

# **ASX ANNOUNCEMENT**

8 April 2022

# UPDATED MRE FOR NHACUTSE AND POIOMBO INCLUDES EXCELLENT HIGH GRADE COMBINED INDICATED AND INFERRED RESOURCE OF 257 MT @ 6.0% THM

## **Key Highlights**

 Updated JORC Mineral Resource estimates for Nhacutse and Poiombo deposits based on new, comprehensive mineralogical study (refer ASX Announcement 1 April 2022).

	At 4% THM cut-off	
Nhacutse	Indicated	386 Mt @ 4.9% THM
Milacutse	Inferred	149 Mt @ 4.8%THM (Table 2)
Poiombo	Indicated	138 Mt @ 5.0% THM
Polombo	Inferred	187 Mt @ 4.7%THM (Table 2)
Combined Nhacutse and Poiombo	Indicated and Inferred	860 Mt @ 4.9% THM (Table 1)
	At 5% THM cut-off	
Nhacutse	Indicated	142 Mt @ 5.8% THM
Milacuise	Inferred	31 Mt @ 6.8%THM (Table 5)
S. C. C. L.	Indicated	44 Mt @ 6.3% THM
Poiombo	Inferred	40 Mt @ 5.8%THM (Table 5)
Combined Nhacutse and Poiombo	Indicated and Inferred	257 Mt @ 6.0% THM (Table 4)

 Nhacutse and Poiombo deposits both demonstrate exceptional homogeneity and also very good continuity of higher grade zones of mineralisation.



- This updated Mineral Resource estimation also delivered a combined JORC Exploration Target of between 50 Mt and 500 Mt @ between 4.2% and 5.4% THM for a total range of contained THM of between 3 Mt and 20 Mt at Nhacutse and Poiombo (Refer Table 3).
- Combined with the significantly better new mineralogy data from Nhacutse and Poiombo (Figures 8 and 9), this updated Mineral Resource result demonstrates exploration success for MRG through the discovery of at-surface, higher in-situ value per tonne deposits than its maiden Mineral Resource estimate and both of the Koko Massava deposit Mineral Resource estimates (Refer ASX Announcements 22 April 2020 and 16 December 2021).
- The new mineralogy data, specifically the VHM% (Ilmenite + Altered Ilmenite + Rutile + Zircon), is substantially better at Nhacutse (46% VHM) and Poiombo (43% VHM), consistent in both global and high grade Mineral Resource, than that reported for Koko Massava (40% VHM for global and 41% VHM for high grade Mineral Resource refer ASX Announcement 16 December 2021), (Table 1).
- The Nhacutse and Poiombo deposits sit adjacent, approximately 4 km apart, and a similar distance between the Nhacutse and Koko Massava deposit to the northwest (Figure 2). All three deposits are in very close economic radius and approximately 40 km from the proposed port at Chongoene (refer ASX Announcement 4 February 2021).

MRG Metals Limited ("MRG" or "the Company") (ASX Code: MRQ) is pleased to announce the results of updated Joint Ore Reserve Committee (JORC) Mineral Resource estimates for its Nhacutse and Poiombo deposits (refer Tables 1, 2, 3; 4 and 5; Figures 2 and 3) within the Corridor South 6620 L licence (Figure 1).

As per the maiden global and updated Koko Massava Mineral Resource estimates (refer ASX Announcements 22 April 2020 and 16 December 2021) and the maiden JORC Mineral Resource estimates for the Nhacutse and Poiombo deposits (refer ASX Announcement 2 February 2022), the updated Mineral Resource estimates were undertaken by IHC Mining in Perth, Australia. The updated JORC Mineral Resource estimates for the Nhacutse and Poiombo deposits are based on a recently completed comprehensive mineralogical study (refer ASX Announcement 2 February 2022) which returned significantly better results than the historical mineralogy data utilised in the maiden Nhacutse and Poiombo estimate.

MRG Metals Chairman, Mr Andrew Van Der Zwan said: "These updated Mineral Resource estimates for the Nhacutse and Poiombo deposits, based on new mineralogy, further confirm the potential of our Corridor Sands Projects in Mozambique. The significantly better new mineralogy data we have accumulated to deliver these outstanding results increases our confidence in the Nhacutse and Poiombo deposits as we move to the next step of our exploration program at Corridor Sands.



"The new comprehensive study has delivered a combined Indicated and Inferred Mineral Resource of 860 Mt @ 4.9% THM at the two sister deposits, which notably include high-grade zones of 257 Mt @ 6.0% THM, a highly encouraging return for the Company. The updated Mineral Resource estimates are importantly a significant improvement on the maiden estimates which were delivered using historical data. Looking ahead, the results at Nhacutse and Poiombo will have a significant impact on the Scoping Study with a likely impact on mine pit optimization, plant location and most significantly early mine life cashflow. To further investigate the impact, MRG has decided to run further Metallurgical analysis on the HMS concentrate at Nhacuste and Poiombo to ensure the likely uplift in Ilmenite concentrate value is reflected if we get to Feasibility study later in the year. This work will likely take place in Q3 this year once shipment of a further 6-7 tonnes of material can be sourced and transported to Brisbane."

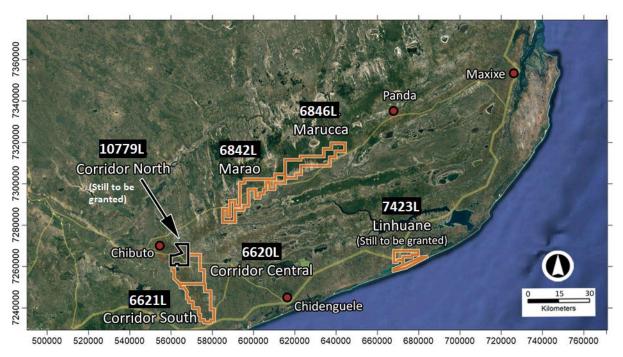
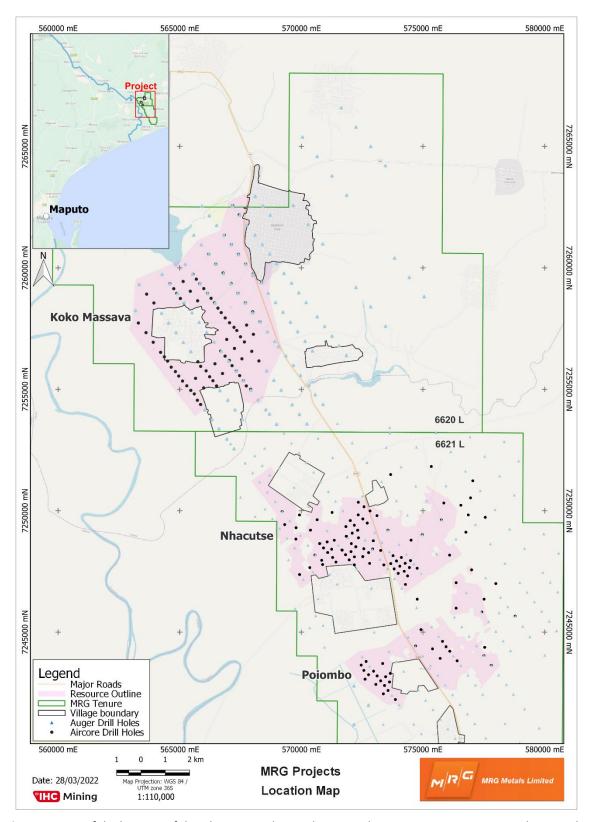


Figure 1: Map of the location of the Corridor South (6621L) project in relation to other MRG licences.





**Figure 2:** Map of the location of the Nhacutse and Poiombo Mineral Resource estimate areas within Corridor South (6621L) vs the Koko Massava MRE area within Corridor Central (6620 L).



# **Updated Nhacutse and Poiombo Mineral Resource Estimate**

The maiden JORC Mineral Resource estimates for the Nhacutse and Poiombo deposits (refer ASX Announcement 2 February 2022) were based on historical mineralogical studies. A new and comprehensive mineralogical study comprised of 27 brand new mineral assemblage composites and based on interpreted lithologies (refer ASX Announcement 1 April 2022) was recently completed. These 27 new mineral assemblage composites have been incorporated into the updated JORC Mineral Resource estimates for the Nhacutse and Poiombo deposits. No new additional drilling or drill sample analyses were incorporated into the updated Mineral Resource estimates and all other assumptions remained unchanged (refer JORC Table 1).

Receipt of the results from the new comprehensive mineralogical studies has facilitated the preparation of an updated Mineral Resource estimate at a 4% THM cut-off grade (COG) for the Nhacutse and Poiombo deposits (**Tables 1 and 2**; **Figure 3**):

**Table 1**: Summary of the Global JORC Mineral Resource estimates for the combined Nhacutse and Poiombo deposit areas (THM>4%).

Global Mineral Re	esource Estima	ation	4% COG												
Summary of Miner	ral Resources <sup>(1)</sup>														
Deposit	Mineral Resource Category	Material (Mt)	In Situ THM (Mt)	BD (gcm3)	THM (%)	SLIMES (%)	OS (%)	ILM (%)	RUT (%)	ZIR (%)	TIMAG (%)	CHRM (%)	MOTH (%)	ANDA (%)	NMOTH (%)
Global	Indicated Inferred	524 337	26 16	1.74 1.74	5.0 4.7	22 17	1 1	44 41	1 1	1 1	27 27	3 4	2 5	8 10	4 3
Grand Total		860	42	1.74	4.9	20	1	43	1	1	27	3	3	9	3

<sup>(1)</sup> Mineral resources reported at a cut-off grade of 4% THM

**Table 2**: Summary of the JORC Mineral Resource estimates for the individual Nhacutse and Poiombo deposit areas (THM>4%).

Nhacutse Minera	ıl Resource Esti	mation	4% COG												
Summary of Mine	ral Resources <sup>(1)</sup>														
Deposit	Mineral Resource Category	Material (Mt)	In Situ THM (Mt)	BD (gcm3)	THM (%)	SLIMES (%)	OS (%)	ILM (%)	RUT (%)	ZIR (%)	TIMAG (%)	CHRM (%)	MOTH (%)	ANDA (%)	NMOTH (%)
Nhacutse	Indicated Inferred	386 149	19 7	1.74 1.74	4.9 4.8	22 16	1 1	44 45	1 1	1 1	27 25	3 3	2 2	9 10	3
Grand Total		535	26	1.74	4.9	21	1	44	1	1	27	3	2	9	3

<sup>(1)</sup> Mineral resources reported at a cut-off grade of 4% THM

<sup>(2)</sup> Mineral assemblage is reported as a percentage of in situ THM content.

<sup>(2)</sup> Mineral assemblage is reported as a percentage of in situ THM content.



Poiombo Minera	al Resource Esti	mation	4% COG												
Summary of Mine	eral Resources <sup>(1)</sup>														
Deposit	Mineral Resource Category	Material (Mt)	In Situ THM (Mt)	BD (gcm3)	THM (%)	SLIMES (%)	OS (%)	ILM (%)	RUT (%)	ZIR (%)	TIMAG (%)	CHRM (%)	MOTH (%)	ANDA (%)	NMOTH (%)
Poiombo	Indicated Inferred	138 187	7 9	1.74 1.74	5.0 4.7	21 18	1 1	44 38	1 1	1 2	26 27	4	3 7	8 11	4
<b>Grand Total</b>		325	16	1.74	4.8	19	1	41	1	1	27	4	5	10	3
Notes:															

(1) Mineral resources reported at a cut-off grade of 4% THM

At a cut-off grade of 4% THM, the Global Mineral Resource estimate for the combined Nhacutse and Poiombo deposits comprise a **total Mineral Resource of 860 Mt @ 4.9% THM**, with 20% Slimes, containing 42 Mt of THM with an assemblage of 43% ilmenite, 27% titano-magnetite, 1% rutile and 1% zircon. The JORC categories are specifically stated as:

- Indicated Mineral Resource of 524 Mt @ 5.0% THM and 22% Slimes containing 26 Mt of THM with an assemblage of 44% ilmenite, 27% titano-magnetite, 1% rutile and 1% zircon; and
- Inferred Mineral Resource of 337 Mt @ 4.7% THM and 17% Slimes containing 16 Mt of THM with an assemblage of 41% ilmenite, 27% titano-magnetite, 1% rutile and 1% zircon.

At a cut-off grade of 4% THM, the **updated Nhacutse Mineral Resource estimate comprises a total Mineral Resource of 535 Mt @ 4.9% THM**, with 21% Slimes, containing 26 Mt of THM with an assemblage of 44% ilmenite, 27% titano-magnetite, 1% rutile and 1% zircon. The JORC categories are specifically stated as:

- Indicated Mineral Resource of 386 Mt @ 4.9% THM and 22% Slimes containing 19 Mt of THM with an assemblage of 44% ilmenite, 27% titano-magnetite, 1% rutile and 1% zircon and
- Inferred Mineral Resource of 149 Mt @ 4.8% THM and 16% Slimes containing 7 Mt of THM with an assemblage of 45% ilmenite, 25% titano-magnetite, 1% rutile and 1% zircon.

At a cut-off grade of 4% THM, the **updated Poiombo Mineral Resource estimate comprises a total Mineral Resource of 325 Mt @ 4.8% THM**, with 19% Slimes, containing 16 Mt of THM with an assemblage of 41% ilmenite, 27% titano-magnetite, 1% rutile and 1% zircon. The JORC categories are specifically stated as:

- Indicated Mineral Resource of 138 Mt @ 5.0% THM and 21% Slimes containing 7 Mt of THM with an assemblage of 44% ilmenite, 26% titano-magnetite, 1% rutile and 1% zircon and
- Inferred Mineral Resource of 187 Mt @ 4.7% THM and 18% Slimes containing 9 Mt of THM with an assemblage of 38% ilmenite, 27% titano-magnetite, 1% rutile and 2% zircon.

The Mineral Resource estimate at the Nhacutse and Poiombo deposits also delivered an Exploration Target in the range of 50 Mt and 500 Mt @ between 4.5% and 5.4% THM at cut-off grades of 3% and

<sup>(2)</sup> Mineral assemblage is reported as a percentage of in situ THM content.



**5%** THM (**refer Table 3**; **Figure 3**). This Exploration Target was predominantly located within the boundaries of the Bungane, Nhacutse and Poiombo villages.

**Table 3**: Summary of Exploration Target for the Nhacutse and Poiombo areas.

				-											
Summary of Explora	tion Target <sup>(1</sup>	)													
		In Situ													
Classification	Material	THM	BD	THM	SLIMES	os	ILM	RUT	ZIR	TIMAG	HEMA	CHRM	мотн	ANDA	NMOTH
	(Mt)	(Mt)	(gcm3)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Exploration Target	50 - 500	3 - 20	1.74	4.2 - 5.4	18	1	37	1	1	30	6	4	9	8	3
Grand Total	50 - 500	3 - 20	1.74	4.2 - 5.4	18	1	37	1	1	30	6	4	9	8	3
Notes:															

<sup>(1)</sup> Exploration Target reported at a cut-off grade of 3% - 5% THM

<sup>(2)</sup> Mineral assemblage is reported as a percentage of in situ THM content.



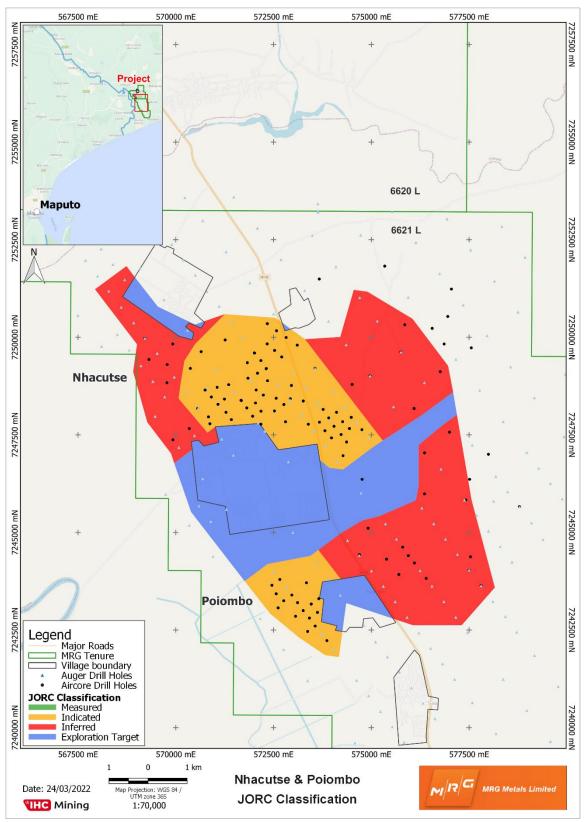


Figure 3: JORC Classification of the Nhacutse and Poiombo deposits.



# **Nhacutse and Poiombo High-Grade Zone Mineral Resource Estimate**

As per the maiden JORC Mineral Resource estimates for the Nhacutse and Poiombo deposits (refer ASX Announcement 2 February 2022) the Mineral Resource estimate was reported at a range of cutoff grades in increments of 0.5% THM and the grade tonnage curves showed the continuity of the high grades shown in the Mineral Resource estimate to be present up to a 5.5% THM cut-off. The updated Mineral Resource estimate for the higher THM resource material, incorporating the new comprehensive mineralogical data, was done at a 5% THM cut-off for the Nhacutse and Poiombo deposits (Tables 4 and 5; Figure 4):

**Table 4**: Summary of the JORC Mineral Resource estimate at 5% THM cut-off for the combined Nhacutse and Poiombo areas.

Poiombo Miner	al Resource Estin	mation	5% COG												
Summary of Mine	eral Resources <sup>(1)</sup>														
Deposit	Mineral Resource Category	Material (Mt)	In Situ THM (Mt)	BD (gcm3)	THM (%)	SLIMES (%)	OS (%)	ILM (%)	RUT (%)	ZIR (%)	TIMAG (%)	CHRM (%)	MOTH (%)	ANDA (%)	NMOTH (%)
Global	Indicated Inferred	186 71	11 4	1.75 1.75	5.9 6.2	22 18	1 1	43 41	1 1	1 1	27 27	3 4	2 5	8 10	4
<b>Grand Total</b>		257	15	1.75	6.0	21	1	43	1	1	27	4	3	9	4
Notes:															

<sup>(1)</sup> Mineral resources reported at a cut-off grade of 5% THM

**Table 5**: Summary of the JORC Mineral Resource estimate at 5% THM cut-off for the individual Nhacutse and Poiombo areas.

Nhacutse Minera	al Resource Est	imation	5% COG												
Summary of Mine	ral Resources <sup>(1)</sup>	1													
Deposit	Mineral Resource Category	Material (Mt)	In Situ THM (Mt)	BD (gcm3)	THM (%)	SLIMES (%)	OS (%)	ILM (%)	RUT (%)	ZIR (%)	TIMAG (%)	CHRM (%)	MOTH (%)	ANDA (%)	NMOTH (%)
Nhacutse	Indicated Inferred	142 31	8 2	1.75 1.76	5.8 6.8	22 17	1 1	43 45	1 1	1 1	27 27	3	2 2	9 8	4
<b>Grand Total</b>		173	10	1.75	6.0	21	1	44	1	1	27	3	2	9	4

- Notes:
  (1) Mineral resources reported at a cut-off grade of 5% THM
- (2) Mineral assemblage is reported as a percentage of in situ THM content.

Poiombo Miner			5% COG												
Deposit	Mineral Resource Category	Material (Mt)	In Situ THM (Mt)	BD (gcm3)	THM (%)	SLIMES (%)	OS (%)	ILM (%)	RUT (%)	ZIR (%)	TIMAG (%)	CHRM (%)	MOTH (%)	ANDA (%)	NMOTH (%)
Poiombo	Indicated Inferred	44 40	3 2	1.75 1.75	6.3 5.8	19 19	1 1	44 38	1 1	1 2	26 27	4 4	3 8	8 11	5 2
Grand Total		84	5	1.75	6.1	19	1	41	1	1	26	4	6	9	4

- (1) Mineral resources reported at a cut-off grade of 5% THM
- (2) Mineral assemblage is reported as a percentage of in situ THM content.

At a cut-off grade of 5% THM, the High-Grade Zone Mineral Resource estimates for the combined Nhacutse and Poiombo deposits (**Figure 4**) comprise a total Mineral Resource of 257 Mt @ 6.0% THM, with 21% Slimes, containing 15 Mt of THM with an assemblage of 43% ilmenite, 27% titanomagnetite, 1% rutile and 1% zircon. The JORC categories are specifically stated as:

MRG Metals Limited ABN: 83 148 938 532 / ASX Code: MRQ

Phone: +61 3 5330 5800 / Fax: +61 3 53330 5890

<sup>(2)</sup> Mineral assemblage is reported as a percentage of in situ THM content.



- Indicated Mineral Resource of 186 Mt @ 5.9% THM and 22% Slimes containing 11 Mt of THM with an assemblage of 43% ilmenite, 27% titano-magnetite, 1% rutile and 1% zircon and
- Inferred Mineral Resource of 71 Mt @ 6.2% THM and 18% Slimes containing 4 Mt of THM with an assemblage of 41% ilmenite, 27% titano-magnetite, 1% rutile and 1% zircon.

At a cut-off grade of 5% THM, the updated High-Grade Zone Nhacutse Mineral Resource estimate comprises a total Indicated and Inferred Mineral Resource of 173 Mt @ 6.0% THM, with 21% Slimes, containing 10 Mt of THM with an assemblage of 44% ilmenite, 27% titano-magnetite, 1% rutile and 1% zircon. The JORC categories are specifically stated as:

- Indicated Mineral Resource of 142 Mt @ 5.8% THM and 22% Slimes containing 8 Mt of THM with an assemblage of 43% ilmenite, 27% titano-magnetite, 1% rutile and 1% zircon and
- Inferred Mineral Resource of 31 Mt @ 6.8% THM and 17% Slimes containing 2 Mt of THM with an assemblage of 45% ilmenite, 27% titano-magnetite, 1% rutile and 1% zircon.

At a cut-off grade of 5% THM, the updated High-Grade Zone Poiombo Mineral Resource estimate comprises a total Indicated and Inferred Mineral Resource of 84 Mt @ 6.1% THM, with 19% Slimes, containing 5 Mt of THM with an assemblage of 41% ilmenite, 26% titano-magnetite, 1% rutile and 1% zircon. The JORC categories are specifically stated as:

- Indicated Mineral Resource of 44 Mt @ 6.3% THM and 19% Slimes containing 3 Mt of THM with an assemblage of 44% ilmenite, 26% titano-magnetite, 1% rutile and 1% zircon and
- Inferred Mineral Resource of 40 Mt @ 5.8% THM and 19% Slimes containing 2 Mt of THM with an assemblage of 38% ilmenite, 27% titano-magnetite, 1% rutile and 2% zircon.



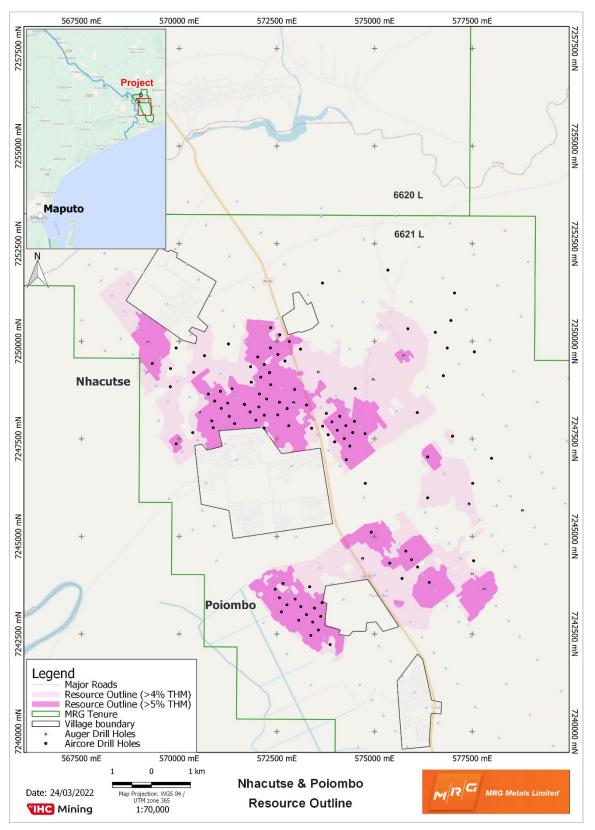


Figure 4: >4% THM and >5% THM Mineral Resource outlines within the Nhacutse and Poiombo deposits.



## Mineralogical Work Undertaken

A comprehensive mineralogical study involving 27 composites samples utilising THM sink concentrates (HMC), 18 composite samples from Nhacutse (**Table 6A**) and 9 composite samples from Poiombo (**Table 6B**), were conducted by SJMetMin in South Africa (**refer ASX Announcement 1 April 2022**). The study was conducted using QEMSCAN data (Quantitative Evaluation of Minerals by Scanning Electron Microscopy), with XRD and XRF analysis augmenting the quantitative mineralogical study.

The composites were sourced from 56 aircore holes and 159 individual sample intervals. The composite samples represent interpreted distinctly different lithological units (mainly based on THM grade, silt content and colour) within the two deposits. The composites cover the mineralised sand at surface from 0 to generally between 3 and 4.5m depth (Zone 1, red/red-brown sand, **Figure 5**); the red/red-brown sand to a depth of generally between 30 and 45m (depending on topography, Zone 2; **Figure 6**) and the deeper brown/grey sand to a maximum depth of 60m below surface (Zone 3, **Figure 7**).

The composites returned average Valuable Heavy Mineral (VHM; ilmenite, altered ilmenite, leucoxene, zircon and rutile) results significantly higher than the widely spaced historic data used in the Maiden Inferred Nhacutse and Poiombo JORC Mineral Resource estimate (refer ASX Announcements 2 February 2022 and 1 April 2022).). The increase in the valuable mineral content of the HMC can clearly be seen in the significant increase in the ilmenite content of the HMC between the historical vs new mineralogical data for the Zone 2 lithological interval (Figures 8 and 9).

The new Nhacutse and Poiombo mineralogy data is also significantly better than found within the recently updated JORC Mineral Resource estimate from the Koko Massava deposit (refer ASX Announcement 16 December 2021), with Koko Massava showing an average VHM for the Global resource area of 40% VHM, and 41% for an infill drilled higher grade area.

The VHM data, including the data from individual minerals in the VHM assemblage, confirmed data from previous mineralogical work (refer ASX Announcements 31 July 2020 and 11 August 2021) with an increase in the VHM component of the HMC from west to east within the red/red-brown aeolian sand (from average 45.8% VHM in the west to 47.5% VHM in the east of Nhacutse). This change is especially clear in the increase in total ilmenite % (Figure 10).

The data also showed the VHM%, especially at Nhacutse, is better in the closer to surface red/red-brown sand (Z1 and Z2 composites) with an average of 46.9% VHM from these units (refer ASX Announcement 1 April 2022). The Middle Zone Z2 composite, where the majority of the Nhacutse and Poiombo resources are situated, has the highest VHM% in general, with an average for Nhacutse at 48.2% and Poiombo at 45.2% VHM. The Lower composite had an average of 42.3% VHM at Nhacutse.



**Table 6A**: Results for an 18 composite mineralogical study at Nhacutse

Sample	N0001	N0002	N0003	N0004	N0005	N0006	N0007	N0008	N0009	N0010	N0011	N0012
Mineral												
Zircon	1.3	1.3	1.2	1.2	1.4	1.3	1.2	1.4	1.0	1.3	1.2	1.2
Rutile	1.1	1.1	1.1	1.3	1.2	1.0	1.2	1.0	1.2	1.2	0.9	1.1
Leucoxene	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4
Altered Ilmenite	2.3	3.1	2.1	2.6	2.6	2.6	3.0	2.3	2.4	2.8	2.7	2.6
Ilmenite	39.6	43.6	38.7	38.4	42.3	37.4	38.9	41.7	33.7	39.9	43.2	39.9
Titano- magnetite	27.5	26.9	28.1	28.5	26.5	27.1	24.6	28.8	30.4	25.0	26.0	24.5
Hematite	7.5	8.6	10.2	8.6	9.5	9.8	9.7	10.2	10.2	9.5	9.1	9.3
Chromite	3.6	3.4	3.4	3.4	2.8	3.6	3.4	2.7	3.1	3.4	2.9	3.1
Magnetic Others	1.6	1.6	3.4	2.2	1.7	2.4	1.8	1.5	2.3	1.8	1.6	2.9
Andalusite	11.5	7.2	7.7	10.5	8.8	9.5	11.4	7.6	11.1	11.1	8.9	9.9
Non- magnetic Others	3.7	3.0	3.7	3.2	3.1	5.1	4.7	2.7	4.3	3.7	3.2	5.2

	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100	.0 100.0
Sample	N0013	N0014	N0015	N0016	N0017	N0018	Min	Max	Ave	StDev		
Mineral												
Zircon	1.2	1.4	1.1	1.4	1.6	1.3	1.0	1.6	1.3	0.1		
Rutile	1.2	1.3	0.8	1.2	1.2	1.1	0.8	1.3	1.1	0.1		
Leucoxene	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.0	45.3	Total VHM in
Altered Ilmenite	2.4	3.0	2.1	3.0	2.9	2.6	2.1	3.1	2.6	0.3		нмс
Ilmenite	41.4	42.3	34.8	43.0	42.9	39.4	33.7	43.6	40.1	2.8		
Titano- magnetite	26.2	26.8	30.1	22.2	22.6	24.1	22.2	30.4	26.4	2.3	26.4	Titano- magnetite
Hematite	8.5	9.0	9.0	7.3	7.9	7.9	7.3	10.2	9.0	0.9		
Chromite	3.4	3.3	3.4	4.2	3.4	3.2	2.7	4.2	3.3	0.3		
Magnetic Others	1.6	1.5	2.7	1.8	1.7	2.6	1.5	3.4	2.0	0.6	54.7	Total Non- VHM in HMC
Andalusite	11.0	8.5	11.2	11.8	11.8	12.9	7.2	12.9	10.1	1.7		THVIC
Non- magnetic Others	2.9	2.8	4.6	3.8	3.9	4.7	2.7	5.2	3.8	0.8		

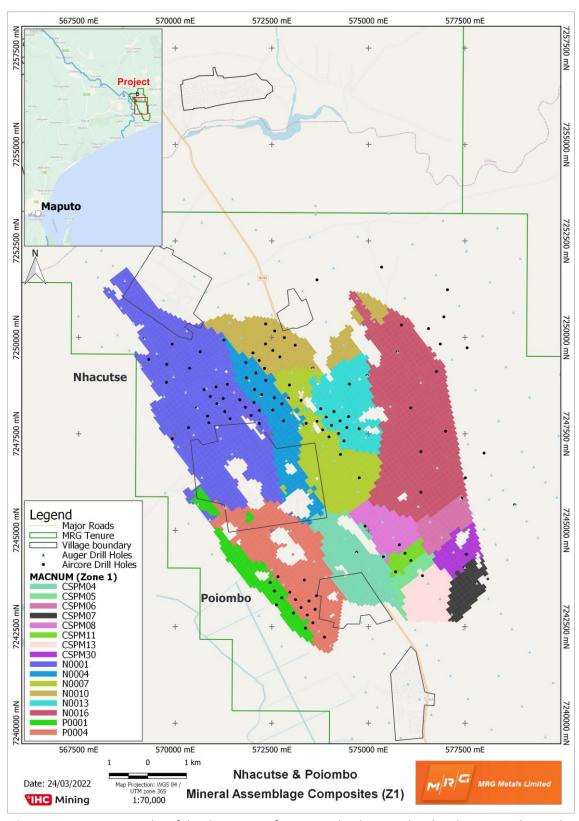


**Table 6B**: Results for a 9 composite mineralogical study at Poiombo.

Sample Mineral	P0001	P0002	P0003	P0004	P0005	P0006	P0007	P0008	P0009	Min	Max	Ave	StDev		
Zircon	1.1	1,2	1.2	1.1	1.5	0.9	1.2	1.2	1.1	0.9	1.5	1.2	0.1		
Rutile	1.1	1.6	1.3	1.2	1.0	1.5	0.9	1.2	1.0	0.9	1.6	1.2	0.2		
															Total
Leucoxene	0.3	0.4	0.4	0.4	0.3	0.4	0.2	0.3	0.2	0.2	0.4	0.3	0.1	45.9	VHM in HMC
Altered Ilmenite	2.1	2.1	6.3	4.1	5.1	5.8	6.0	6.0	5.4	2.1	6.3	4.8	1.6		
Ilmenite	39.4	41.4	39.4	36.8	36.7	36.1	36.8	39.6	39.8	36.1	41.4	38.4	1.9		
Titano- magnetite	27.5	27.6	23.0	25.0	28.6	24.9	28.4	25.0	24.7	23.0	28.6	26.1	2.0	26.1	Titano- magnetite
Hematite	8.7	9.0	6.8	8.7	9.3	7.0	10.2	8.7	8.6	6.8	10.2	8.6	1.1		
Chromite	3.5	3.6	4.0	4.0	3.2	4.0	3.4	3.7	3.1	3.1	4.0	3.6	0.4		
Magnetic Others	2.4	2.4	3.6	3.7	2.8	4.3	2.2	3.3	2.3	2.2	4.3	3.0	0.7	54.2	Total Non-VHM
Andalusite	9.7	7.4	8.7	10.1	7.8	8.5	7.1	7.0	9.9	7.0	10.1	8.5	1.2		in HMC
Non- magnetic Others	4.3	3.4	5.5	5.0	3.8	6.7	3.5	4.1	4.0	3.4	6.7	4.5	1.1		

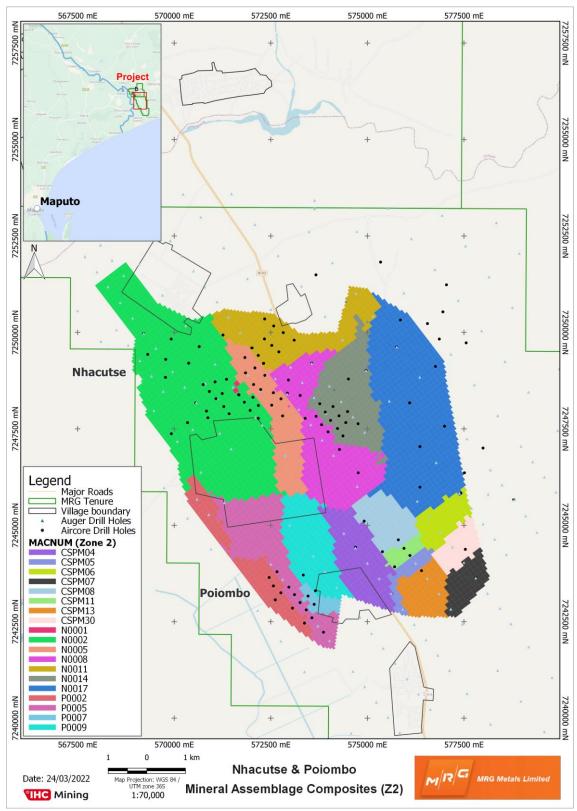
100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0





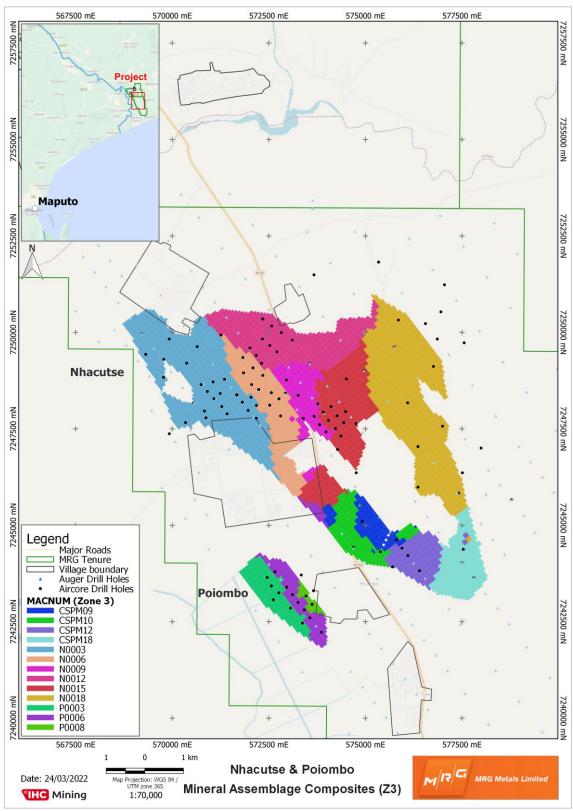
**Figure 5:** Composite samples of the closest to surface mineralised material in the Nhacutse and Poiombo deposits (Zone 1 composites).





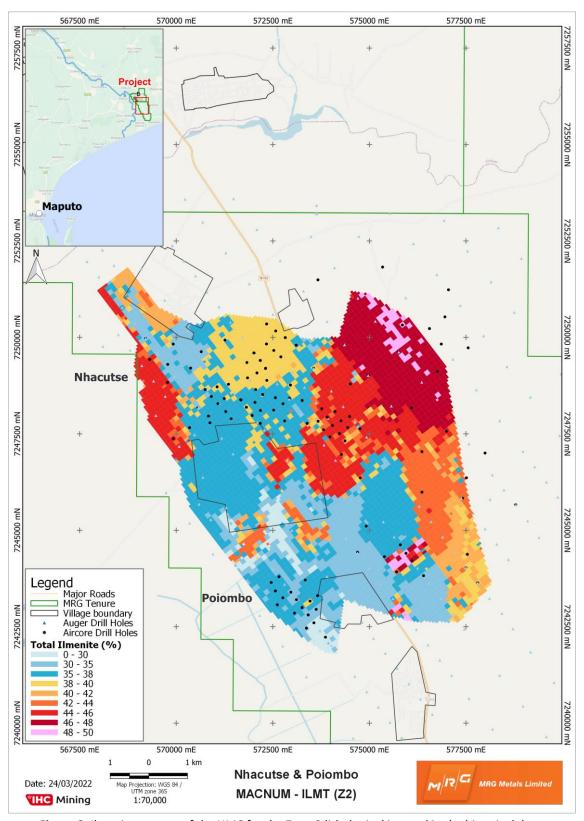
**Figure 6:** Composite samples of the closest to surface mineralised material in the Nhacutse and Poiombo deposits (Zone 2 composites).





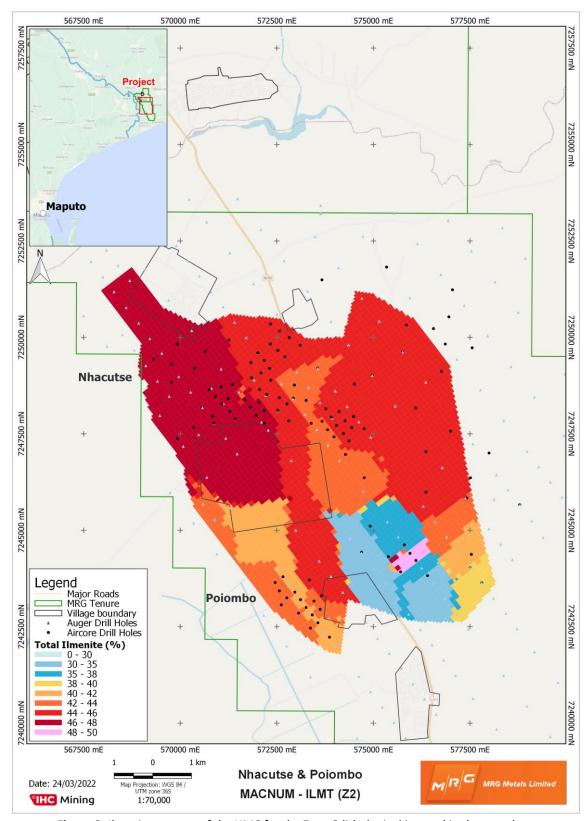
**Figure 7:** Composite samples of the closest to surface mineralised material in the Nhacutse and Poiombo deposits (Zone 3 composites).





**Figure 8:** Ilmenite content of the HMC for the Zone 2 lithological interval in the historical data.





**Figure 9:** Ilmenite content of the HMC for the Zone 2 lithological interval in the new data.



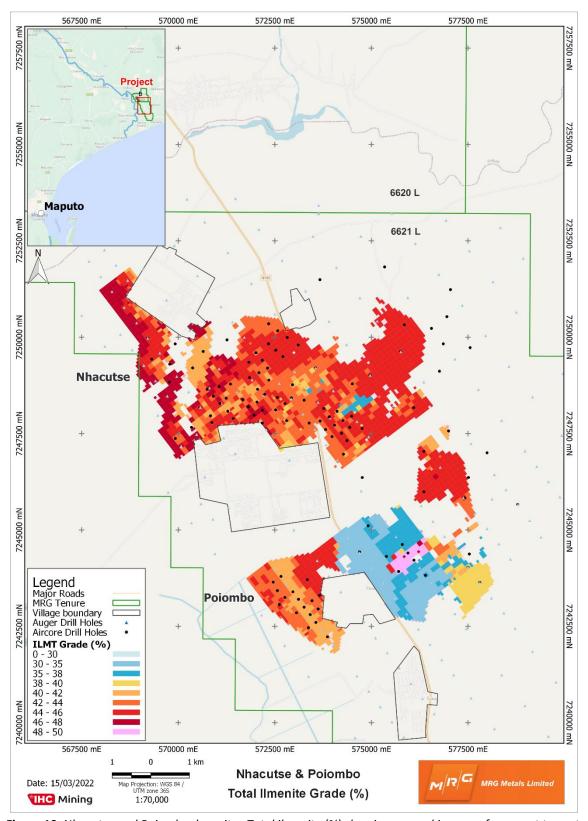


Figure 10: Nhacutse and Poiombo deposits - Total ilmenite (%) showing general increase from west to east.



## **Summary of Resource Estimate and Reporting Criteria**

A summary of the material information used to compile this Updated Mineral Resource estimate is outlined in the sections below. More detailed information in presented in the JORC Table 1 attached.

## Geology and geological interpretation

The coastal region of southern Mozambique forms part of the Mozambique basin, which is comprised of a complex succession of Cretaceous to Quaternary age sedimentary rocks and unconsolidated sand deposits which rest unconformably on Karoo Supergroup sediments and volcanics.

The Cenozoic deposits of the Mozambique basin are distinguished by shallow-marine facies typical of a passive continental margin with two main sedimentary cycles; a Palaeocene-Eocene cycle and Oligocene – Neogene cycle, separated by an unconformity.

The coastline of Mozambique is well known for massive dunal systems such as those developed near Inhambane, Xai-Xai and in Nampula Province. Buried strandlines are likely in areas where palaeoshorelines can be defined along coastal zones. The larger lower grade deposits are related to windblown strands while the thin high-grade strandlines could be related to marine or fluvial influences.

The heavy mineral sands at the Corridor Sands deposit are hosted by the palaeodunes in the Chongoene - Chibuto area. The palaeodunes are known to host significant HMS mineralisation. Recent drilling at Koko Massava has intersected high THM grades from surface extending to a depth of up to 57 m over a strike of 7.8 km for Nhacutse and 5.7 km for Poiombo. The mineralisation is hosted within red to brownish medium grained sand units. The mineralisation is geologically continuous along strike, with grades varying along and across strike. The Nhacutse and Poiombo deposits are predominantly ilmenite enriched.

#### Drilling techniques and holes spacing

Hand auger and aircore drilling took place within the Nhacutse and Poiombo deposits. The hand auger drilling is a 62 mm open hole drilling technique via Dormer auger drills (Engineering in Australia) with 1 m long drill rods and drill bits. Aircore drilling was completed by Bamboo Rock Drilling Limitada utilising a purpose-built Thor Reverse Circulation aircore drill rig with 76 mm diameter rods and 80 mm diameter (NQ) Harlsan aircore bits. Aircore is considered a standard mineral sands industry technique for evaluating HM mineralisation where the sample is collected at the drill bit face and returned inside an inner tube. All holes were drilled vertically.

During reconnaissance and numerous infill drilling programs, 273 hand auger and 127 aircore holes were drilled within the Corridor South (6621L) licence (**Figure 1**). Currently the drill spacing within the



Nhacutse and Poiombo resource areas is ~250 m between hole stations and ~500 m between drill lines; with some holes at ~250 m spacing between the ~500 m spaced drill lines as well (**Figure 1**).

## Sampling and sub-sampling methodology

Hand auger samples were collected at 1.5 m intervals and generated approximately 4 kg of drill spoil, while aircore drill samples were collected at between 1.5 m and 3.0 m intervals and generated between approximately 10 and 20 kg of drill spoil respectively. The entire samples were collected at the rig and dispatched to the sample preparation facility. Each sample was air dried and then split down to between 400 g and 600 g using a three-tier riffle splitter for export to the primary laboratory.

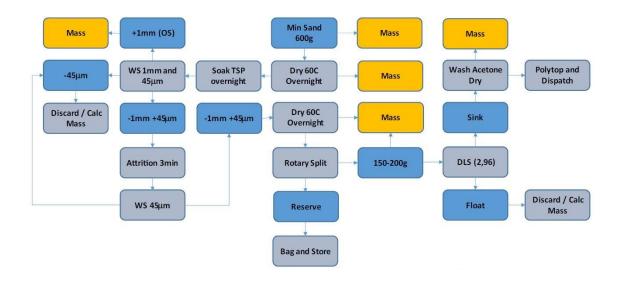
All hand auger and aircore samples were labeled and bagged for transport to the primary laboratories in South Africa or Western Australia, for processing. All sample intervals and the correlating sample mass were recorded onto log sheets and later transcribed to a master Excel spreadsheet. An access database was then constructed.

The sampling method and sample size dispatched for processing is considered appropriate and reliable based on accepted industry practices and experience.

#### Sample analysis methodology

All auger and aircore samples were dispatched to either Western Geolabs in Western Australia or MAK Analytical laboratory in South Africa.

Both Western Geolabs and MAK Analytical followed the general assay process flow described as per the following flow sheet and description:



300g to 600g samples were received into the MAK Analytical check-in process, sample weighed.



The full sample were then oven dried overnight at 60 degrees Celsius until samples were completely dry, sample weighed.

Full sample is left to soak overnight.

Wet screening is undertaken on a static screen stack of the full sample with a 1mm top screen and a  $45\mu m$  bottom screen. Water is added to the washing process and manual scrubbing of the sample is undertaken as the agitation process.

Every 25th sample was submitted to the same process as a laboratory repeat.

All samples were screened utilising a 1mm top screen and a 45µm bottom screen.

Material captured by the 1 mm (OS) and  $45\mu m$  (SAND) screens was individually captured, dried and weighed, whilst material passing through the  $45\mu m$  (SLIMES) screen was lost to waste water streams.

This passing  $45\mu m$  material (SLIMES) weight was then calculated by difference (SLIMES weight = sample split weight - OS - SAND).

The SAND fraction (1 mm to 45µm) was split via rotary split to produce 150g to 200g, this was submitted to heavy liquid separation ('HLS') using tetrabromomethane ('TBE') as the liquid heavy media.

The settling time for HLS was 45 minutes with several stirs of the liquid to ensure adequate heavy mineral 'drop'.

Mineral assemblage composites were prepared for the Nhacutse and Poiombo deposits from THM sink concentrates and QEMSCAN analysis, supported by XRD and XRF analysis, was used to determine mineralogy for the deposit as a proportion of the THM. The QEMSCAN analyses were undertaken by the University of Cape Town (UCT) in South Africa.

All mineral assemblage composites were prepared by Solly Theron of SJMetMin in conjunction with MRG and are based on geological and stratigraphic interpretation of the primary drill holes, down hole geological logging and assaying constrained by identified geological domains. A total of 27 mineral assemblage composites were prepared across the Nhacutse and Poiombo deposits (**Results in Tables 6A and 6B**).

#### Resource estimation methodology

The geological grade models for Nhacutse and Poiombo were based on coding model cells below open wireframes surfaces, including topography, mineralisation and basement. The drill hole files were also flagged with the domains and used for grade estimation.



The dominant drill grid spacing for the Nhacutse and Poiombo deposits was 500 m northeast-southwest and 250 m northwest-southeast direction. However, some areas were drilled at 1000 m spacing in the north-south and 500 m spacing in the east-west direction. A parent cell dimension of 125 m x 250 m x 3 m in XYZ was selected as this represents half the distance between drill hole spacing in the easting and northing directions for most of the model area.

Sub-cell splits of 5 x 5 in the X and Y and to the nearest 20cm in the Z direction were used to control sub-cell splitting of parent cells (as dictated by the modeling routine used in Studio RM). The smaller parent cell sizes were selected to give a better estimation of the volume of the deposit. It is not anticipated that this will have an adverse effect on the overall grade estimation. The smaller parent cell sizes are also not anticipated to result in an adverse effect on the overall grade estimation.

Inverse distance cubed was used along with nearest neighbour to interpolate grades and values into the block model. Part of the rationale for using ID3 is centred on the good continuity of the mineralisation, low nugget effect displayed by the experimental variograms, the regular drill hole and assay spacing and the nature of the sampling process.

Effectively there is an averaging over the length of the sample interval down hole (in this case being 3 m). There is already a dilution effect on any potential high-grade mineralisation leading to inverse distance being a less complex and more straight forward methodology.

A bulk density (BD) was applied to the model using a standard linear formula originally described by Baxter (1977). This approach was refined in a practical application by this author using the following first principles calculations. This regression formula was then used to determine the conversion of tonnes from each cell volume and from there the estimation of material, THM and SLIMES tonnes.

The bulk density formula is described as: Bulk Density = (0.009 \* HM) + 1.698.

### **Cut-off grades**

The selection of the THM cut-off grade used for reporting was based on the experience of the Competent Person and by considering the continuity of mineralisation at that cut-off grade as well as the inflection points on the grade tonnage curves (**refer Figures 3 and 4**). This cut-off grade is in line with other mineral sands operations in Africa and the overall ratio of VHM to trash.

The Nhacutse and Poiombo Mineral Resource estimate is reported at cut-off grades of 4% and 5% THM for the resource model.

## Classification criteria

The JORC classification for the Nhacutse and Poiombo deposits has taken into consideration the drill hole spacing in plan view, as well the sample support within domains, the size, weighting and



distribution of the mineral assemblage composites and the variography results.

The deposit has been assigned JORC Mineral Resource classifications of Inferred and is supported by the following criteria:

- regular drill hole spacing that defines the geology and THM mineralisation distribution and trends;
- variography for THM that supports the drill spacing for the classifications; and
- the distribution of mineral assemblage composites having broadly identified the various mineralogical domains .

The variography shows reasonable grade continuity in the across strike and downhole directions but limited sample relationship along strike, which warrants infill drilling between section lines to confidently determine the grade continuity in the north-south direction.

There has been industry standard QA/QC data supporting the assaying process, the use of a specialised and reputable mineral sands laboratory and the drilling, sampling and assaying procedures overall have fully supported the development of a Mineral Resource estimate. The use of commercially prepared standards has supported the QA/QC for the laboratory assaying and ongoing duplicates in both the field and laboratory.

The sample support and distribution of mineral assemblage composites is to an adequate level of density for the JORC Classification. Consideration of the operational mining rate and production of THM has been undertaken in order to assess whether the mineral assemblage composites are providing enough detailed coverage of potential variability in the mineral assemblage along the length of the deposit.

#### Mining and metallurgical methods and parameters

Additional mineral species chemistry and processing analysis is planned from a representative, 6.5 tonne bulk sample collected from the Koko Massava deposit, and which is currently in processing at the IHC Mining metallurgical test facilities in Brisbane, Australia. The purpose is to understand potential process flowsheets, product recoveries and specification of products required for marketing purposes. No mining studies have yet been undertaken on the Koko Massava deposit.



#### **Competent Persons' Statement**

The information in this report, as it relates to Mozambique Exploration Results is based on information compiled and/or reviewed by Mr JN Badenhorst, who is a member of the South African Council for Natural Scientific Professions (SACNASP) and the Geological Society of South Africa (GSSA). Mr Badenhorst is a consultant of the Company and has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which has been undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Badenhorst consents to the inclusion in this report of the matters based on the information in the form and context in which they appear.

The information in this announcement that relates to Mineral Resource estimates and Exploration Targets is based on and fairly represents information and supporting documentation prepared, compiled and reviewed by Mr. Greg Jones (FAusIMM) who is an employee of IHC Mining and is acting as a consultant to the Company. Mr. Jones is a Fellow of the Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being reported on to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Jones has reviewed this report and consents to the inclusion in the report of the matters in the form and context with which it appears.

This release is authorized by the Board of MRG Metals Ltd.

## For more Information please contact:

**MRG Metals** 

Andrew Van Der Zwan Chairman

M: +61 (0) 400 982 987

E: andrew@mrgmetals.com.au

**Investor Relations** 

Victoria Humphries NWR Communications M: +61 (0) 431 151 676

E: victoria@nwrcommunications.com.au



	Section 1 Sampling	Techniques and Data
Criteria	Explanation	Comment
Sampling techniques	Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.  Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.  Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where	<ul> <li>A sample of sand, approximately 20g, was scooped from the sample bag of each sample interval for wet panning and visual estimation.</li> <li>The same sample mass is used for every pan sample visual estimation.</li> <li>The consistent sized pan sample is to ensure visual calibration is maintained for consistency in percentage visual estimation of total heavy mineral (THM).</li> <li>Geotagged photographs are taken of each panned sample with the corresponding sample bag to enable easy reference at a later date</li> <li>The larger 1.5m interval auger drill samples were homogenized prior to being grab sampled for panning.</li> <li>Visual estimated THM% results are filtered to determine which holes are sent for laboratory analysis. Only holes with average uncut downhole grade ≥3% visual estimated THM are sent for heavy liquid separation laboratory analysis.</li> <li>The large 1.5m drill samples have an average of about 4kg and were split down in Mozambique to approximately 300-600g by riffle splitter for export to the Primary processing laboratory.</li> <li>At the laboratory the 300-600g laboratory sample was dried and split to 100g, de-slimed (removal of -45µm fraction) and oversize (+1mm fraction) removed, then subjected to heavy liquid separation using TBE to determine total heavy mineral (THM) content.</li> <li>Aircore drilling were used to obtain samples at 1.5 or 3 m intervals from various drilling programmes. The following information covers the sampling process:</li> <li>a sample of sand, approx. 20 g, is scooped from the sample bag for visual THM% and SLIMES% estimation and logging. The same sample mass</li> </ul>



Criteria	Explanation	Comment
	there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	<ul> <li>is used for every pan sample for visual THM% and SLIMES% estimation;</li> <li>the standard sized sample is to ensure calibration is maintained for consistency in visual estimation;</li> <li>geotagged photographs are taken for each panned sample with the corresponding sample bag to enable easy reference at a later date</li> <li>a sample ledger is kept at the drill rig for recording sample intervals;</li> <li>the 1.5 m Aircore drill samples have an average mass of about 10 kg.</li> <li>all samples were split down to approximately ~300 to ~600 g by a 3-tier rifle splitter for export to the primary processing laboratory;</li> <li>the laboratory sample was oven dried at 60 degrees overnight, hand crushed and screened to remove +3 mm fraction. Full sample wet screened, then the -1mm +45μm samples split by Jones splitter to between 150 and 200g. A laboratory repeat was taken at ~1 in 25 samples;</li> <li>all drill hole sub-samples were screened using vibrating screens with a top screen of 1 mm and a bottom screen of 45 μm. Oversize (+1 mm fraction) was removed and -45 μm fraction (SLIMES) discarded. The sand fraction (1 mm to +45 μm) was then submitted for heavy liquid separation using TBE to determine total heavy mineral content.</li> <li>field duplicates were taken at a rate of ~1 in 25 and are inserted blindly into the sample batches.</li> <li>Lab obtained standards were inserted at a rate</li> </ul>
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is	of ~ 1 in 50 into the sample.  Hand Auger drilling is a manual hand operated system produced by Dormer Engineering in Australia.  • Drill rods and drill bits are 1m long.  • The auger is a 62mm open hole drilling technique.  • All holes have been drilled vertically.  • The drilling onsite is governed by a Hand Auger Drilling Guideline to ensure consistency in application of the method.  • A wooden surface collar is placed on the ground at the beginning of each hole to prevent



Criteria	Explanation	Comment
	oriented and if so, by what method, etc).	widening of the collar and material falling into the hole.  For Aircore drilling Bamboo rock drilling Limitada was the contractor used for the aircore drilling program.  • Aircore drilling with inner tubes for sample return was used for the infill drilling program.  • Aircore drilling is considered a standard industry technique for HMS mineralisation. Aircore drilling is a form of reverse circulation drilling where the sample is collected at the face and returned inside the inner tube.  • Aircore drill rods used were 3 m long.  • NQ diameter (76 mm) drill bits and rods were used.  • All drill holes were vertical.  • The drilling is governed by the Aircore Drilling Guideline procedure to ensure consistency in the application of the method.
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.	<ul> <li>Auger drilling is considered to be an early stage relatively unsophisticated technique of drilling.</li> <li>The auger drill used is an open hole method and recovery of sample extracted from the holes is measured by spring balance at the drill site.</li> <li>Samples are consistently collected at 1.5m intervals.</li> <li>No significant losses of auger sample were observed due to the shallow depths of drilling (&lt;12m).</li> <li>The initial 0–1.5m interval in each auger hole is drilled with care to maximize sample recovery.</li> <li>There is potential for contamination in open hole drilling techniques but sample bias is not likely due to the shallow drill hole depths.</li> <li>All Aircore 1.5 or 3.0 m samples are weighed with a spring scale at the drill rig, if the sample is wet it is air dried at the enclosed storage facility and weiged.</li> <li>While initially collaring the aircore hole, limited sample recovery can occur in the initial 0 m to 3 m drill depth interval owing to sample and air loss into the surrounding loose soil.</li> </ul>



Criteria	Explanation	Comment
		<ul> <li>The initial 0 m to 1.5 m and 1.5 m to 3 m sample intervals are drilled very slowly in order to achieve optimum sample recovery.</li> <li>The entire 1.5 m sample is collected at the drill rig in large numbered plastic bags for dispatch to the onsite split preparation facility.</li> <li>At the end of each drill rod, the drill string is cleaned by blowing down with air to remove any clay and silt potentially built up in the sample pipes and cyclone.</li> <li>The twin-tube aircore drilling technique is known to provide high quality samples from the face of the drill hole (in ideal conditions).</li> <li>All wet and moist sample are placed into large clean open plastic bags to sun-dry prior to riffle splitting the sub-sample.</li> </ul>
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 in nature. Core (or costean, channel, etc) photography.  The total length and percentage of the relevant intersections logged.	<ul> <li>All auger and Aircore samples were each qualitatively logged onto paper field log sheets prior to transcribing into Microsoft Excel spreadsheet. The data was uploaded to the Microsoft Access database and subjected to numerous validation queries.</li> <li>An access database is then produced, with additional validation checks.</li> <li>The samples were logged for lithology, colour, grainsize, sorting, hardness, estimated THM%, estimated SLIMES% and any relevant comments such as slope, vegetation, or cultural activity.</li> <li>Every drill hole was logged in full.</li> <li>Field photographs are taken of each panned sample alongside the sample bag with sample number to track numbers of samples per hole and cross reference with laboratory data.</li> <li>Logging is undertaken with reference to a Drilling Guideline (Hand Auger Drilling Guideline and Aircore Drilling Guideline) with codes prescribed and guidance on description to ensure consistent and systematic data collection.</li> <li>Data is backed-up each day at the field base to a cloud storage site.</li> <li>Data from the Microsoft Excel spreadsheets is imported into a Microsoft Access database and</li> </ul>



Criteria	Explanation	Comment
		the data is subjected to numerous validation queries to ensure data quality.
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 subsampling 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.	<ul> <li>For Auger the 1.5m drill sample composites were homogenized at the drill site and then cone-and-quarter split onsite and inserted into clean calico sample bags with metal sample tag according to the Hand Auger Drilling Guideline.</li> <li>At the sample shed, the samples were homogenized within the calico bag by rotating it and then fed through a single tier riffle splitter that is placed on a hard surface and levelled, to reduce samples to 300-600g sub-samples for export to the Primary processing laboratory.</li> <li>The 300-600g sub-sample is deposited into a new labelled calico sample bag with metal sample tag and prepared to be sent to the Primary laboratory for analysis.</li> <li>Where samples were wet when sampled, they were dried in clean plastic basins prior to riffle splitting.</li> <li>The entire 1.5 or 3.0m aircore sample collected at the rig was dispatched to the sample preparation facility where each sample was split down to 300 to 600 g using a three-tier riffle splitter. The split samples were labelled and bagged for export to the primary laboratory for processing.</li> <li>Any wet samples were dried on clean plastic bags at the enclosed storage facility prior to splitting and the water table depth was noted in all geological logs if intersected.</li> <li>The remaining portion of both the 1.5 m aircore samples was returned to their original bags and stored at the onsite secure warehouse for future reference.</li> <li>A total of ~300 g to ~600 g of each sample was placed into calico sample bags and exported to MAK Analytical is South Africa for THM analysis.</li> <li>All the samples are sand or sandy in nature and this sample preparation method is considered appropriate.</li> </ul>



Criteria	Explanation	Comment
		<ul> <li>The sample sizes were deemed suitable to reliably capture THM, slime, and oversize characteristics, based on industry experience of the geologists involved and consultation with laboratory staff.</li> <li>Field duplicates of all the samples were completed at a frequency of 1 per 25 primary samples. Standard reference Material (SRM) samples were inserted into the aircore sample batches at a frequency rate of 1 per 50 samples</li> <li>A geologist supervises the sample splitting process.</li> </ul>
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.  For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.  Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	<ul> <li>The wet panning of samples provides an estimate of the THM% which is sufficient for the purpose of determining approximate concentrations of THM in the first instance.</li> <li>The field visual THM estimates are compared to actual THM assays and this allows the geologist to calibrate the visual estimates with known grades.</li> <li>The 300g-600g aircore sub-samples were assayed by MAK Analytical is South Africa or Western Geolabs in Western Australia, both are considered the Primary laboratory.</li> <li>The aircore samples were initially oven dried at 60 degrees Celsius overnight until samples were completely dry. Samples were primarily sieved to remove the +3 mm fraction and the weight recorded.</li> <li>Full sample is left to soak overnight. Wet screening is undertaken on a static screen stack of the full sample with a 1mm top screen and a 45μm bottom screen. Water is added to the washing process and manual scrubbing of the sample is undertaken as the agitation process</li> <li>All samples were then wet washed and sieved on vibrating screens using a top screen of +1 mm to remove the very coarse sand, pebbles or grits. The bottom screen used 45 μm mesh for removal and determination of the -45 μm fraction (SLIMES).</li> <li>The -1 mm +45 μm fraction was reduced on a Jones splitter to between 150g and 200g and</li> </ul>



Criteria	Explanation	Comment
		<ul> <li>then submitted to heavy liquid separation ('HLS').</li> <li>The laboratory used TBE as the heavy liquid medium – with density of 2.96 g/ml. This is an industry standard technique for HLS.</li> <li>Field duplicates of the samples were collected and submitted at a frequency of 1 per 25 primary samples;</li> <li>MAK Analytical and Western Geolabs completed their own internal QA/QC checks that included a Laboratory repeat every 25th sample prior to the results being released;</li> <li>Analysis of QA/QC samples show the laboratory data to be of acceptable accuracy and precision;</li> <li>The density of the heavy liquid was checked every day.</li> <li>The adopted QA/QC protocols are acceptable for this stage of test work.</li> </ul>
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.	<ul> <li>All results are checked by the company's Chief Geologist</li> <li>Significant visual estimated THM values &gt; 6% are verified by the Chief geologist in the field or via field photographs of the pan sample.</li> <li>The independent Resource geologist (Greg Jones) have visited Western Geolabs, with MRG's independent competent person visiting MAK Analytical to observe sample processing and procedure.</li> <li>A process of laboratory data validation using mass balance is undertaken to identify entry errors or questionable data.</li> <li>Field and laboratory duplicate data pairs (THM/OS/SLIME) of each batch are plotted to identify potential quality control issues.</li> <li>Standard Reference Material sample results are checked from each sample batch to ensure they are within tolerance (&lt;3SD) and that there is no bias.</li> <li>Field data was manually transcribed from paper logs into a master Microsoft Excel spread sheet. Data is then imported into Microsoft Access Database where it is subject to validation.</li> <li>The field and laboratory data was exported from the MRG Microsoft Access database and</li> </ul>



Criteria	Explanation	Comment
		<ul> <li>imported into Datamine by IHC Robbins which is appropriate for this stage in the program. Data validation criteria are included to check for overlapping sample intervals, end of hole match between 'Lithology', 'Sample', 'Survey' files and other common errors.</li> <li>No twin holes were drilled in the programmes.</li> <li>No adjustments have been made to the primary assay data.</li> <li>Inter-laboratory and twin drilling QA/QC</li> <li>Three twin aircore drilled holes of previously drilled aircore holes were done.</li> <li>A three-way inter-laboratory QA/QC analytical check process of &gt;5% of the samples (92 samples exclusive of QA/QC samples) between MAK Analytical in South Africa, Western Geolabs and Diamantina from Western Australia was undertaken.</li> <li>Good (results of MAK vs Geolabs and Diamantina) to very good (results of Geolabs vs Diamantina) correlation were established.</li> <li>Additionally, 40 samples from one aircore holes drilled as twin drillholes at Nhacutse were analysed by MAK Analytical and Western Geolabs.</li> <li>Good correlation was established from the analytical results.</li> </ul>
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.	<ul> <li>Down hole surveys for shallow vertical aircore holes are not required.</li> <li>A handheld Garmin GPS was used to identify the positions of the drill holes in the field. The handheld GPS has an accuracy of +/-5m in the horizontal.</li> <li>The datum used is WGS84 zone 36 and coordinates are projected as UTM zone 36S.</li> <li>Topographic surface generated using the contours from the differential GPS navigation system of the airborne magnetic and radiometric geophysical survey carried out by Geotech Ltd in April 2019.</li> <li>To account for the disparity between collars and the topographic DTM all drill hole collars were pinned to the supplied topography wireframe</li> </ul>



Criteria	Explanation	Comment
		<ul><li>surface.</li><li>The accuracy of the locations is sufficient for this stage of exploration.</li></ul>
Data spacing and distribution	Data spacing for reporting of Exploration Results.  Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.  Whether sample compositing has been applied.	<ul> <li>Infill aircore drilling reduced the drill spacing within this area to ~250 m between hole stations and ~500 m between drill lines; with some holes at ~250 m spacing between the ~500 m spaced drill lines as well.</li> <li>The drilling program in the Corridor South (6621L) licence involved the drilling of 273 hand auger and 127 aircore holes.</li> <li>The 250 m x 500 m spaced aicore holes and regular grid on the infill drilled area of the deposit confirm the mineralisation continuity along strike.</li> <li>Each auger sample is a 1.5 m single sample, while each aircore sample is a 1.5 or 3.0 m single sample of sand intersected down the hole.</li> <li>No down hole compositing has been applied to models for values of THM, slime and oversize.</li> <li>Compositing of samples (27 composite samples) was undertaken on THM concentrates for mineral assemblage determination. The mineral assemblage composite samples were determined by geological domains.</li> </ul>
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.	<ul> <li>The infill aircore drilling in a portion of the Nhacutse and Poiombo area was oriented perpendicular to the strike of mineralisation defined by auger and aircore drill data and geophysical data interpretation.</li> <li>The strike of the mineralisation is approximately north-south.</li> <li>All drill holes were vertical and the orientation of the mineralisation is relatively horizontal.</li> <li>The orientation of the drilling is considered appropriate for testing the lateral and vertical extent of mineralisation without any bias.</li> </ul>



Criteria	Explanation	Comment
Sample security	The measures taken to ensure sample security.	<ul> <li>All samples remain in the custody of Company representatives for all transport to Maputo for final packaging and securing, as well as transport to South Africa to MAK Analytical laboratory.</li> <li>The samples for iter-laboratory QA/QA work were dispatched to Perth using DHL commercial shipping company and delivered directly to Western Geolabs and then to Diamantina.</li> <li>The laboratories inspected the packages and did not report tampering or any other problems with the samples.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Internal reviews, and reviews by IHC Mining, were undertaken during the geological interpretation and throughout the modelling process.

Section 2 Reporting of Exploration Results		
Criteria	Explanation	Comment
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.	<ul> <li>The exploration work was completed on the Corridor Central tenement (6621 L) which is 100% owned by the company through its subsidiary, Sofala Mining and Exploration Limitada, in Mozambique.</li> <li>The drill samples for this Mineral Resource estimate were taken from tenement 6621 L.</li> <li>The Exploration License original date of grant was 04/12/2014 with an expiry date of 04/12/2019 and comprises an area of 20.752,49 hectares (207.5 km²).</li> <li>All granted tenements have initial 5 year terms, renewable for 3 years. An application for renewal of tenement 6621L was submitted in 23 September 2019 and is under review.</li> <li>An Environment Management Plan was prepared by an independent consultant and submitted to the Gaza Provincial Directorate of Lands, Environment and Rural Development in accordance with Mining Law and Regulations.</li> </ul>



Criteria	Explanation	Comment
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Historic exploration work was completed by Corridor Sands Limitada, a subsidiary of Southern Mining Corporation and subsequently Western Mining Corporation, in 1989. BHP-Billiton acquired western Mining Corporation and undertook a Bankable Feasibility study of the Corridor Deposit 1 about 15 km north of the Company's tenements.</li> <li>The Company has obtained digital data in relation to historic information as part of its historical review in preparation for their current work program.</li> <li>The historic data comprises limited Aircore/Reverse Circulation drilling.</li> <li>The historic results are not reportable under JORC 2012.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>Two types of heavy mineral sand mineralisation styles are possible along coastal Mozambique:         <ol> <li>Thin but high grade strandlines which may be related to marine or fluvial influences.</li> <li>Large but lower grade deposits related to windblown sands.</li> </ol> </li> <li>The coastline of Mozambique is well known for massive dunal systems such as those developed near Inhamabane, near Xai, Xai and in Nampula Province. Buried strandlines are likely in areas where palaeoshorelines can be defined along coastal zone.</li> </ul>
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	<ul> <li>All relevant drill hole data is reported regarding the 2021 drilling programs.</li> <li>All relevant drill hole data is reported associated with the model build.</li> </ul>



Criteria	Explanation	Comment
	- dip and azimuth of the hole - down hole length and interception depth - hole length.  If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.	<ul> <li>No data aggregation methods were utilised, no top cuts were employed and all cut-off grades have been reported.</li> <li>For the updated Global resource, Total Heavy Mineral (THM) &gt;4% was used to provide cut-off grade for reporting the Mineral Resource estimate. A higher grade area was identified and reported at a cut-off grade of &gt;5% THM.</li> </ul>
	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	



Criteria	Explanation	Comment
	equivalent values should be clearly stated.	
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.  If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.  If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	<ul> <li>The nature of the mineralisation is broadly horizontal / has a low dip angle, thus vertical aircore holes are thought to represent close to true thicknesses of the mineralisation.</li> <li>Downhole widths are reported.</li> </ul>
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	Refer to the main body of the report.



Criteria	Explanation	Comment
	appropriate sectional views.	
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Exploration Target results have been reported at THM>3% and 5% to indicate a range of potential tonnes and grade (refer to Table 2.)
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; bulk samples — size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	<ul> <li>Detailed mineral assemblage work was undertaken on composite samples for the Project by SJMetMin in South Africa. Quantitative Evaluation of Minerals by Scanning Electron Microscopy (QEMSCAN) was used to analyse the mineralogy for the deposit. This was to gain a quantitative understanding of the elemental composition and mineralogical assemblage (refer Table 5).</li> <li>Sample preparation required each sub-sample was mixed with size-graded, high purity graphite to ensure particle separation and discourage density segregation. These sample-graphite mixtures were then set into moulds using a two-part epoxy resin, producing a representative sub-sample of randomly orientated particles. Once cured, the resin blocks were then cut to expose a fresh surface which is then gradually ground and polished. Once QA/QC checks are completed the sections are then carbon coated for electron beam conductivity and presented to QEMScan for analysis.</li> <li>The samples were analysed using QEMScan technology in Field Scan Mode (FS) and Particle Mineralogical Analysis (PMA) mode.</li> </ul>



Criteria	Explanation	Comment
		<ul> <li>Detailed logging of heavy mineral sinks from the drill assay process was carried out to determine regions of gross mineralogy as well as an overall consideration of valuable heavy mineral (VHM) content. Other considerations undertaken during the detailed logging were the sorting and grain size and any moisture content in relation to ground water table.</li> <li>Geological logging then had partial input into the geological/mineralogical/THM grade interpretation which then assisted with domain control for modelling, as well as providing guidance for the allocation of mineral assemblage composites.</li> <li>Three (3) individual domains were identified for the Nhacutse and Poiombo deposits for the purpose of guiding the allocation of composites.</li> <li>A total of 27 mineral assemblage composites were used to characterise the mineralogy and chemistry for the two deposits.</li> <li>All the mineral assemblage composites were completed by MRG.</li> <li>Individual drill hole samples were selected based on whether they fell within a particular domain, and were then proportioned against contained THM grade in order to specify the weight of THM that each sample would contribute to the entire composite.</li> <li>Once all of the sample compositing was completed, the sample identification and mineral assemblage composite number was submitted to SJMetMin, South Africa for sample collation and processing.</li> <li>Preparing the mineral assemblage composites in this manner allows for composite results to be applied to the resource block model and for those results to then be reported and weighted on THM in the final Mineral Resource estimate.</li> </ul>
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or	Pit-optimisation studies, additional aircore drilling and sampling, infill drilling and sampling and HLS analysis is planned to further improve the Mineral Resource confidence.



Criteria	Explanation	Comment
	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.	<ul> <li>High quality targets generated from reconnaissance work are planned to be drilled with aircore techniques.</li> <li>Mineral Assemblage composite analysis to determine the valuable heavy mineral component of the deposit</li> <li>TIO2 and contaminant test work analyses are planned for the future.</li> </ul>

Section 3 Estimation and Reporting of Mineral Resources		
Criteria	Explanation	Comment
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.	<ul> <li>Exploration data was provided by the company to IHC Mining in the form a Microsoft Access database.</li> <li>Checks of data by visually inspecting on screen (to identify translation of samples), duplicate assays was visually examined to check the reproducibility of assays.</li> <li>Database assay values have been subjected to random reconciliation with laboratory certified value is to ensure agreement.</li> <li>Visual and statistical comparison was undertaken to check the validity of results.</li> </ul>
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.	Regular site trips before and during the resource drilling programme were undertaken by Mr Kobus Badenhorst to observe the drilling data collection, and sampling activities.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	<ul> <li>The geological interpretation was undertaken by IHC Mining in collaboration with the company's Chief Geologist and then validated using all logging and sampling data and observations.</li> <li>Current data spacing and quality is sufficient to indicate grade continuity.</li> </ul>



Criteria	Explanation	Comment
	Nature of the data used and of any assumptions made.  The effect, if any, of alternative interpretations on Mineral Resource.  The use of geology in guiding and controlling Mineral Resource estimation.  The factors affecting continuity both of grade and geology.	<ul> <li>Interpretation of modelling domains was restricted to the main mineralised envelopes utilising THM, SLIMES, oversize, mineralogy and geological logging. The interpretation of domains was also aided by the utilisation lithological colour logging which assisted with distinguishing domain boundaries.</li> <li>The Mineral Resource estimate was controlled by the geological surfaces, and basement surfaces.</li> <li>There are two main sheet-like horizons of mineralisation within the Project area which are predominantly ilmenite enriched. The two zones are geologically continuous with variable THM grades along and across strike. Zone 1 is immediately below the topography and is reddish in colour while Zone 2 is brownish in colour and sits between Zone 1 and the basement.</li> <li>The contact between the two mineralised zones is gradational. There are elevated SLIMES values around the contact and mostly confined to Zone 1.</li> </ul>
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The Mineral Resource field for the Project is approximately 8 km in length (at the longest point) and 7 km wide (at the widest point).  The Mineral Resource field for the Project is approximately 8 km in length (at the longest point) and 7 km wide (at the widest point).
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	The Mineral Resource estimate was prepared using Datamine Studio RM mining software. Inverse distance weighting techniques and ordinary kriging were used to interpolate assay grades from drill hole samples into the block model and nearest neighbour techniques were used to interpolate index values and nonnumeric sample identification into the block model. The mostly regular dimensions of the drill grid and the anisotropy of the drilling and sampling grid allowed for the use of inverse distance methodologies as no de-clustering of samples was required.



Criteria	Explanation	Comment
	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 byproducts.  Estimation of deleterious elements or other non-grade variables of economic significance (eg 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.  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.	Appropriate and industry standard search ellipses were used to search for data for the interpolation and suitable limitations on the number of samples and the impact of those samples was maintained. An inverse distance weighting power of 3 was used so as not to over smooth the grade interpolations. Hard domain boundaries were used and these were defined by the geological wireframes that were interpreted.  No assumptions were made during the resource estimation as to the recovery of byproducts.  SLIMES and oversize contents are estimated at the same time as estimating the THM grade.  Further detailed geochemistry is required to ascertain deleterious elements that may affect the marketability of the heavy mineral products.  The average parent cell size used for the interpolation was half the standard drill hole width and half the standard drill hole section line spacing.  No assumptions were made regarding the modelling of selective mining units however it is assumed that a form of dry mining will be undertaken and the cell size and the sub cell splitting will allow for an appropriate dry mining preliminary reserve to be prepared. Any other mining methodology will be more than adequately catered for with the parent cell size that was selected for the modelling exercise.  No assumptions were made about correlation between variables.  The Mineral Resource estimates were controlled to an extent by the geological / mineralisation and basement surfaces.  Grade cutting or capping was not used during the interpolation because of the regular nature of sample spacing and the fact that samples were not clustered nor wide spaced to an extent where elevated samples could have a deleterious impact on the resource estimation.



Criteria	Explanation	Comment
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	<ul> <li>Sample distributions were reviewed and no extreme outliers were identified either high or low that necessitated any grade cutting or capping.</li> <li>The sample length of 1.5 m and 3 m does result in a degree of grade smoothing, also negating the requirement for grade cutting or capping.</li> <li>Validation of grade interpolations were done visually In CAE Studio (Datamine) software by loading model and drill hole files and annotating and colouring and using filtering to check for the appropriateness of interpolations.</li> <li>Statistical distributions were prepared for model zones from drill hole and model files to compare the effectiveness of the interpolation. Along strike distributions of section line averages (swath plots) for drill holes and models were also prepared for comparison purposes.</li> </ul>
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages were estimated an assumed dry basis.
Cut-off parameters	The basis of the adopted cut- off grade(s) or quality parameters applied.	<ul> <li>Cut-off grades for THM were used to prepare the reported Mineral Resource estimates. These cut-off grades were defined by the Competent Person by considering the continuity of mineralisation at that cut-off-grade as well as the inflection points on the grade tonnage curves of the Nhacutse and Poiombo deposits. This was used to report the block model on material &gt;4% THM for the global Mineral Resource estimate, and at 5% THM for the high grade infill drilled area.</li> <li>Consideration was taken into account for a modest stripping ratio to ensure that deeply buried material with a very low likelihood of eventual economic extraction was not selected for reporting in the Mineral Resource estimate. The average stripping ratio</li> </ul>



Criteria	Explanation	Comment
		considered for the Mineral Resource estimate was between 0.75 and 1.25.  The selected cut-off grades are also in line with other deposits of similar mineral assemblage.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	<ul> <li>No specific mining method is assumed other than potentially the use of dry mining methods.</li> <li>Dozer trap or hydraulic monitoring mining could be amenable mining techniques given the high faces, moderate SLIMES and continuous THM grades.</li> </ul>
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	Metallurgical assumptions were used based on mineral assemblage composites which at this stage only allow for preliminary commentary with no final products being defined from the reported mineral species.



Criteria	Explanation	Comment
Environmental factors or	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.  Assumptions made regarding possible waste and process	No assumptions have been made regarding possible waste and process residue however disposal of by products such as SLIMES, sand
assumptions	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.	and oversize are normally part of capture and disposal back into the mining void for eventual rehabilitation. This also applies to mineral products recovered and waste products recovered from metallurgical processing of heavy mineral.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If	A bulk density algorithm was prepared using first principles techniques coupled with industry experience that is exclusive to IHC



Criteria	Explanation	Comment
	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 between rock and alteration zones within the deposit.  Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Mining. We believe the bulk density formula to be conservative and fit for purpose at this level of confidence for the Mineral Resource estimates and based on our experience and we would also recommend that bulk density test work be undertaken going forward.  • A bulk density (BD) was applied to the model using a standard linear formula originally described by Baxter (1977). This approach was refined in a practical application by this author using the following first principles calculations to develop a regression formula. This regression formula was then used to calculate the conversion of tonnes from each cell volume and from there the calculation of material, THM and SLIMES tonnes.  • The bulk density formula is described as:  • Bulk Density = (0.009 * HM) + 1.698
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.	<ul> <li>The Mineral Resource classification for the Nhacutse and Poiombo deposits was based on the following criteria: drill hole spacing, geological and grade continuity, variography of primary assay grades and the distribution of bulk samples.</li> <li>The classification of the Indicated and Inferred Mineral Resources was supported by all of the supporting criteria as noted above.</li> <li>As a Competent Person, Greg Jones considers that the result appropriately reflects a reasonable view of the deposit categorisation.</li> </ul>
Audits or reviews.	The results of any audits or reviews of Mineral Resource estimates.	No audits or reviews of the Mineral Resource estimate have been undertaken at this point in time.



Criteria	Explanation	Comment
Discussion of relative accuracy/confidence	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 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.	<ul> <li>Local (nearest neighbour) estimates were undertaken as a preliminary evaluation process. The overall grade interpolation for this method was a fair comparison with inverse distance weighting methodology.</li> <li>A comparision of the ordinary kriging was also made with the IDW method and both results were shown to be comparable.</li> <li>Validation of the model vs drill hole grades by observation, swathe plot and population distribution analysis was favourable</li> <li>The statement refers to global estimates for the entire known extent of the Nhacutse and Poiombo deposits.</li> <li>No production data is available for comparison with the Nhacutse and Poiombo deposits.</li> </ul>