fresh granite. Simon's Find wall angles have been interpolated from Bald Hill and Fraser's values as Simon's Find sits midway between the two deposits along the same line of strike. A geotechnical program to incorporate Simon's Find is planned for later in 2021.

Ground Water

Ground water at all deposits sits at approximately 45m below the natural surface level. Pits will be dewatered ahead of mining using bores or by in-pit pumping from sumps to dedicated temporary storage facilities at the pit edge. Stormwater will be managed in-pit using sumps pumped externally to the pit.

Waste Material

Mine waste from each pit is stored in adjacent waste dumps. All waste is considered non-reactive and not considered to pose an Acid Rock Drainage (ARD) issue and therefore will not require additional treatment or contained dumping strategies. An additional waste stream will be generated via the ore sorter. This will consist of a course-crushed product and will be co-disposed with general mine waste in either of the Eastern Belt waste landforms.

Ore Material

Mined ore from the pit will be transferred either directly to the Run-Of-Mine (ROM) pad or to low-grade stockpiles by mining trucks. For pits remote from the plant the long hauls are achieved by road trains.

Optimisation Parameters

Pit optimisations were completed using the Whittle optimisation software to determine the economic mining limits for each deposit. Only Measured and Indicated Resources were considered for processing and all Inferred material is considered to have no economic value in this process.

Pits were then designed in stages to enable the required ore tonnages and grades and waste volumes to be optimised based on plant requirements.

Pit optimisation studies and designs have defined the total Proved and Probable Ore Reserves for the Yangibana Project as shown in Table 1. (Note that rounding discrepancies may appear in the following tables.)

Mine Design

The design parameters for pit design remain unchanged from the previous reserve update. The designs have been undertaken on Revenue Factor 1 shells generated by Whittle.

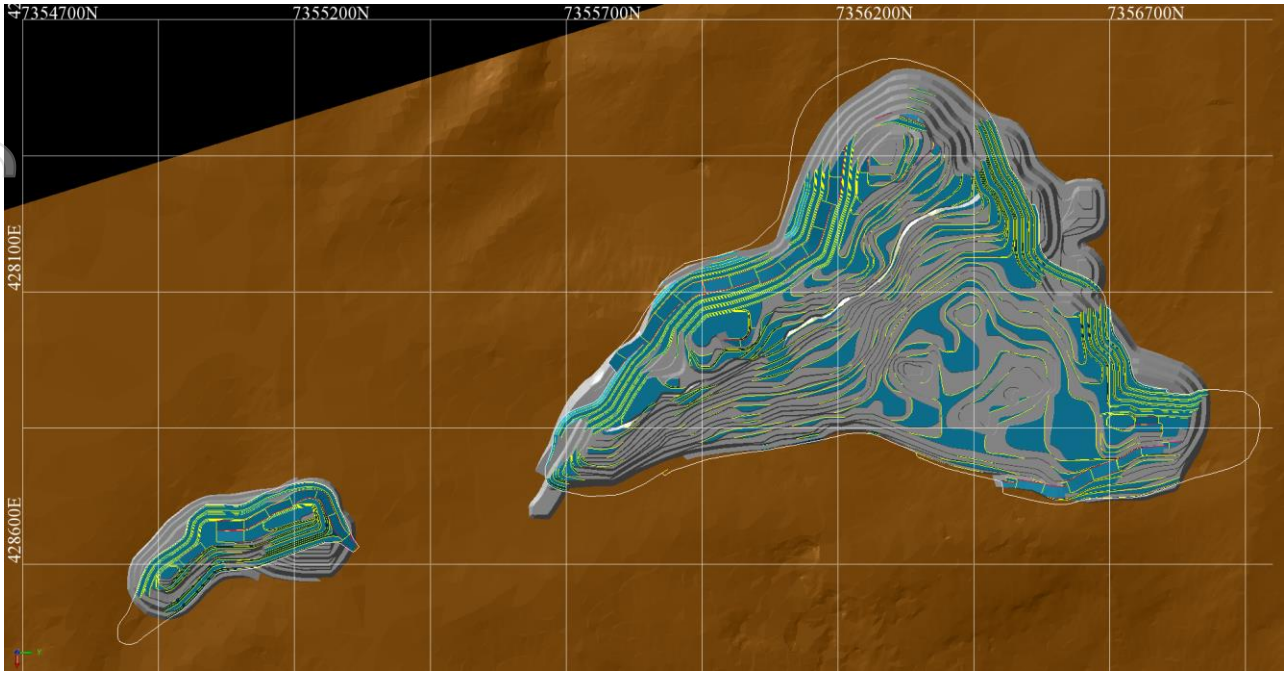

Figure 2: Bald Hill and Bald Hill South designs (grey) overlain with previous reserve design (blue).

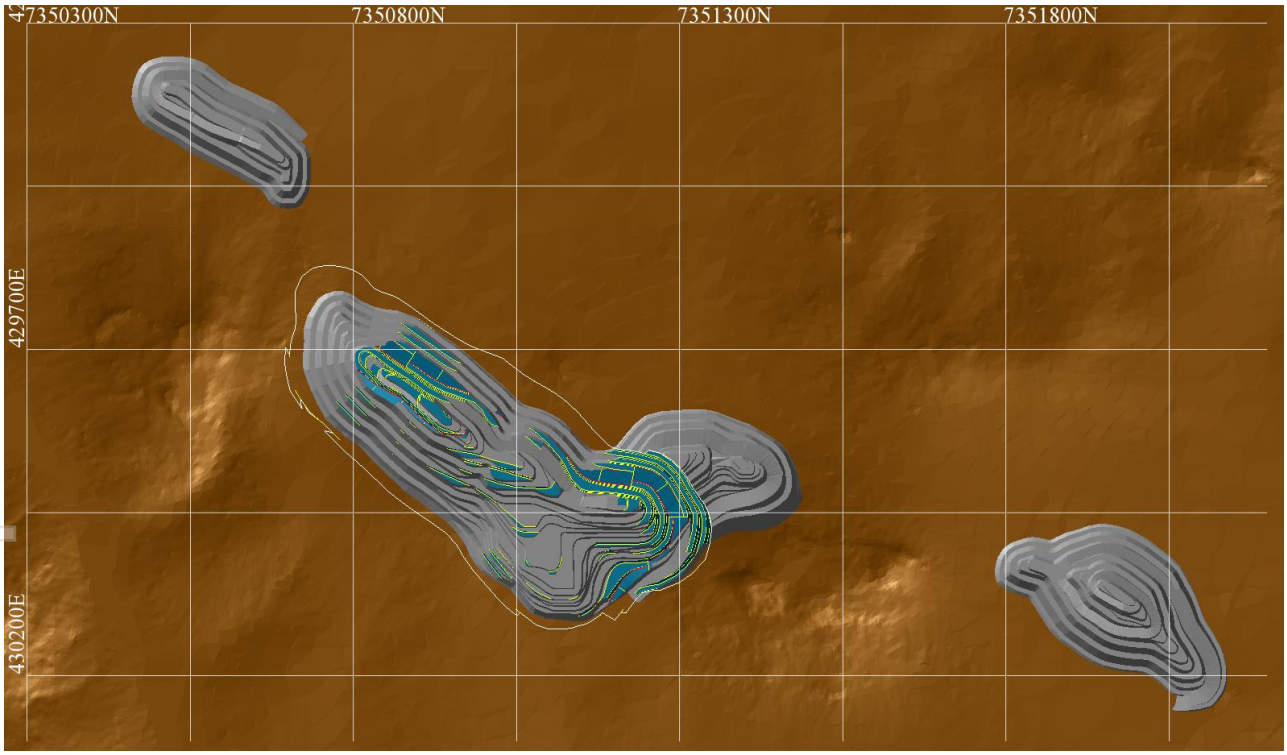

Figure 3: Fraser's designs (grey) overlain with previous reserve design (blue).

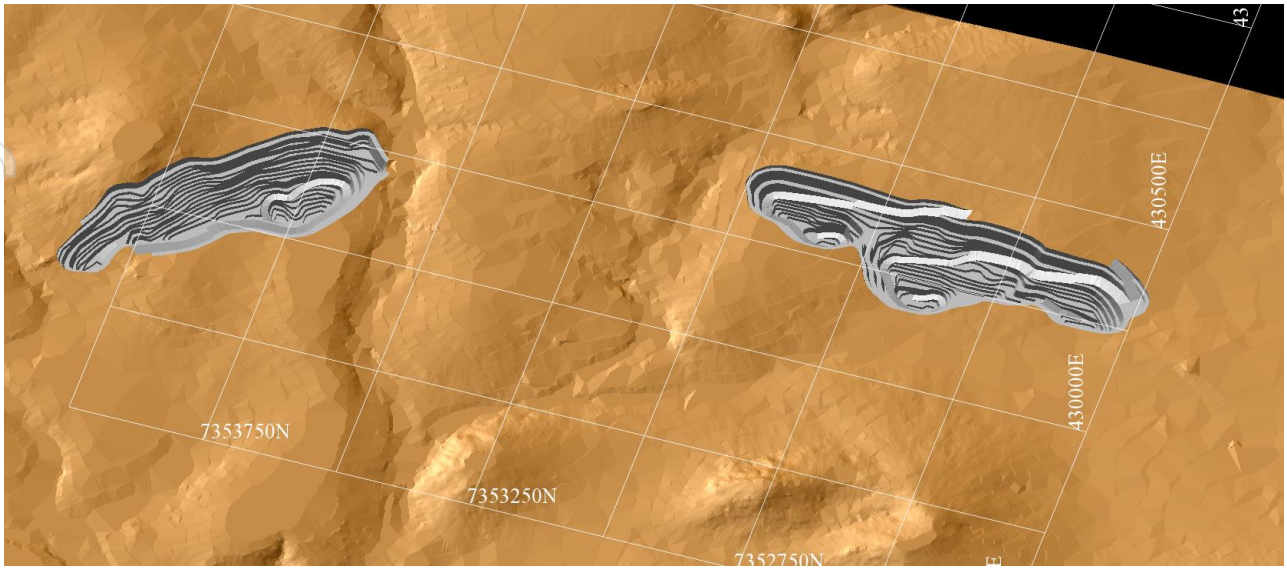

Figure 4: Simon's Find open pit mine designs.

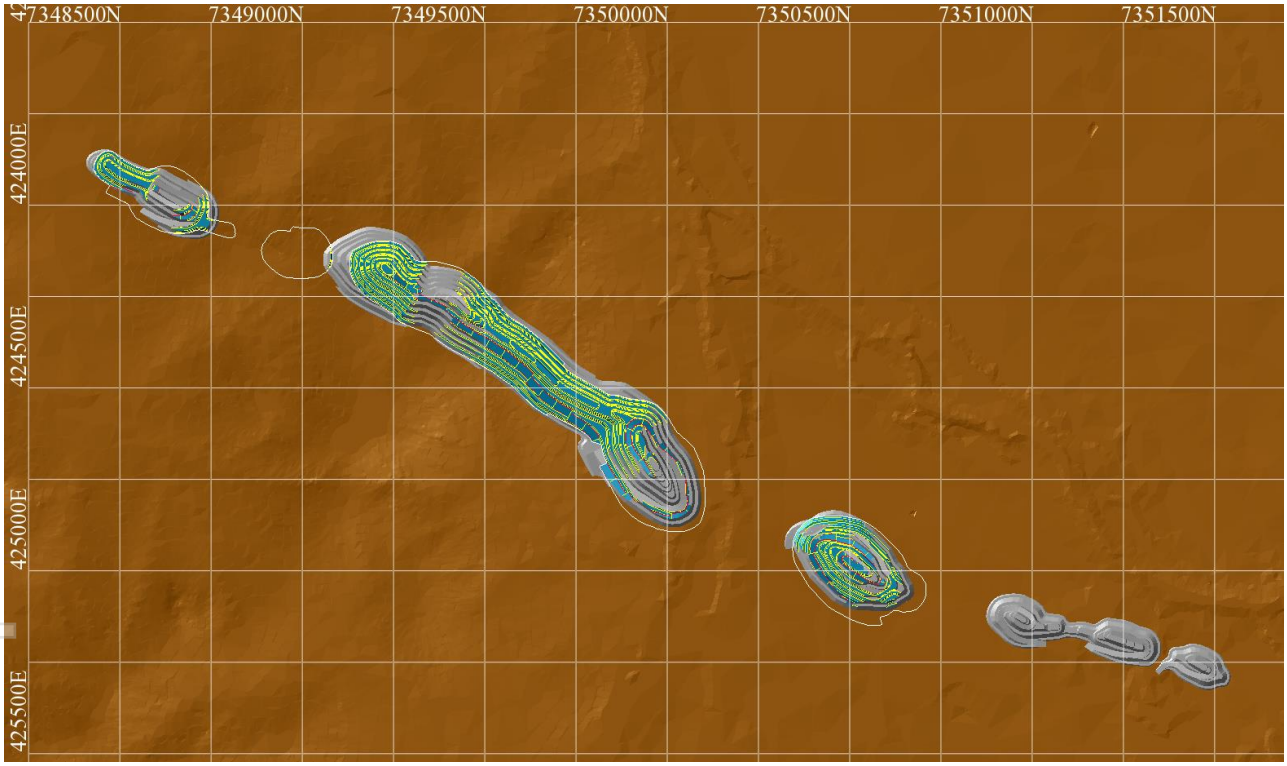

Figure 5: Auer and Auer North designs (grey) overlain with previous reserve design (blue).

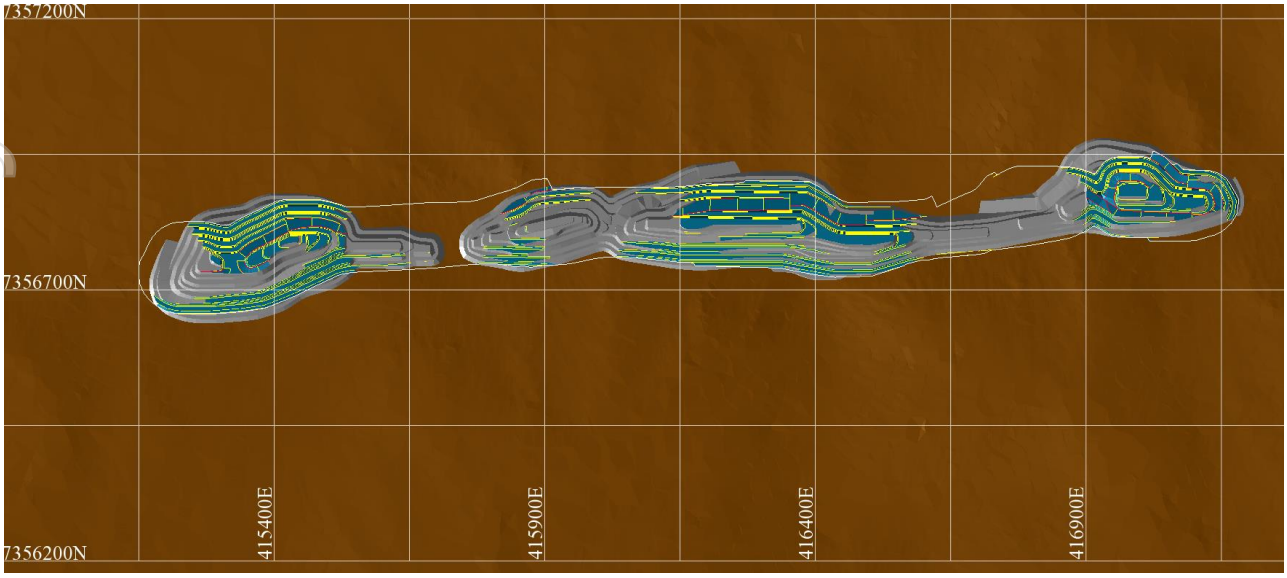

Figure 6: Yangibana design (grey) overlain with previous reserve design (blue)

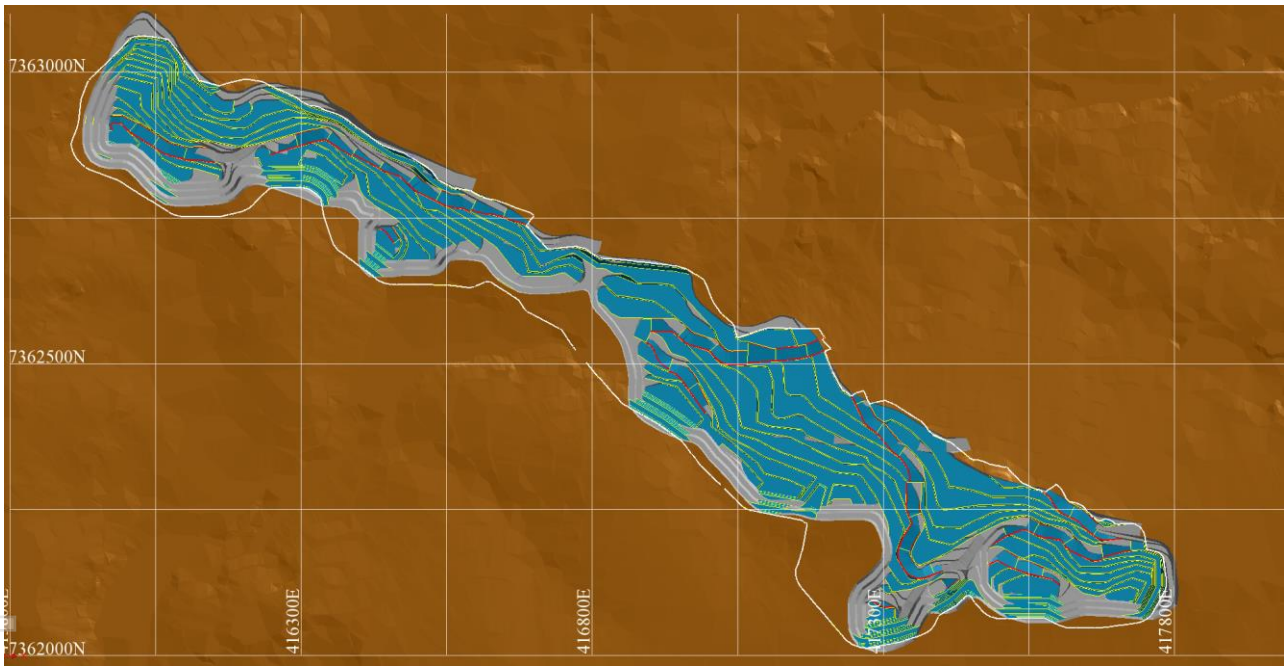

Figure 7: Yangibana North design (grey) overlain with previous reserve design (blue).

Table 13: Yangibana Project – Proved Ore Reserves by deposit June 2021

Deposit	Mt	% TREO	% $Nd_2O_3+Pr_6O_{11}$	$Nd_2O_3+Pr_6O_{11}$ as % of TREO
Bald Hill	3.45	0.86	0.35	40
Fraser's	0.69	1.36	0.58	42
Simon's Find	-	-	-	-
Auer	-	-	-	-
Yangibana	-	-	-	-
Yangibana North	0.56	1.35	0.36	26
TOTAL	**4.69**	**0.99**	**0.38**	**39**

Table 14: Yangibana Project - Probable Ore Reserves by deposit June 2021

Deposit	Mt	% TREO	% $Nd_2O_3+Pr_6O_{11}$	$Nd_2O_3+Pr_6O_{11}$ as % of TREO
Bald Hill	2.87	0.86	0.33	38
Fraser's	0.71	0.83	0.36	43
Simon's Find	1.72	0.57	0.30	52
Auer	2.07	0.96	0.35	35
Yangibana	1.35	0.79	0.37	47
Yangibana North	2.87	1.31	0.34	26
TOTAL	***12.00***	***0.93***	***0.34***	***36***

Proved and Probable Ore Reserves within tenements held 100% by Hastings (Eastern Belt Tenements) and the grades of $Nd_2O_3+Pr_6O_{11}$ and TREO are shown in Table 15 and Table 16, with those within tenements in which Hastings holds a 70% interest (Western Belt Tenements) being shown in Table 17 and Table 18. The fraction of $Nd_2O_3+Pr_6O_{11}$ calculated as a percentage of TREO is also displayed.

Table 15: Yangibana Project - Proved Ore Reserves Within Tenements Held 100% by Hastings, June 2021

Deposit	Mt	% TREO	% $Nd_2O_3+Pr_6O_{11}$	$Nd_2O_3+Pr_6O_{11}$ as % of TREO
Bald Hill	3.45	0.86	0.35	40
Fraser's	0.69	1.36	0.58	42
Simon's Find	-	-	-	-
Auer	-	-	-	-
Yangibana	-	-	-	-
Yangibana North	0.29	1.31	0.36	27
TOTAL	**4.43**	**0.97**	**0.39**	**39**

Table 16: Yangibana Project – Probable Ore Reserves Within Tenements Held 100% by Hastings, June 2021

Deposit	Mt	% TREO	% $Nd_2O_3+Pr_6O_{11}$	$Nd_2O_3+Pr_6O_{11}$ as % of TREO
Bald Hill	3.30	0.86	0.33	38
Fraser's	0.71	0.83	0.36	43
Simon's Find	1.72	0.57	0.3	52
Auer	2.07	0.96	0.34	35
Yangibana	1.25	0.81	0.38	47
Yangibana North	1.54	1.31	0.36	27
TOTAL	**10.58**	**0.89**	**0.34**	**39**

Table 17: Yangibana Project - Proved Ore Reserves Within Tenements Held 70% by Hastings, June 2021

Deposit	Mt	% TREO	% $Nd_2O_3+Pr_6O_{11}$	$Nd_2O_3+Pr_6O_{11}$ as % of TREO
Bald Hill	-	-	-	-
Fraser's	-	-	-	-
Simon's Find	-	-	-	-
Auer	-	-	-	-
Yangibana	-	-	-	-
Yangibana North	0.27	1.38	0.35	26
TOTAL	**0.27**	**1.38**	**0.35**	**26**

Table 18: Yangibana Project - Probable Ore Reserves Within Tenements Held 70% by Hastings, June 2021

Deposit	Mt	% TREO	% $Nd_2O_3+Pr_6O_{11}$	$Nd_2O_3+Pr_6O_{11}$ as % of TREO
Bald Hill	-	-	-	-
Fraser's	-	-	-	-
Simon's Find	-	-	-	-
Auer	-	-	-	-
Yangibana	0.10	0.56	0.26	47
Yangibana North	1.33	1.27	0.33	26
TOTAL	**1.43**	**1.22**	**0.32**	**27**

Cost Assumptions

The key Ore Reserve cost parameters developed from the current evaluation are shown in Table 19

Table 19: Yangibana Project – Ore Reserve Parameters

Pre-Feasibility Study Parameters	Parameter
Status of JORC Resources used for financial evaluation	Measured and Indicated
Mining Method	Conventional open pit. narrow vein mining methods with drill and blast
Mining Dilution – inherent in the wireframing of the May 2021 updated OK resource modelling.	variable
Mining Recovery	98%
Processing Route	Ore Sorting, Grinding, Flotation, Acid Bake, Water Leach and MREC Precipitation
Overall Processing Recovery (TREO) – Ore to MREC (inclusive of Ore Sorting)	72.6%
Maximum Target Production Rate (Mixed Rare Earths Carbonate)	14,200tpa
Maximum Target Contained Nd_2O_3+Pr_6O_{11}	3,400tpa
Operating Costs	A$24.10/kg TREO
Basket Value of MREC product (inc. separation costs, offtake fees and discounts and VAT)	A$43.19/kg TREO US$31.10/kg TREO
Exchange Rate US$:A$	0.72
Discount Rate	8%

This financial evaluation includes the production targets based on all deposits incorporated in the mine plan for a Proved and Probable Ore Reserve of 16.70Mt.

A summary of the Mineral Resources of the deposits included in this evaluation and their utilisation as Proved and Probable Reserves in the financial evaluation are provided in Table 4.

Operating costs

This summary excludes any costs incurred by the third-party participant in the Yangibana Joint Venture Agreement that holds a 30% interest in the relevant tenements.

A LOM contract mining cost of A$4.84/DMT of ore and waste mined is realised based on prices estimated by MACA Contracting in 2021. The MACA pricing was applied directly to the Bald Hill, Fraser's and Simon's Find deposits as ore costs inclusive of haulage directly to the ROM. For the Auer, Yangibana and Yangibana NW deposits an additional ore haulage cost was applied.

Processing costs for Bald Hill and Fraser's applied in the optimisation are shown in Table 20: Yangibana Project – Optimisation processing costs. A weighted average for processing costs for the LOM is $107.60/t for Direct Feed Ore and $109.50/t for sorted ore.

Table 20: Yangibana Project – Optimisation processing costs

OPEX	Fraser's	Bald Hill	Simon's Find	Yangibana NW	Yangibana	Auer	Auer North
Ore Haulage	-	-	-	4.00	4.00	2.50	2.50
Beneficiation	14.31	14.27	12.42	17.22	14.34	13.01	13.50
Ore Sorting	1.86*	1.86*	1.86*	1.86*	1.86*	1.86*	1.86*
G & A	58.57	58.57	58.57	58.57	58.57	58.57	58.57
Hydromet	22.47	20.16	16.36	37.33	20.93	22.19	18.84
Con. Transport	5.38	4.46	3.81	8.36	4.87	4.92	4.17
Tails Transport	5.51	4.57	3.90	8.55	4.98	5.03	4.26
Total A$/t Ore	***106.24 108.10****	***102.03 103.89****	***95.06 96.92****	***130.03 131.89****	***103.68 105.54****	***103.72 105.58****	***99.35 101.21 ****

*Denotes Ore sorting $/t ROM cost for diluted ore type.

Selling costs included a Western Australian State royalty cost of 2.5%. No other royalties were considered for ore processed.

The project will provide a MREC product for sale and the separated oxide prices used for the economic evaluation are the CRU Consulting forecasts for the period 2023 to 2038. Annual year-on-year pricing was applied on an individual rare earths oxide basis, as supplied in the forecasts.

A deducted Net Metal price was calculated by KPMG considering separation costs, offtake charges, offtake discounts and VAT from the CRU pricing forecast.

The net pricing is calculated as:

Net Pricing = CRU pricing – VAT – Offtake charges – Offtake discounts – separation charges.

LOM gross basket pricing based on the Yangibana assemblage and CRU forecasting is US$41.34. For the optimisation and reserve update, the net pricing was applied to each rare earth oxide separately.

A cost of A$68.18 per tonne of MREC produced was also applied with road transport to Port Hedland assumed and with offtakes on an FOB basis.

The derived MREC basket price applied in the evaluation, using the formula stated in MREC revenue, is shown below in Table 21.

Table 21: Yangibana Project realised basket prices

Project (LOM)	Gross
Basket Value (US$/kg TREO)	41.34

The annual MREC production volume (as kg TREO) is calculated through the application of beneficiation and hydrometallurgy elemental recovery factors (derived from pilot plant and laboratory testing) to a monthly mining schedule.

JV Ore Feed

The economic model assumes Mojito Resources will participate in the development of the deposits held by Hastings (70%) in joint venture with Mojito Resources (30%) under the Yangibana Joint Venture Agreement. As set out in Table 16, the specific deposits to which the joint venture applies are Yangibana and Yangibana North. If there is a mine development by the joint venture, not only will there need to be a Mining Joint Venture Agreement put in place to replace the existing joint venture documentation and regulate the arrangements between the participants for the mine development, but arrangements will also need to be established to determine how Yangibana production and the tenements the subject of the joint venture fit within the broader 100% Hastings-owned production and tenements. No costs or revenue ascribed to the 30% interest in the deposits held by Mojito Resources are reported in the financial modelling. If Mojito Resources did not participate in any development of the joint venture deposits and the development of those deposits was to proceed on a 100% basis by Hastings, then the economic model would need to be updated to allocate those costs and revenues to Hastings.

Production Targets

The current Ore Reserve Statement has ore reserve estimates resulting from the design of several open pits that will produce MREC over the current life of the project.

In this Ore Reserve Statement;

- Proved Ore Reserves are derived from Measured Mineral Resources.
- Probable Ore Reserves are derived from Indicated Mineral Resources.
- No Inferred Mineral Resources are included in the Ore Reserves.

The Ore Reserves classifications are considered appropriate because;

- All the pits are well drilled and geologically understood.
- Extensive metallurgical test work and the results of two phases of pilot plant test work support the estimation.

Capital and operating costs are derived by independent third-party industry recognised specialists. The current CAPEX of A$449m is an update from the previous capital estimate of A$512m, which was based on the 2019 DFS update.

Operating costs reflect the mining and infrastructure set-up costs of all pits within the mining schedule. Processing operating costs remain unchanged from the previous 2017 DFS study.

Additionally, over the life of the project a A$17m allowance has been made in the operating cost for miscellaneous mining items for all the open pits within the mining schedule, including;

- Clearing and grubbing;
- Topsoil to stockpiles;
- Haul road formation;
- Haul road earthworks cut and fill;
- Culvert construction;
- Construction of settling ponds; and
- Construction of drainage ponds.

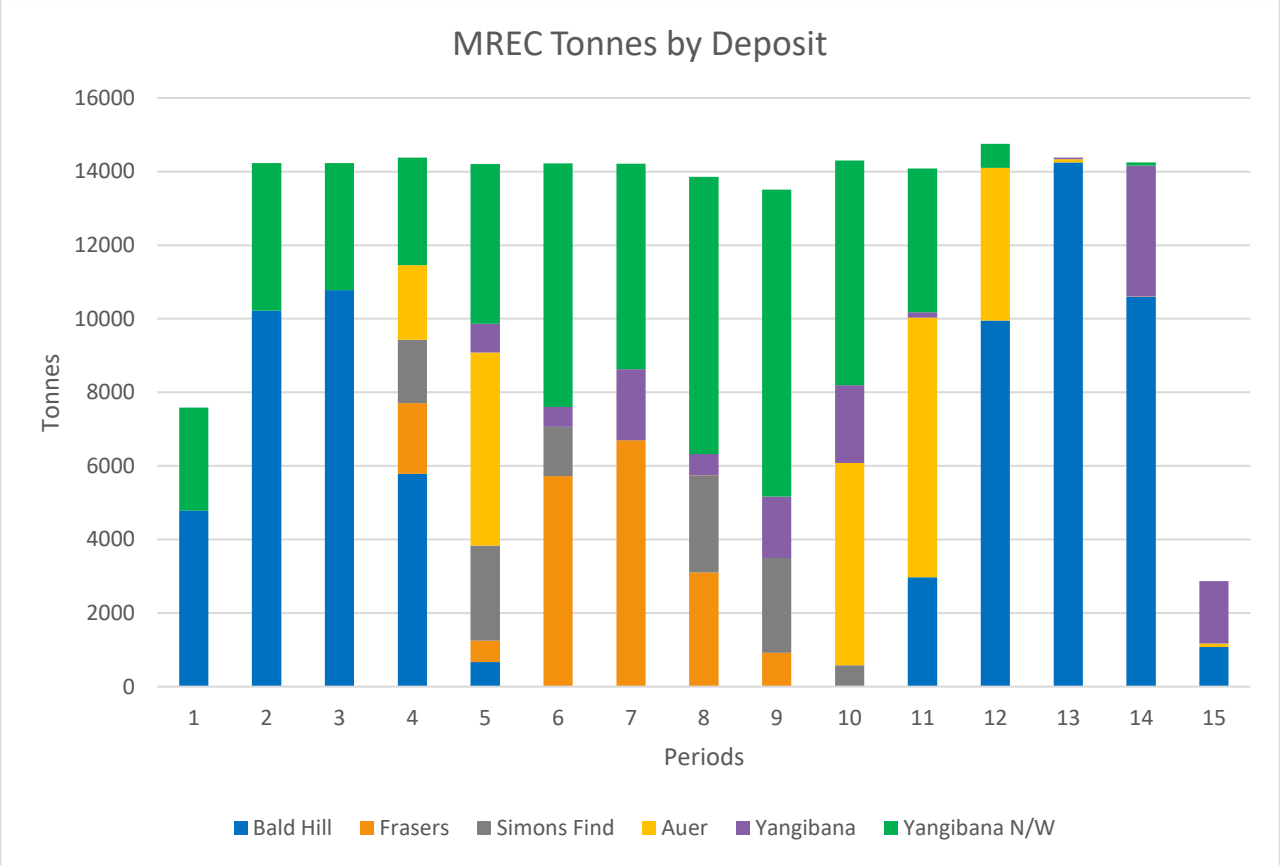

Figure 8 – Yangibana Project Annualised MREC Production Targets

Current production targets on an annualised basis are listed in Figure 8 above to produce up to 14,200tpa of MREC. The MREC will contain up to 8,850tpa TREO, of which up to 3,400tpa will be neodymium oxide (Nd_2O_3) + praseodymium oxide (Pr_6O_{11}).

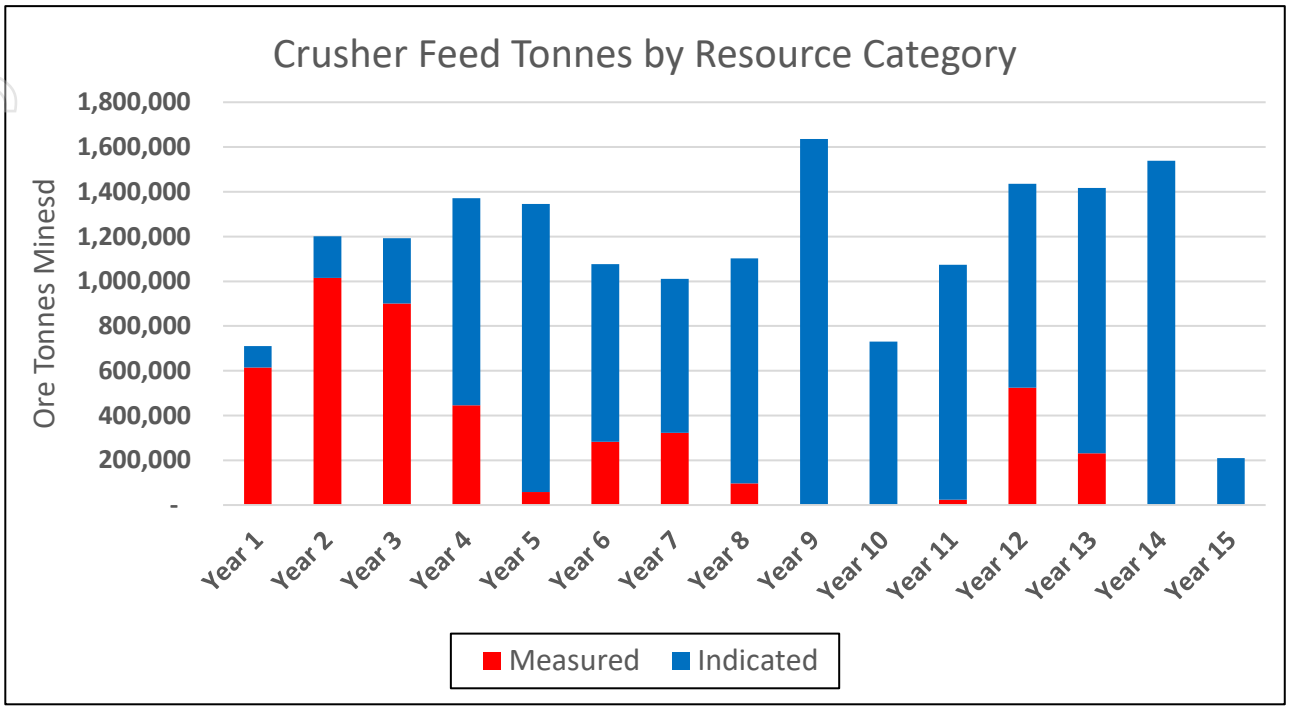

Figure 9 – Yangibana Project Mining of Resource Categories

Figure 9 shows the various resource category tonnages to be mined on an annualised basis – 100% of the Probable Ore Reserves are derived from Measured and Indicated Mineral Resources only.

Audits and Reviews

All aspects of the project including the Mineral Resources and Ore Reserves have been reviewed extensively by Behre Dolbear Australia (BDA).

Relative Accuracy/Confidence

The estimates in this study relating to mining, processing and cost performance has a confidence range of +15%/ -10%.

Competent Person Statements

The information in this announcement that relates to Mineral Resources is based on information compiled by David Princep. Mr. Princep is an independent consultant to the Company and a member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Princep has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this announcement and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' ("JORC Code").

The information in this announcement that relates to the Ore Reserves at Bald Hill, Fraser's, Auer, Auer North, Yangibana, Yangibana West and Yangibana North is based on information reviewed or work undertaken by Mr. Stephen O'Grady, member of the Australasian Institute of Mining and Metallurgy, and a Director of Intermine Engineering Consultants. Mr O'Grady has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the preparation of mining studies to qualify as a Competent Person as defined by the JORC Code 2012. Mr O'Grady consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

The scientific and technical information in this announcement and that relates to process metallurgy is based on information reviewed by Ms. Narelle Marriott (Principal Engineer – Beneficiation) and Mr. Zhaobing (Robin) Zhang (General Manager - Process Engineering of Hastings Technology Metals Limited. Both Ms. Marriott and Mr. Zhang are members of the AusIMM. Each has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined by the JORC Code 2012. Ms. Marriott and Mr. Zhang consent to the inclusion in this announcement of the matters based on their information in the form and context in which it appears.

TERMINOLOGY USED IN THIS REPORT

Total Rare Earths Oxides, TREO, is the sum of the oxides of the light rare earth elements lanthanum (La), cerium (Ce), praseodymium (Pr), neodymium (Nd), and samarium (Sm) and the heavy rare earth elements europium (Eu), gadolinium (Gd), terbium (Tb), dysprosium (Dy), holmium (Ho), erbium (Er), thulium (Tm), ytterbium (Yb), lutetium (Lu), and yttrium (Y).

This announcement has been approved by the Board for release to the ASX.

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About Hastings Technology Metals Limited

Hastings Technology Metals Limited (ASX: HAS) is a Perth based rare earths company primed to become Australia's next producer of neodymium and praseodymium concentrate (NdPr). NdPr are vital components used to manufacture permanent magnets used every day in advanced technology products ranging from electric vehicles to wind turbines, robotics, medical applications, digital devices, etc.

Hastings' flagship Yangibana project, in the Gascoyne region of Western Australia, contains one of the most highly valued NdPr deposits in the world with NdPr:TREO ratio of up to 52%. The site is permitted for long-life production and with offtake contracts signed and debt finance in advanced stage targeted for completion in 3Q2021. Construction is scheduled to start in mid-2021 ahead of first production in late 2023.

Hastings also owns the Brockman project, Australia's largest heavy rare earths deposit, near Halls Creek in the Kimberley. Brockman hosts a Mineral Resource hosting Total Rare Earths Oxides (TREO).

Hastings Mineral Resource and Reserve have been reported in compliance with the JORC code.

For further information on the Company and its projects visit www.hastingstechmetals.com.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	• Samples used to assess the numerous deposits of the Yangibana Project have been derived from both reverse circulation (RC) and diamond drilling. Eight drilling programmes have been completed to date with more than 1,500 holes drilled for 80,000m. • Samples from each metre were collected in a cyclone and split using a 3-level riffle splitter. Field duplicates, blanks and Reference Standards were inserted at a rate of approximately 1 in 20. • RC and diamond drilling leading to the establishment of JORC Resources has been carried out at Bald Hill, Frasers's, Yangibana West, Auer, Auer North, and Yangibana, within tenements held 100% by Hastings, and at Yangibana North in tenements in which Hastings has a 70% interest.
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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).	• Reverse Circulation drilling at the various targets utilised a nominal 5 1/4-inch diameter face-sampling hammer. • Diamond drilling at various targets has been NQ and HQ diameter.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	• Recoveries are recorded by the geologist in the field at the time of drilling/logging. • If poor sample recovery is encountered during drilling, the geologist and driller have endeavoured to rectify the problem to ensure maximum sample recovery. Visual assessment is made for moisture and contamination. A cyclone and splitter were used to ensure representative samples and were routinely cleaned. • Sample recoveries to date have generally been reasonable, and moisture in samples minimal. Data from 2020 is available at present to determine if a relationship

Criteria	JORC Code explanation	Commentary
		exists between recovery and grade exist, however this work has not been completed as yet.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged.	• All drill chip samples are geologically logged at 1m intervals from surface to the bottom of each individual hole to a level that supports appropriate future Mineral Resource studies. • Logging is considered to be semi-quantitative given the nature of reverse circulation drill chips. • All RC drill holes in the previous programme were logged in full.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled.	• The RC drilling rig is equipped with an in-built cyclone and triple tier riffle splitting system, which provided one bulk sample of approximately 25kg, and a sub-sample of 2-4kg per metre drilled. • All samples were split using the system described above to maximise and maintain consistent representivity. Most samples were dry. For wet samples the cleanliness of the cyclone and splitter was constantly monitored by the geologist and maintained to avoid contamination. • Bulk samples were placed in green plastic bags, with the sub-samples collected placed in calico sample bags. • Field duplicates were collected directly from the splitter as drilling proceeded through a secondary sample chute. These duplicates were designed for lab checks as well as lab umpire analysis. • A sample size of 2-4kg was collected and considered appropriate and representative for the grain size and style of mineralisation.
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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	• Genalysis (Perth) was used for all analysis work carried out on the 1m drill chip samples and the rock chip samples. The laboratory techniques below are for all samples submitted to Genalysis and are considered appropriate for the style of mineralisation defined at the Yangibana REE Project: FP6/MS • Blind field duplicates were collected at a rate of approximately 1 duplicate for every 20 samples that are to be submitted to Genalysis for laboratory analysis. Field duplicates were split directly from the splitter as drilling proceeded at the request of the supervising geologist.

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data.	• At least two company personnel verify all significant intersections as well as the independent geological database provider. • All geological logging and sampling information is completed firstly on to paper logs before being transferred to Microsoft Excel spreadsheets and subsequently a Microsoft Access database. Physical logs and sampling data are returned to the Hastings head office for scanning and storage. Electronic copies of all information are backed up daily. • All 2020 field geological data capture was completed directly into excel or Ocris. • No adjustments of assay data are considered necessary.
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.	• Final drillhole collars completed during 2014-2020 drill campaigns were collected by MHR Surveyors using DGPS utilising a locally established control point. Accuracies of the drillhole collar locations collected by MHR Surveyors is better than 0.1m. • Elevation data was recorded by MHR Surveyors. • Down hole surveys are conducted by the drill contractors using a Reflex electronic single-shot camera with readings for dip and magnetic azimuth nominally taken every 30m down hole, except in holes of less than 30m. The instrument is positioned within a stainless-steel drill rod so as not to affect the magnetic azimuth. • Grid system used is MGA 94 (Zone 50)
Data spacing and distribution	Data spacing for reporting of Exploration Results. Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied.	• Substantial areas of the main Bald Hill deposit have been infill drilled at a staggered 50m x 50m pattern, giving an effective 35m x 35 spacing, with some areas infilled to 20m x 20m and 20m x 10m in the 2018 drilling programme. In general, and where allowed by the kriging parameters, this allows portions of the deposit to be classified in the Measured category. Areas of 50m x 50m spacing are generally classified as Indicated, while zones with wider spacing or where blocks are extrapolated are generally classified as Inferred category. • Bald Hill South has a small area of Measured category with nominal 25m x 25m spacing area of Indicated category (a mixture of 50m x 50m and 50m x 25m spacing) and an Inferred category area in the south and west with wider spacing • The main part of the Fraser's deposit has some areas of Measured category where there is infill drilling at nominally 25m x 25m, with much of the rest being Indicated category, where spacing is typically 50m x 50m. Down-dip zones of mineralisation with higher variances

Criteria	JORC Code explanation	Commentary
		are supported by a number of deep intersections and have been classified as Inferred category. • Yangibana West and North drill spacing is typically 50m x 50m with some new infill areas in the east. Down dip extension has been limited due to the distribution of drilling relative to the mineralisation wireframes. As a result of this infill drilling, combined with improved variography, some Measured category material has been defined. • At the Yangibana deposit drill spacing is nominally on 50m sections, and the upper part of the resource is generally classified as Indicated category while the lower, extensional areas are Inferred category. • Section spacing at Auer is predominantly 50m with some areas of 25m spacing and others at 100m; down dip spacing is typically 50m. Due to limited bulk density information the closer spaced areas have been assigned an Indicated classification, though the majority of the Auer deposit has only two or three holes per section, resulting in these areas being classified as Inferred category. • A significant amount of infill drilling at Auer North in 2017-2018 has increased confidence in what was previously Inferred material; a reasonably large proportion of Auer North is now in the Indicated category, with drill spacing typically on 25 to 50m sections with the remainder being Inferred, at depth and where section spacing is greater than 50m. • No sample compositing is used in this report, all results detailed are the product of 1m downhole sample intervals.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	• Most drill holes in the 2020 programme are angled (subject to access to the preferred collar position) collared at -60o or -70o in steeper and deeper mineralised areas such as Auer, Simon's Find, Bald Hill and Fraser's. Some holes were drilled vertically at the same position as angled holes to eliminate the need for further ground clearing.
Sample security	The measures taken to ensure sample security.	• The chain of custody is managed by the project geologist who places calico sample bags in polyweave sacks. Up to 10 calico sample bags are placed in each sack. Each sack is clearly labelled with: • Hastings Technology Metals Ltd

Criteria	JORC Code explanation	Commentary
		• Address of laboratory • Sample range • Samples were delivered by Hastings personnel to the Nexus Logistics base in order to be loaded on the next available truck for delivery to Genalysis The freight provider delivers the samples directly to the laboratory. Detailed records are kept of all samples that are dispatched, including details of chain of custody.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	• An audit of sampling has been partially completed. Additional umpire sampling is underway. A new source of standards is being used to cross-check data from existing standards and assayed samples that were acquired in the drilling programs comprising the resource.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	• Drilling has been undertaken on numerous tenements within the Yangibana Project. • All Yangibana tenements are in good standing and no known impediments exist.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	• Ten of the Yangibana prospects were previously drilled to a limited extent by Hurlston Pty Limited in joint venture with Challenger Pty Limited in the late 1980s. Auer and Auer North were first drilled by Hastings in 2016.
Geology	Deposit type, geological setting and style of mineralisation.	• The Yangibana ironstones within the Yangibana Project are part of an extensive REE-mineralised system associated with the Gifford Creek Carbonatite Complex. The lenses have a total strike length of at least 12km. • These ironstone lenses have been explored previously for base metals, manganese, uranium, diamonds and rare earths. • The ironstones are considered by GSWA to be coeval with the numerous carbonatite sills that occur within Hastings tenements, or at least part of the same magmatic/hydrothermal system.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. 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	• All relevant information material to the understanding of exploration results has been included within the body of the announcement or as appendices. ASX drilling announcements on the • 17 September 2020 • 12 October 2020 • 16 November 2020 • 21 January 2021 • 8 February 2021 • 26 February 2021 Contains all relevant geological information containing all relevant information to all drilling forming the basis for the metallurgical testing as part of this announcement.

Criteria	JORC Code explanation	Commentary
	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 (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated.	• No top-cuts have been applied. • No metal equivalent values are used for reporting exploration results.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	• True widths are generally estimated to be about 70% of the down-hole width.
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.	• ASX drilling announcements on the • 17 September 2020 • 12 October 2020 • 16 November 2020 • 21 January 2021 • 8 February 2021 • 26 February 2021 Contains all relevant geological information and diagrams, tabulations and data forming the basis as part of this announcement.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	• All significant intersections have been reported. All drill hole locations from the 2020 drill program have been previously reported. See ASX list above.

Criteria	JORC Code explanation	Commentary
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.	• Geological mapping has continued in the vicinity of the drilling as the programme proceeds.
Further work	The nature and scale of planned further work (e.g. 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.	• Numerous targets exist for expansion of the current JORC Mineral Resources within the Yangibana Project, as extensions to defined deposits, new targets identified from the Company's various remote sensing surveys, and conceptual as yet untested targets at depth.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	• Data was provided as a .csv data dump from an externally managed database and was digitally imported into Micromine Mining software. Micromine validation routines were run to confirm validity of all data. • Individual drill logs from site have been previously checked with the electronic database on a random basis to check for validity. • Analytical results have all been electronically merged to avoid any transcription errors.
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 Competent Person for the updated and re-estimated Mineral Resources has not yet visited the project area. The Mineral Resource estimate detailed in the announcement was undertaken as a confirmation of the Mineral Resource estimate used in the DFS and there was insufficient time to carry out a site visit. It is expected that a site visit will be undertaken in due course. Mr Lyn Widenbar who completed the Mineral Resources that were not updated was the Competent Person who visited site from 15-16th December 2016 and reviewed geology, drilling etc.
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 effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology.	• Confidence in the geological interpretation is considered to be high. • Detailed geological logging and surface mapping allows extrapolation of drill intersections between adjacent sections. • Alternative interpretations would result in similar tonnage and grade estimation techniques. • Geological boundaries are determined by the spatial locations of the various mineralised structures. • Continuous ironstone units comprising iron oxides and hydroxides, minor quartz rich zones, and locally carbonate and apatite host the rare earths mineralisation and are the key factors providing continuity of geology and grade. The mineralised zones may be described as visually distinctive anastomosing iron rich veins with excellent strike and down dip continuity.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below	• Bald Hill mineralisation dips shallowly (maximum 30°) but variably to the southwest and ranges from 1m to 10m thick. Maximum depth of the resource is to a vertical depth of 80 metres below surface.

Criteria	JORC Code explanation	Commentary
	surface to the upper and lower limits of the Mineral Resource.	• Fraser's mineralisation dips steeply (70-80°) in the western portion becoming more shallow (to 30°) in the east and ranges from 1m to 6m thick. Maximum depth of the resource is to a vertical depth of 140 metres below surface. • Yangibana mineralisation dips shallowly (maximum 30°) but variably to the south and ranges from 1m to 5m thick. Maximum depth of the resource is to a vertical depth of 100 metres below surface. • Auer has three discontinuous, steeply dipping zones of mineralisation extending North-South over a total strike length of approximately 3.5 km and to a depth of 150m below surface, and a fourth zone that strikes north-easterly. • Auer North comprises three steeply dipping zones over a combined strike length of 700m and has been tested to 120m below surface at the better mineralized Zone 1. • Simon's Find mineralisation dips shallowly (variably between 30° and 40°) to the west and southwest and ranges from 2m to 11m thick. Maximum depth of the resource is to a vertical depth of 70 metres below surface.
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 of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. 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 assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation). In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	• The mineral Resources detailed in this announcement were estimated using Ordinary Kriging (OK) techniques. • The OK parameters used were a primary block size of 2m x 2m x 1m and an escalating search generally starting at 25m and increasing to 100m radius. Search directions were orientated to align with the main directions within the mineralised wireframes. • The block models and sample data were flattened in Micromine for the estimation run in order to remove the variable dips encountered in the mineralisation and preserve the local grade variability. • Data analysis was conducted in order to derive element correlations to enable a reduction in the number of variogrammes required within the estimation process. As a result, variography was performed on the TREO value, using this process allowed for maintenance of element correlations when calculating final estimate TREO, HREO and LREO values. • Estimation has been carried out for the following economic variables : CeO2_ppm, Dy2O3_ppm, Er2O3_ppm, Eu2O3_ppm, Gd2O3_ppm, Ho2O3_ppm, La2O3_ppm, Lu2O3_ppm, Nd2O3_ppm, Pr6O11_ppm, Sm2O3_ppm, Tb4O7_ppm, Tm2O3_ppm, Y2O3_ppm, Yb2O3_ppm, LREO_ppm,

Criteria	JORC Code explanation	Commentary
	Any assumptions behind modelling of selective mining units. Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates. Discussion of basis for using or not using grade cutting or capping. The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	HREO_ppm, TREO_% and Nd2O3+Pr6O11_% along with rock composition major elements, U, Th, Nb and Ta. • Drill hole spacing is variable, and the block sizes were chosen to reflect the best compromise between spacing and the necessity to define the geological detail of each deposit. In general, block sizes are 2 m along strike, 2m across strike and 1m vertically. • As a result of the mineralisation distribution within the wireframes and element populations no top cuts were employed. • Block model validation has been carried out by several methods, including: • Drill Hole Plan and Section Review • Model versus Data Statistics by Domain • Easting, Northing and RL swathe plots • Comparison to previous Mineral Resources • All validation methods have produced acceptable results. • As these Mineral Resource estimates were completed following on from the previous OK and MIK estimates and a reasonable correlation exists between the two it can be taken that the previous estimates substantially validate the updated Mineral Resource estimate given that there is no change in the underlying data.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• Tonnages are estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	• A nominal downhole cut-off of 0.20% TREO has been used in conjunction with logging of ironstone to define mineralised intersections. This is a departure from the previous OK estimate and negates the need to add an encompassing dilution skin. For reporting purposes, a 0.24% TREO cut-off has been applied based on NSR values derived from mining studies. The NSR calculations used Hastings commodity prices and recoveries for all of the elements comprising the TREO value along with defined processing costs.
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	• Mining is assumed to be by conventional open pit mining methods • It is expected that conventional ore loss and dilution would be applied to the Mineral Resource estimate as a modifying factor during pit optimisation and mine planning work.

Criteria	JORC Code explanation	Commentary
	potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	
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. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	• Test work to date has shown that the rare earths mineralisation (largely monazite) can be upgraded readily using standard froth flotation techniques and readily available reagents. The monazite concentrate can be treated using acid bake and water leach processes that are known and currently use in industry. A final mixed rare earths carbonate product can be produced using hydrometallurgical processes currently used in industry. • Optimisation and Operational readiness tests are ongoing to investigate opportunities for improved concentrate quality, reduce operating costs and further reduce impurities in the final product.
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. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	Environmental studies have been carried out on site with Stage 1 Flora and Fauna surveys and Stage 2 Flora and Fauna surveys completed. No environmental issues have been identified. • Subterranean fauna studies have located both troglofaunal and stygofauna but no unique or endangered species have been encountered.
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. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences	• Bulk density/specific gravity have been measured by the Company on core from Yangibana North, and at independent laboratories on core from Bald Hill, Bald Hill South, Fraser's, Yangibana, Auer, Auer North and Yangibana West. Samples have been taken from each of oxidised, partially oxidised and fresh mineralisation with results feeding into the resource estimations. • Bulk density/specific gravity measurements have also been carried out at an independent laboratory on samples of oxidised, partially oxidised and fresh host rock, granite. In situ bulk densities for the individual

Criteria	JORC Code explanation	Commentary
	between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	deposits have ranged from 1.70 to 3.50 tonnes per cubic metre. • During the 2020 drilling some 55 drill holes were downhole logged for density using a gamma – gamma tool. The downhole gamma derived density values were validated against both logged geology and existing measured bulk densities and were found to be consistent. Data was logged at 1cm intervals and composited to 1m values and used to define bulk density factors for each of the deposits estimated. These factors were used to assign bulk density values by depth within the block models for both mineralised and un-mineralised intervals.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (ie 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 Mineral Resource has been classified in the Measured, Indicated and Inferred categories, in accordance with the 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code). A range of criteria has been considered in determining this classification including: • Geological and grade continuity • Data quality. • Drill hole spacing. • Modelling technique and kriging output parameters. • The Competent Person is in agreement with this classification of the resource.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	• A review of the previous Mineral Resource estimates has been completed as part of the DFS financing process and the updated Mineral Resource estimate incorporates feedback from the review. It is expected that the Mineral Resources outlined in this announcement will be similarly reviewed.
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. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	• The relative accuracy of the various resource estimates is reflected in the JORC resource categories. • At the Measured and Indicated Resource classification level, the resources represent local estimates that can be used for further mining studies. • Inferred Resources are considered global in nature.

Criteria	JORC Code explanation	Commentary
	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. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3 also apply to this section.)

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td>Mineral Resource for conversion to Mineral Reserves</td><td>The resource models used for mine planning were:
Bald Hill – bm_bald_hill_ok_210303_all_elements_reblock_mm.fbm
Frasers – bm_frasers_ok_210308.fbm
Simons Find – bm_simons_find_all_elements_export.fbm
Yangibana North West - bm_yangibana_NW_all_elements.fbm
Yangibana – bm_yangibana_ok_210311_all_elements_reblock_planning.fbm
Auer/Auer North – bm_auer_ok_2100308_all_elements_reblock_planning.fbm
Only Measured and Indicated Resources were considered for inclusion in the Ore Reserve.</td></tr>
<tr><td>Site visits</td><td>Site visits were completed by the following Competent Persons:<table><tr><th>Competent Persons</th><th>Items</th><th>Date of site visit</th></tr><tr><td>Stephen O'Grady</td><td>Mining</td><td>N/A</td></tr><tr><td>David Princep</td><td>Resources</td><td>N/A</td></tr><tr><td>Narelle Marriott</td><td>Metallurgy beneficiation</td><td>August 2016</td></tr><tr><td>Robin Zhang</td><td>Hydrometallurgy</td><td>N/A</td></tr></table>The mining, resources and hydrometallurgy Competent Person did not visit the site and was comfortable relying on the report of staff who have visited the site.</td></tr>
<tr><td>Study status</td><td>The Yangibana REO Project has previously had a Definitive Feasibility Study (DFS) released in November 2017, based on the Bald Hill and Fraser's deposits only. This Ore Reserve additionally includes satellite deposits at Auer, Auer North, Simons Find, Yangibana, Yangibana West and Yangibana North, and includes joint venture ground. These additional satellite deposits have been assessed to a prefeasibility-level study. The satellite deposit metallurgical assessment has been completed using the process flowsheet developed for Bald Hill and Fraser's, assessing each deposit's suitability for processing through this flowsheet.
A forward execution work programme is being developed from previous studies.
Some environmental assessments are ongoing; initial results indicate there are currently no encumbrances to the project from the environmental assessments.</td></tr>
</table>

Criteria	Commentary
Cut-off parameters	The economic cut-off grade for the project was determined on a block value basis and is based on calculating revenue from recovered metal and selling and processing costs on a block-by-block (diluted) basis. With the introduction of ore sorting there are now two ore streams that will be reporting to the process plant. The determination of blocks that require sorting and blocks that bypass the sorter and report directly to the SAG mill is based on the combined Al Si content, determined at the grade control phase. Blocks with an Al Si content of less than 25% are considered clean and bypass sorting. Cut off grades for both ore types are based on a revenue basis. Blocks with revenue greater than the sum of the processing costs are included as ore in the optimisation process: • Sorted Ore - $109.50/t • Direct Feed Ore - $107.60/t
Mining factors and assumptions	The following Modifying Factors were considered in relation to the development of the Yangibana Ore Reserves: Geotechnical: For pit optimisation, a 28° overall wall angle was applied for saprolite, and 35° to 40° was applied to weathered and fresh granite. The ironstone unit that hosts the bulk of the rare earths is visually distinct from the host rock providing good visual control for ore identification. RC grade control drilling will be carried out prior to mining to clearly delineate the mining boundaries of the blocks containing economic rare earths against blocks containing uneconomic waste material, ore types by TREO grades and deleterious elements for blending via stockpiles and sortable and non-sortable ore types. An ore loss of 2% has been applied to all blocks mined selected for processing. Blasting and mining near and in the ore zones will require careful planning to minimise dilution and allow removal of the hanging-wall waste to expose and selectively mine the ore. Due to the high value of the ore, a high ore recovery is the focus of mining. As such, the recent resource update has extended the wireframes out to the edge of TREO mineralisation with a 0.20% limit, which effectively emulates an inflated grade envelope. All re-estimated mineral resources were created with the same block size of 2m x 2m x 1m. This size was chosen as a compromise between the average drill spacing, size of the mineralisation wireframes, orientation of mineralisation, grade distribution within the mineralisation and the models' ultimate use for mine planning. A re-blocked (to 4m x 4m x 2m) model was provided for mine planning purposes in order to reduce the overall size of the Mineral Resource models, this resulted in the addition of minor amounts of dilution being incorporated into these models. On this basis no additional dilution has been factored into the optimisation and reserve reporting.

Criteria	Commentary
Metallurgical factors and assumptions	A DFS was completed in November 2017 on the Bald Hill and Fraser's deposits and this is now progressing to detailed design. The metallurgical flowsheet developed from that study was then used as the basis of assessment of additional satellite deposits. The metallurgical performance of samples from each satellite deposit has been assessed through the standard bench-scale flowsheet, the results of the testwork, as well as impacts on operating costs have been used for the prefeasibility-level study on each satellite deposit of Auer, Auer North, Yangibana and Yangibana North/West. Testwork has been completed with the same methodology in 2020-2021 for inclusion of Simon's Find mineralisation in the reserves estimates. A change to the DFS process flowsheet has been developed after publishing of that study, testwork has been undertaken across the project deposits to assess the metallurgical performance impact, both in the ore sorting unit process, and also downstream impacts on the DFS flowsheet due to the addition of this processing step **Process and flowsheet** The metallurgical process comprises ore beneficiation followed by hydrometallurgical (hydromet) extraction to produce a valuable Mixed Rare Earths Carbonate (MREC) product. The beneficiation unit processes include crushing, ore sorting, grinding, rougher flotation, regrinding and cleaner flotation. The ore sorting unit process was added post DFS. The hydromet unit processes include acid bake, water leach, impurity removal and MREC product precipitation. Since the DFS the hydromet process has been geographically relocated to a coastal location to improve access to services and ports, but no major changes to the process flowsheet have been made. The simple and effective metallurgical process flowsheet developed with the best-known available technology and industrial practice by the Hastings Technical Team, has been well tested in both laboratory scale and pilot scale during the Bald Hill and Fraser's DFS, with the exception of ore sorting. Ore sorting has been tested to a Pre-feasibility study level post DFS, including assessment of the impact on downstream unit processes. The unit processes selected for inclusion in the beneficiation and hydromet process flowsheet are based on known technologies, both in the rare earths (RE) industries and other mining applications. **Ore feed chemistry tolerances** Assessment of ore mineralogy across the project deposits has identified the main RE-bearing mineral in the ore is monazite. The main gangue minerals are iron oxides and hydroxides, biotite-type minerals and apatite. Iron carbonate (siderite) has been identified at depth in Yangibana West and Yangibana North. The siderite boundary has been mapped and higher siderite-bearing portions have been excluded from the planned mill feed ore. The ratio of RE elements contained in the monazite differs between the deposits. This is reflected in the financial analysis but has no impact on the performance of the beneficiation flowsheet. Compared to DFS ore source concentrate, there may be some variation on concentrate mineralogy. This can be managed in the hydromet circuit through varying process conditions. Where required limits have been set for TREO and deleterious elements in the beneficiation circuit feed and these limits have been taken into account in the mine development and ore scheduling process. **Testwork**

Criteria	Commentary

Pilot plant campaigns for both the beneficiation flowsheet and the hydromet flowsheet have proved the circuits can be run on a continuous basis and that the selected unit processes are able to selectively concentrate the RE-bearing mineral monazite and remove or control the major product impurities of manganese, iron, thorium and uranium within acceptable product range. Over 50 kg of high-purity MREC produced from the pilot plant was sent to 11 customers for evaluation. The product quality is acceptable to separation plant operators.

Bench-scale testwork for the satellite deposits of Auer, Auer North, Yangibana and Yangibana North/West was mostly carried out in 2017 and 2018 at a number of commercial laboratories in Australia. Bench scale testwork on Simon's Find was carried out in 2020-2021. Beneficiation testwork has been completed at KYSPY Met and ALS Metallurgy. Hydromet testwork has been completed at SGS Minerals Metallurgy and ANSTO.

Assessment of metallurgical processing performance of all satellite deposits was based on batch testwork, using the standard DFS comminution and flotation flowsheet, and comparison against the performance achieved with DFS ore sources. A standard acid bake and water leach test was completed for assessment of the hydromet performance. Liquor chemistry post-water leach was used to compare against DFS ore sources. A dedicated programme to understand the impact on precipitation circuit performance from varying levels of Mn in the leach liquor was also undertaken.

Assessment of comminution requirements was undertaken using a standard suite of comminution tests including SMC, UCS, Bond Ball Mill work index, Bond Crusher work index, and abrasion index.

Deposit	No. of comminution samples Completed
Bald Hill	8
Fraser's	5
Auer	4
Auer North	4
Yangibana	5
Yangibana West	3
Yangibana North	1
Simon's Find	1

All results indicate that the satellite deposits are suitable for processing through the comminution circuit as designed in the DFS.

Detailed mineralogy and variability testwork have been carried out on multiple samples for each deposit, as shown below. Mineralogical assessment has been undertaken using QEMSCAN at the target primary grind size, to understand mineralogy as well as liberation and association of the minerals. Variability flotation testwork has been undertaken of the samples and concentrate from selected samples tested through the hydromet variability program.

Criteria	Commentary

Deposit	No. of samples		
	Mineralogy	Flotation Variability	Composite
Bald Hill	10	8	2
Fraser's	5	5	2
Auer	18	18	1
Auer North	8	8	1
Yangibana	12	12	2
Yangibana West	6	2	3
Yangibana North	8	4	
Simon's Find	22	22	1

Ore Sorting

The unit process of ore sorting was added to the front end of the Beneficiation Process Flowsheet post the DFS. After initial scoping testwork to prove the concept, a bulk sample (approximately 1.6 tonnes) was tested through the ore sorting process. The bulk sample produced by trenching within the Bald Hill deposit area. Following bulk testwork, a total of 12 PQ diamond drill core variability samples were tested through the ore sorting process, followed by flotation of sorted product, vs unsorted samples to assess the impact of the ore sorting outcomes on the flotation process.

Deposit	No. of Ore sorting samples Completed
Bald Hill	4 + bulk
Fraser's	2
Auer	1
Auer North	0
Yangibana	1
Yangibana North/ West	1
Simon's Find	3

Overall Metallurgical recovery

The Life of Mine average metallurgical recovery for all deposits is 96.0% TREO recovery for ore sorting, 87.6% TREO recovery in the beneficiation circuit, 86.3% TREO recovery in the hydrometallurgy circuit, giving an overall metallurgical recovery of 72.6%.

Environmental	This feasibility study (FS) was updated for the Environmental and Social Baseline section and includes data from the 2017 definitive feasibility study (DFS), but has been updated to reflect:

Criteria	Commentary
	• Flora and fauna: Baseline flora and fauna surveys have been conducted over 55,650 Ha of tenements. Targeted flora surveys have been conducted over all disturbance areas including the pits and waste rock landforms of the 2020 drilling program. No significant impact will occur to conservation significant terrestrial flora or fauna. Subterranean fauna sampling has been completed at Yangibana and Auer and is currently underway at Simon's Find. • Baseline ground and surface water: A hydrology study has determined that mining and the majority of infrastructure falls outside flood impact zones. Groundwater studies of fractured rock aquifers within the ore body at Yangibana, Auer and Simon's Find is underway and is expected to further supplement the project's water demands. The remaining 80% of water demands will be sourced from the paleochannel bore field. A pit dewatering assessment and post-closure pit lake modelling has been completed for Yangibana West and is planned to be undertaken for Auer, Auer North and Yangibana pit areas. • Baseline soil and radiation: Topsoil analysis has been conducted and mapped over Project areas including the Auer, Yangibana and Simon's Find areas. Baseline radiation surveys and radiation waste characterisation studies have determined that naturally occurring radioactive materials (NORM) are associated with the orebody. Gamma radiation surveys are required over Auer, Yangibana and Simon's Find areas. • Waste rock geochemical characterisation: The Yangibana, Auer and Simon's Find pit lithologies are consistent with other pits on-site, which have been characterised geochemically and classify as benign and non-acid forming. The mineralogy of the project is not associated with asbestiform minerals. Erodibility parameters were determined for waste rock and topsoil and will inform the waste rock landforms' design for Yangibana, Auer and Simon's Find. Waste rock geochemical characterisation for Yangibana, Auer and Simon's Find is underway. • Baseline air quality: A baseline air quality assessment and greenhouse gas emissions assessment for the Project have been completed. A radiation impact assessment has determined that dust containing NORM will not pose a risk to the surrounding environment. However, these studies will be reviewed to confirm the conclusions are current for the expansion of additional pits and waste rock landforms and tailings storage facilities. • Cultural heritage: Yangibana, Auer and Simon's Find pit areas and the majority of waste rock landform footprints have been surveyed for cultural heritage sites. There are no cultural heritage sites within the pit areas. Waste rock landforms will be designed to avoid impact to cultural heritage sites in areas that are yet to be surveyed. • Closure: The mine closure plan has been approved for the Bald Hill, Frasers and Yangibana NW and an addendum is ongoing for the addition of Auer, Simons Find and Yangibana deposits. A landform evolution study has identified landform design specifications that aim to ensure site landforms will maintain their integrity for 1,000 years post-closure. A landform evolution study will be revised subject to outcomes of waste rock characterisation studies' findings in Auer, Yangibana and Simon's Find if results differ from those of the DFS ore sources.

Criteria	Commentary
	• The mining plan has been approved for Bald Hill, Frasers and Yangibana NW, an addendum is required for Auer, Simons Find and Yangibana and will be submitted after EPA approvals are granted for the Simons Find, Auer and Yangibana. • Water abstraction license (5c) has been approved, addendums for pit dewatering for the Auer, Simons Find and Yangibana deposits are ongoing. • Yangibana Expansion 1 includes Auer, Yangibana and an amalgamated Bald Hill-Simon's Find-Fraser's pit and associated WRLs, and additional capacity of the Tailings Storage Facility. The Yangibana Expansion 1 was referred to the Western Australian (WA) Environmental Protection Authority (EPA) and Commonwealth Department of Water, Agriculture and the Environment (DAWE) under the Environmental Protection Act 1986 (WA) and Environment Protection and Biodiversity Act 1999 (Commonwealth), respectively. The EPA and DAWE determined that the Proposal will be assessed as a Public Environmental Review with a 4-week advertisement assessment. The Proposal is currently in Phase 3 of the assessment with the Environmental Scoping Document under assessment for approval by the EPA Board.

Criteria	Commentary
Infrastructure	Recent changes in the Project layout have seen the Beneficiation and Hydromet plants decoupled. The Yangibana project is located approximately 200 km north of Gascoyne Junction in the Upper Gascoyne region. The process plant is located on a greenfield site and all supporting infrastructure must be constructed. The proposed infrastructure for the project will include: • Comminution plant • Beneficiation plant • Access and site roads • Water supply bore field • Tailings storage facility (TSF) and evaporation plant • Mining buildings • Fuel storage • Security and fencing • Bore field • Employee housing and transportation • Water treatment and mine site sewage • Data and communications infrastructure • LNG fuelled power station. As of December 2018, early site works include the construction of the water supply bore and pipeline, the 300-room accommodation village and the access road from the Cobra – Gifford Creek Road to the plant site. Of the above, construction has started on the bore and pipeline and off-site fabrication and delivery to site of the accommodation village buildings. Designs have been completed for the access road. At the Hydromet facility the infrastructure list will include: • Access and site roads • Water bores • Evaporation Pond • Process and admin buildings • NG connection and let down station • Security and fencing • Water treatment and mine site sewage • Data and communications infrastructure • Grid power reticulation and switchyard Work has progressed on site layouts for the Hydromet site, additionally front-end engineering continues for the long lead items, such as the kiln and gas scrubber.
Costs	**Operating costs** This summary excludes any costs incurred by the third-party participant in the 'Yangibana Joint Venture Agreement that holds a 30% interest in the relevant tenements. **Mining** An average contract mining cost of A$4.84/DMT mined was estimated by Hastings based upon quotations received in 2021.

Criteria	Commentary
Costs (cont'd)	**Process** Processing costs applied in the optimisation are:

OPEX	Frasers	Bald Hill	Simons Find	Yangibana NW	Yangibana	Auer	Auer Nth
Ore Haulage	-	-	-	4.00	4.00	2.50	2.50
Beneficiation	14.31	14.27	12.42	17.22	14.34	13.01	13.50
Ore Sorting	1.86*	1.86*	1.86*	1.86*	1.86*	1.86*	1.86*
G & A	58.57	58.57	58.57	58.57	58.57	58.57	58.57
Hydromet	22.47	20.16	16.36	37.33	20.93	22.19	18.84
Con. Transport	5.38	4.46	3.81	8.36	4.87	4.92	4.17
Tails Transport	5.51	4.57	3.90	8.55	4.98	5.03	4.26
Total $/t Ore	***106.24*** ***108.10****	***103.89*** ***102.03****	***96.92*** ***95.06****	***131.89*** ***130.03****	***105.54*** ***103.68****	**105.58** **103.72***	***101.21*** ***99.35****

Selling costs

Selling costs included a state royalty cost of 2.5%, no other royalties were considered for ore processed.

The project will provide a MREC product for sale and the separated oxide prices used for the economic evaluation are the Cru Consulting forecasts for the period 2023 to 2038. Annual year-on-year pricing was applied on an individual RE oxide basis, as supplied in the forecasts.

A deducted Net Metal price was calculated by KPMG, considering separation costs, offtake charges, offtake discounts and VAT from the CRU pricing forecast.

The Net pricing is calculated as:

Net Pricing = CRU pricing – VAT – Offtake charges – Offtake discounts – separation charges.

As an example, LOM basket pricing based on the Yangibana assemblage and CRU forecasting is USD $41.34 and reduces to $31.10 after charges are applied. For the optimisation and reserve update, the Net pricing was applied to each RE oxide separately.

A cost of $68.18 per tonne of MREC produced was also applied with road transport to Port Hedland assumed and with offtakes on an FOB basis.

Revenue factors

The project will provide a MREC product for sale.

The separated oxide prices used for the economic evaluation are the Cru Consulting forecasts for the period 2023 to 2038. Annual year-on-year escalation was applied on an individual RE oxide basis, as supplied in the forecasts. The derived MREC basket price applied in the evaluation, using the formula stated in revenue factors, is shown below:

Project (LOM)	Gross	Net
Basket Value (US$/kg TREO)	41.34	31.10

Criteria	Commentary
	The annual MREC production volume (as kg TREO) is calculated through the application of beneficiation and hydrometallurgy elemental recovery factors (derived from pilot plant and laboratory testing) to a quarterly mining schedule. The MREC revenue is calculated as: TREO Basket Price minus Customer Separation Quote minus Customer Impurity Removal Charges minus VAT = MREC Product Price
Market assessment	The Yangibana project will produce a MREC that has a high neodymium (Nd) and praseodymium (Pr) content (up to 52% of TREO content) as the predominant value elements. It is estimated that Pr6O11, Nd2O3, Tb4O7 and Dy2O3 will contribute to around 95% of the economic value per kilogram of production. • It is particularly in the Nd2O3 and Pr6O11 oxides where substantial supply shortages and rapid demand growth are anticipated in the decade of the 2020s. • Cru Consulting supplied real price forecasts for RE oxides in January 2021 covering the period 2023 to 2038. • The Beneficiation plant will have a design capacity of 37,000t of Concentrate per annum. • The Hydromet plant will have a design capacity of 15,000 t of MREC per annum. • The Hydromet plant will have a design capacity of 8,500 t per annum of TREO. Hastings has previously announced that four offtake MOUs have been entered into with customers covering approximately 11,000 t of the planned annual MREC production volume, The MREC product price is based on the average of last 3 months separated oxide prices referenced to Asian Metals published prices. Of these four MOU's, two have progressed to the signing of offtake contracts, with Sky Rock Rare Earth New Materials Co Ltd, as announced on the 29th November 2018 and more recently Thyssenkrupp Materials Trading GmbH. These two contracts make up around 76% of MREC sales in the first 5 years of production.
Economic	The economic model has been developed based on the 100% Hastings held tenements and the proportion (70%) held by Hastings, of the Joint Venture held tenements. The economic model assumes Mojito Resources will participate in the development of the deposits held by Hastings (70%) in joint venture with Mojito Resources (30%) under the 'Yangibana Joint Venture Agreement'. As set out in Table 16, the specific deposits to which the joint venture applies are Yangibana and Yangibana North. If there is a mine development by the joint venture, not only will there need to be a Mining Joint Venture Agreement agreed and put in place to replace the existing joint venture documentation and regulate the arrangements between the participants for the mine development, but arrangements will also need to be established to determine how the Yangibana production and tenements the subject of the joint venture fit with the broader 100% Hastings group owned production and tenements. No costs or revenue ascribed to the 30% interest in the deposits held by Mojito Resources are reported in the financial modelling. If Mojito Resources did not participate in any development of the joint venture deposits and the development of those deposits was to proceed on a 100% basis by Hastings, then the economic model would need to be updated to allocate those costs and revenues to Hastings.

Criteria	Commentary
	•
Social	Hastings is implementing a Stakeholder Engagement Plan. The overall response to the project has been very positive. A Land Access Agreement has been negotiated and ratified with the pastoral lessee. A Native Title Agreement has been negotiated and ratified with the Native Title claimants. The workforce will be recruited from the region, and where this is not possible, more broadly with most plant operations specialists sourced from Perth. Hastings is currently developing systems and processes to ensure it maintains its social licence to operate, to ensure its workforce are competent in their respective roles and have a culture of safety and compliance.
Classification	The Mineral Reserve is classified as a Proven & Probable Ore Reserve using the guidelines of the JORC Code (2012 Edition).
Audits or reviews	All aspects of the project including the resources and reserves have been reviewed extensively by Behre Dolbear Australia (BDA).
Relative accuracy/ confidence	The estimates in this study relating to mining, processing and cost performance are underpinned by an updated DFS which has a confidence range of +15%/ -10%.