ASX RELEASE

ASX: MRC

7 December 2021

SIGNIFICANT INCREASE IN TORMIN INLAND STRANDS' MINERAL RESOURCES

- **Tormin Inland Strands' Mineral Resources increased to 212 million tonnes at 9% THM[1],containing 19 million tonnes in situ Heavy Mineral.**
- **This comprises:**
  - **Western Strandline resources expanded to 193 million tonnes at 9.5% THM, representing an increase of 82% of the Mineral Resources; and**
  - **Maiden Mineral Resources for the Eastern Strandline of 19.5 million tonnes at 3.3% THM.**

Mineral Commodities Ltd ("MRC" or "the Company") and its empowerment partner, Blue Bantry Investments 255 (Pty) Ltd, are pleased to announce an updated Mineral Resource Estimate for the Western Strandline and a maiden Mineral Resource Estimate for the Eastern Strandline, both forming part of the Tormin Inland Strands deposit. The Inland Strands are located within Prospecting Right 10262PR (WC 30/5/1/1/2/10262PR) owned by the Company's 50% owned South African subsidiary, Mineral Sands Resources (Pty) Ltd ("MSR").

The Mineral Resources were prepared in accordance with the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code (2012)"). The updated Mineral Resource for the Western Strandline is estimated at **193.2 million tonnes at 9.5% Total Heavy Mineral ("THM")** using a 2% THM cut-off grade, and the maiden Mineral Resource for the Eastern Strandline is estimated at **19.5 million tonnes at 3.3% THM** using the same 2% THM cut-off grade. Pursuant to ASX Listing Rule 5.8, and in addition to the information contained in the body of this release, please refer to JORC Table 1 in Appendix 1 and 2, which is material to understanding the estimates of the Mineral Resources.

Chief Executive Officer Jacob Deysel said, "*This is a very significant milestone for growing our mineral sands business in the Western Cape region of South Africa. The Tormin Western Strandline is a world class mineral sands deposit, and the Eastern Strandline presents an additional resource to further expand MSR's conventional mineral sands resources. The Strandlines are open along strike to the north and south of our Prospecting Right 10262PR, both areas over which MSR has prospecting rights under application. We look forward to delivering a maiden Ore Reserve in the next quarter and further drilling thereafter in line with our development and growth plans for our mineral sands business".*

[1] Total Heavy Minerals (''THM'') includes all minerals that report as sink during heavy liquid separation at a specific gravity ("SG") of 2.96 (''TBE'') after desliming, within the 45 microns to 1mm size fraction as a percentage of the total material.

The addition of the Eastern Strandline maiden Mineral Resource and the updated Western Strandline Mineral Resource, takes the combined Inland Strands' resources to **212.7 million tonnes at 9% THM, containing 19.1 million tonnes in situ Heavy Mineral** (Table 1).

Table 1- Total Mineral Resources for the Tormin Inland Strands (2% THM cut-off grade)

Project	Category	Tonnes (Mt)	THM (%)	In Situ THM (Mt)	Zircon (% HM)	Garnet (% HM)	Ilmenite (% HM)	Rutile (% HM)	Anatase (% HM)	Magnetite (% HM)	Slimes (%)
Western Strandline	Measured	32.7	19.21	6.2	1.82	12.49	7.91	1.09	0.21	0.52	10.39
	Indicated	39.7	9.48	3.7	1.05	14.77	3.80	0.84	0.21	0.74	5.07
	Inferred	119.2	6.93	8.2	2.60	10.68	18.04	1.44	0.29	0.43	9.59
	Stockpile	1.6	12.84	0.2	4.21	18.85	25.78	1.95	0.39	0.78	15.77
	Total	**193.2**	**9.58**	**18.5**	**2.16**	**11.89**	**13.46**	**1.26**	**0.25**	**0.51**	**8.85**
Eastern Strandline	Indicated	1.9	5.34	0.1	6.12	15.71	35.44	7.73	0.92	0.89	8.55
	Inferred	17.5	3.13	0.5	6.35	14.39	36.74	6.09	1.19	0.51	7.97
	Total	**19.5**	**3.36**	**0.6**	**6.32**	**14.52**	**36.60**	**6.25**	**1.16**	**0.57**	**8.03**
Grand Total		**212.7**	**9.00**	**19.1**	**2.54**	**12.13**	**15.58**	**1.71**	**0.33**	**0.52**	**8.77**

- Mineral assemblage reported as in situ percentage of THM content.
- Tonnes and grades numbers may not compute due to rounding.

The resource upgrade at the Inland Strands demonstrates the significant potential of the world-class Tormin Mineral Sands Operation and the opportunity to materially expand its scale and extend mine life subject to further permitting.

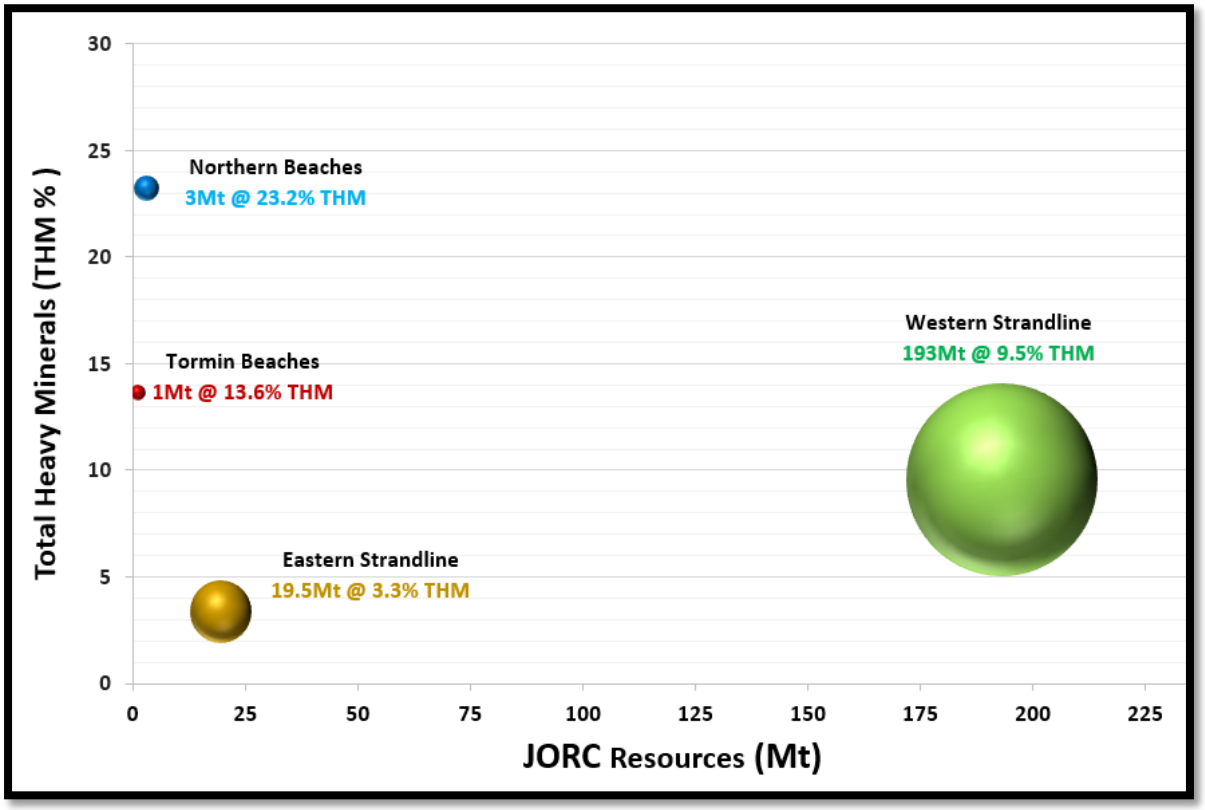

Figure 1: Tormin Deposits Comparison by Resource Size and Grade - November 2021.

Background

The Tormin operation is located approximately 370km north of Cape Town and approximately 30km from the township of Lutzville in the Republic of South Africa.

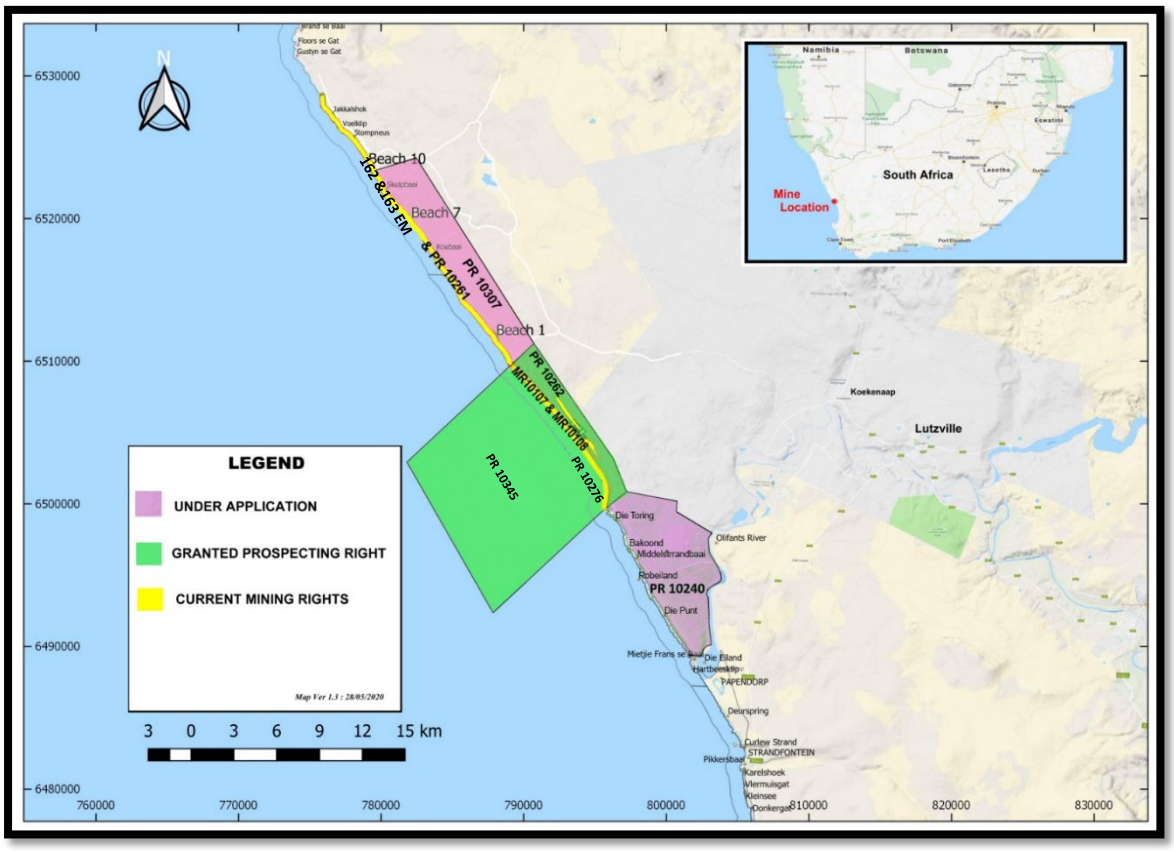

Figure 2: Geographical location of the MSR's tenements in the Western Cape province of South Africa.

The Inland Strands comprise multiple discrete palaeo strandlines running semi-parallel to the coastline and within the MSR-owned Geelwal Karoo Farm 262. Two palaeo-marine strandlines have been identified, consisting of a Western Strandline (35-40m above mean sea level) and an Eastern Strandline (~86m above mean sea level). Aeromagnetic data indicates that the Inland Strands run continuously along the coastline of MSR's tenure portfolio, including 10240PR to the south and its application for 10348PR to the north.

In January 2020[2], MSR was granted Prospecting Right 10262PR covering an area of 1,741 hectares and some 12km in length. The first phase of the resource drilling (~7,000 metres) focused on the Expanded Mining Right area (162&163EM) and commenced in mid-February 2020. In August 2020[3], MRC reported a maiden JORC Code (2012) compliant resource of 106 million tonnes at 12.4% THM in the category of Measured, Indicated and Inferred using a 2% cut-off.

The second phase of the resource drilling campaign commenced in the first half of December 2020 and was completed in May 2021, with a total of 9,831m drilled on the

[2] Refer ASX announcement entitled 'MRC Receives Registered Prospecting Rights at Tormin' dated 30 January 2020.

[3] Refer ASX announcement entitled 'Massive Increase in Mineral Resources at Tormin with Maiden Resource at Western Strandline' dated 27 August 2020.

Inland Strands, including resource definition drilling at Eastern Strandline and extensional and infill drilling of the known mineralised zones on the Western Strandline (Figure 3).

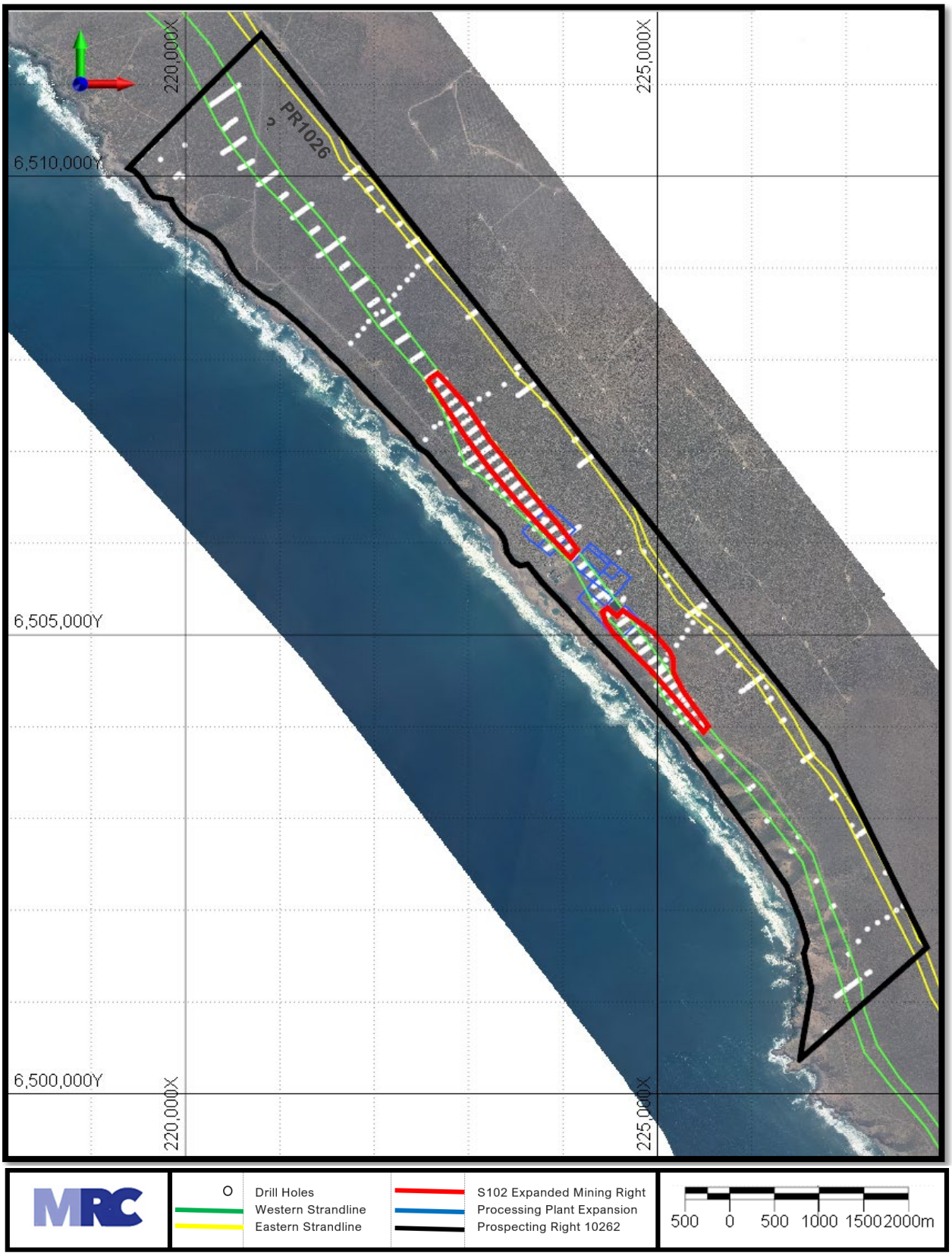

Figure 3: Tormin Overview, showing Western and Eastern Strandlines and drillhole collars within 10262PR.

UPDATED MINERAL RESOURCE OF WESTERN STRANDLINE

A total of 6,049 metres drilled by air-core (179 holes) for the resource update of the Western Strandline in March-May 2021. The Updated Mineral Resource of Western Strandline is estimated at **193.2 million tonnes at 9.5% THM for 18.5 Mt of contained Heavy Mineral** using a 2% cut-off (Table 2). The resource estimate has been independently peer-reviewed by Wardell Armstrong International. The updated Mineral Resources for the Western Strandline represents: an increase of 82% in Mineral Resources relative to the previous estimate, a 67% increase in Measured and Indicated resources, and a 41% increase in contained Heavy Mineral. Furthermore, 37% of the Mineral Resource is classified as Measured and Indicated.

Table 2- Updated Mineral Resources for the Western Strandline Deposit (2% THM cut-off grade)

Category	Tonnes (Mt)	THM (%)	In Situ THM (Mt)	Zircon (% HM)	Garnet (% HM)	Ilmenite (% HM)	Rutile (% HM)	Anatase (% HM)	Magnetite (% HM)	Slimes (%)
Measured	32.7	19.21	6.2	1.82	12.49	7.91	1.09	0.21	0.52	10.39
Indicated	39.7	9.48	3.7	1.05	14.77	3.80	0.84	0.21	0.74	5.07
Inferred	119.2	6.93	8.2	2.60	10.68	18.04	1.44	0.29	0.43	9.59
Stockpile	1.6	12.84	0.2	4.21	18.85	25.78	1.95	0.39	0.78	15.77
Total	**193.2**	**9.58**	**18.5**	**2.16**	**11.89**	**13.46**	**1.26**	**0.25**	**0.51**	**8.85**

- Mineral assemblage reported as in situ percentage of THM content.
- Tonnes and grades numbers may not compute due to rounding.

Moreover, infill drilling for the resource update increased 80% of the resources within the Expanded Mining Right area (162&163EM) into measured category (Table 3).

Table 3- Updated Mineral Resources Inside the Expanded Mining Right area (2% THM cut-off grade)

- Mineral assemblage reported as in situ percentage of THM content.

Category	Tonnes (Mt)	THM (%)	In Situ THM (Mt)	Zircon (% HM)	Garnet (% HM)	Ilmenite (% HM)	Rutile (% HM)	Anatase (% HM)	Magnetite (% HM)	Slimes (%)
Measured	18.3	22.8	4.1	1.93	13.09	8.73	1.11	0.21	0.57	10.32
Inferred	3.1	5.19	0.1	3.46	17.82	17.55	2.03	0.46	0.65	19.13
Stockpile	1.6	12.84	0.2	4.21	18.85	25.78	1.95	0.39	0.78	15.77
Total	**23**	**20.38**	**4.5**	**2.29**	**14.13**	**11.10**	**1.29**	**0.25**	**0.59**	**11.88**

- Tonnes and grades numbers may not compute due to rounding.

Mining commenced in the Western Strandline in September 2020[4] with 1.6Mt mined from the Southern pit and stockpiled but not processed. This material was depleted from the mineral resources and reported as a stockpile.

A summary of the updated mineral resource estimate is outlined below:

[4] Refer ASX announcement entitled 'Commencement of Mining at Tormin Western Strandline' dated 11 September 2020.

Geology and geological interpretation

The western coastal plain of South Africa embraces a significant resource of detrital heavy minerals by world standards. The heavy mineral sands deposits occur in a current active beach environment (e.g., Tormin and Northern Beaches mine) and in older palaeo-beach raised strandlines found inland. The onshore mineral sands are marine palaeo-terraces "Inland Strands", aeolian sands and fluvial sediments. These targets were formed during Miocene, Pliocene, and Quaternary/Pleistocene coastal transgression and regression cycles.

The strandline is a concentration of enriched heavy mineral with low grade horizons above the strandline in the form of Aeolian facies (Orange Feldspathic Sand), erosion surface facies (dorbank, calcrete) and Red Aeolian Sands deflation zones that have also been confirmed to be mineralised in places. The deposit hosts economic mineralisation in three main geological units of enriched high grade heavy mineral strandline, bulk mineralisation in Orange Feldspathic Sand and low grade in Red Aeolian Sand as well as base bed gravel with an average width of 380m, along a 12km strike.

Drilling techniques and hole spacing

Exploration included 6,049 metres of aircore drilling, that was drilled across 19 lines on 250m x 20m and 125m x 50m spacing (168 holes) between the primary lines in the northern half of the Western Strandline and 5 fence lines 450m apart on 20m spacings (11 holes) on the southern extension of the Western Strandline.

Table 4 – Drill summary supporting the updated Western Strandline mineral resource estimate

Year	Holes	Metres	Samples
August 2020	330	7202	7369
November 2021	179	6049	5462
Total	**509**	**13251**	**12831**

Sampling and sub-sampling techniques

Each sample was riffle split into two pre-numbered calico bags of ~5kg each, one for primary assaying at the onsite mine laboratory and a duplicate for external QA/QC. The remaining sample was collected in large plastic bags to be stored securely in a bag farm for reference. Primary samples of approximately 5kg were submitted directly to the Tormin mine laboratory to be analysed for heavy minerals and slimes.

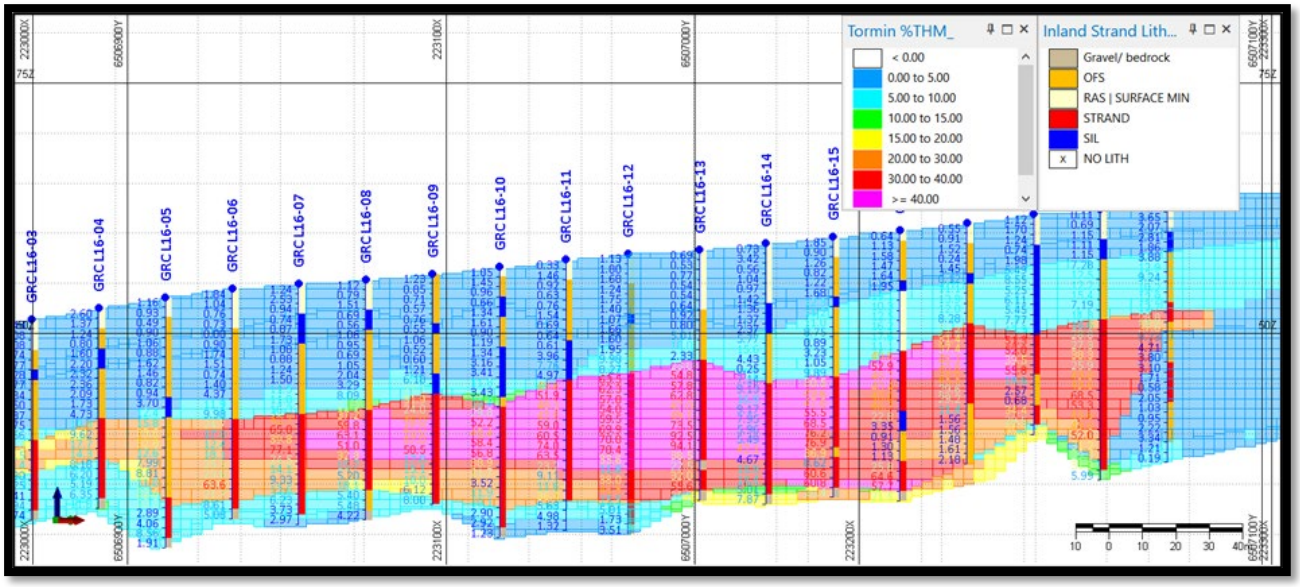

Figure 4: Example SW – NE cross-section at fence line 16 (>400m wide), looking northwest comparing lithology and kriged block THM grades (%), Vertical Exaggeration = 6x.

Sample analysis method

A total of 5,462 samples were assayed for updated Mineral Resource estimation. All samples were analysed by the onsite laboratory at the Tormin processing plant. The laboratory sample was dried, de-slimed (removal of -45 micron fraction) and screened (+2mm oversize), then 200g of sample split to use for heavy liquid separation using Tetrabromoethane ("TBE") with density range between 2.94 and 2.96g/ml to define THM content. The Tormin laboratory uses a heavy liquid separation ("HLS") with TBE for heavy mineral analysis. It also uses Panalytical Aeris XRD machines (the Rietveld method after HLS) in an automated mode setup (THM program) and industrial laboratory XRF (Panalytical Epsilon 3 ED) as a grade verification check on the XRD zircon content.

Additionally, 198 samples were sent to XRD Analytical and Consulting as the external laboratory in Pretoria for QA/QC purposes. QA/QC has been undertaken by field and lab duplicates, Certified Reference Material and blank samples. All QA/QC indicated good to moderately good performance.

Estimation Methodology and resource classification

The Mineral Resource estimation involved the use of drillhole and geology/topography to construct three-dimensional wireframes to define mineralised domains using Micromine software.

Domains were snapped to the nearest true intersection from sampling. Data was extrapolated between data points and approximately half of the drill spacing beyond. Ordinary kriging was used as the primary estimator for THM and VHM[5] values. A block size of 50x12.5x1m reflects the geometry of the mineralised domains and drillhole

[5] Valuable Heavy Minerals (''VHM'') includes zircon, rutile, anatase, ilmenite, garnet, and magnetite, reported as a percentage of THM.

spacing. Areas with drilling spaced at 125x25m were generally classified as Measured Resources and 250x20m was generally classified as Indicated Resources. Drilling up to 500x100m, within 100m of the high-grade strandline core has been generally classified as Inferred Resources.

The resource is open along strike to the north and south. Inferred Resources are present to the outer sides of the measured and indicated resources and in the southern part of the Western Strandline (Figure 5).

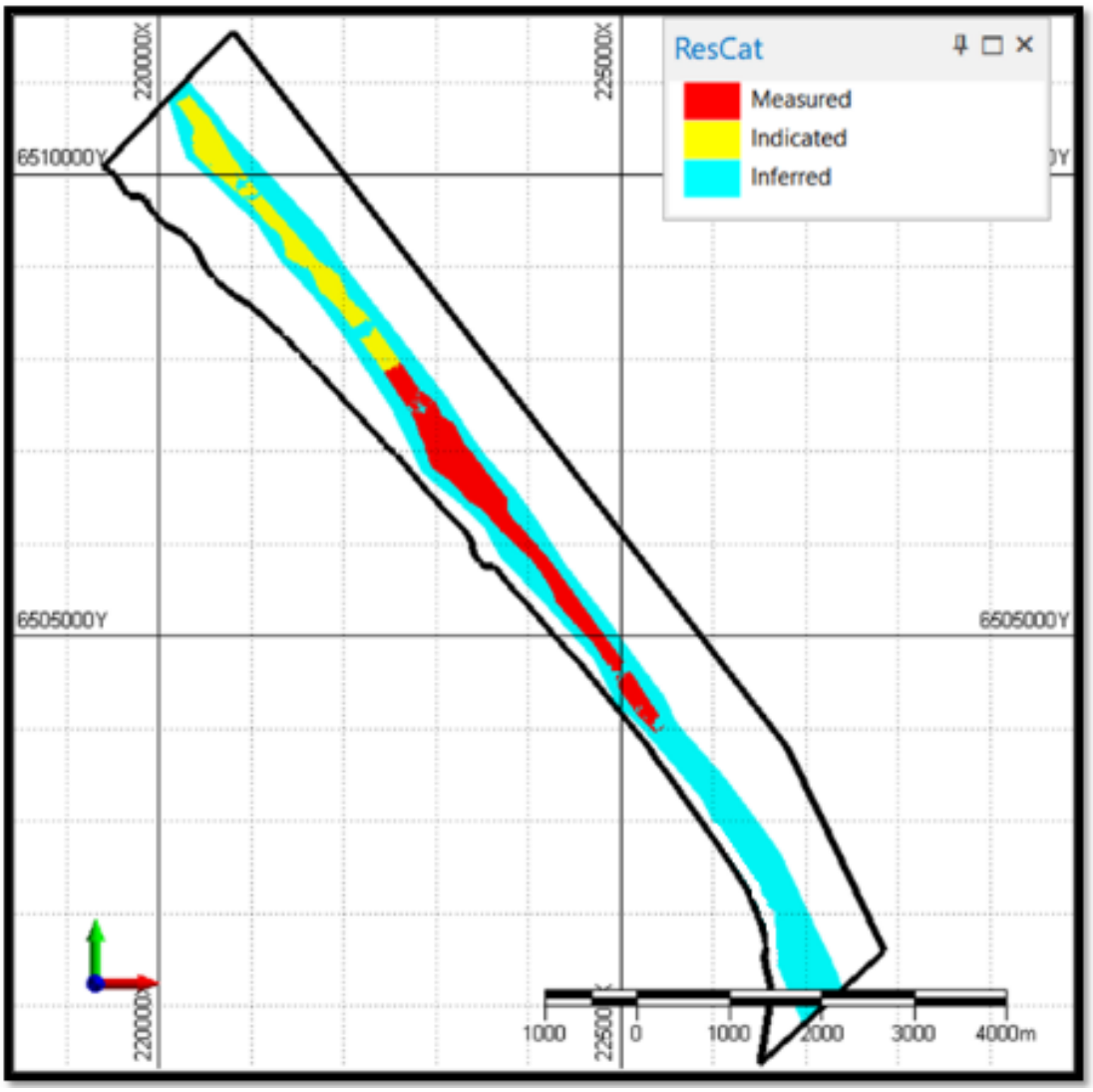

Figure 5: Resource Classifications on Western Strandline, within Prospecting Right 10262.

Cut-off grades

A 2% THM cut-off grade was applied for blocks, as this is the current minimum grade where there is a reasonable expectation for eventual extraction. The cut-off grade was based on grade-tonnage curves concerning THM and VHM assemblage with the grade distribution along the length of the orebody. Also, the current and anticipated plant performance and other similarly sized heavy mineral deposits in the region of the South African Western Coast (e.g., Tormin and Namakwa) have been considered.

Mining and metallurgical methods and parameters

Typical open-pit mining is practised with excavators and rigid dump trucks. This method is commonly adopted for this style of deposit and region. The resource is considered as dry mining feed and mineralisation can be any depth or width. The Company believes there are no mining factors which affect the assumption that the deposit has reasonable prospects for economic mining.

The metallurgical recovery is similar to other mineral sands operations and metallurgical parameters have been taken from the metallurgical tests to date. This test work supports the economic extraction of the deposit.

A summary of updated Mineral Resource for the Western Strandline is outlined in Appendix 1 per the JORC Code (2012).

MAIDEN MINERAL RESOURCE OF EASTERN STRANDLINE

The maiden Mineral Resource of Eastern Strandline is estimated at **19.5 million tonnes at 3.3% THM in the categories of Indicated and Inferred** using a 2% THM cut-off grade. The Resource, based on initial drilling and intersected mineralisation is open along strike. The maiden Mineral Resource of the Eastern Strandline (Table 5) demonstrates the prospectivity of the inland strandline areas and underscores the Company's strategy of growing the resources for mineral processing expansion.

Table 5- Maiden Mineral Resources for the Eastern Strandline Deposit (2% THM cut-off grade)

Category	Tonnes (Mt)	THM (%)	In Situ THM (Mt)	Zircon (% HM)	Garnet (% HM)	Ilmenite (% HM)	Rutile (% HM)	Anatase (% HM)	Magnetite (% HM)	Slimes (%)
Indicated	1.9	5.34	0.1	6.12	15.71	35.44	7.73	0.92	0.89	8.55
Inferred	17.5	3.13	0.5	6.35	14.39	36.74	6.09	1.19	0.51	7.97
Total	**19.5**	**3.36**	**0.6**	**6.32**	**14.52**	**36.60**	**6.25**	**1.16**	**0.57**	**8.03**

- Mineral assemblage reported as in situ percentage of THM content.
- Tonnes and grades numbers may not compute due to rounding.

A total of 4,236 metres were drilled in the Eastern Strandline containing 1081m in the first phase and 3155m in the second phase of the drilling campaign. The initial drilling program has concentrated on defining resources along the 11km Eastern Strandline horizon. The resource area runs semi-parallel to the Western Strandline and includes a northern zone that is 4.4km in length and a southern zone that is 3km in length, totalling 7.4km in length and covering approximately 120 hectares. The southern half of the deposit remains open to the south, with the potential to extend the known mineralisation.

The Valuable Heavy Minerals ("VHM") assemblage observed in the strand horizons from the resource drilling appears to make up approximately 60% of the THM, which is higher than the Western Strandline. The reported VHM contains constituent zircon, rutile, ilmenite, garnet assemblage, anatase and magnetite.

A summary of the maiden mineral resource is provided below:

Geology and geological interpretation

The Eastern strandline contains different geological layers, including mineralised and non-mineralised Orange Feldspathic Sand horizons sited above the enriched heavy mineral Strandline, and base pebble beds gravel. The onshore sands are fine to medium grade with low slimes (8%) and are approximately 60 metres wide on average, ranging from over 100m wide in the south to 30m wide in the north. The mineralisation has a northwest-southeast trending long axis orientation and runs semi-parallel to the Western Strandline. The higher grade strandline mineralisation ranges in thickness from 1.5 to 5 metres, with low grade mineralised Orange Feldspathic Sand up to 30m thick in places.

Drilling techniques and hole spacing

Exploration drilling included a total of 4,236 metres of aircore drilling in 9 primary drill fence lines which are 1000m apart on 20m spacings (71 holes), 13 infill drill fence lines 500m x 20m and 250m x 20m (37 holes) between the primary lines in the Eastern Strandline. Moreover, 12 holes (316m) from historical drilling were verified by recent drilling and included in the resource model.

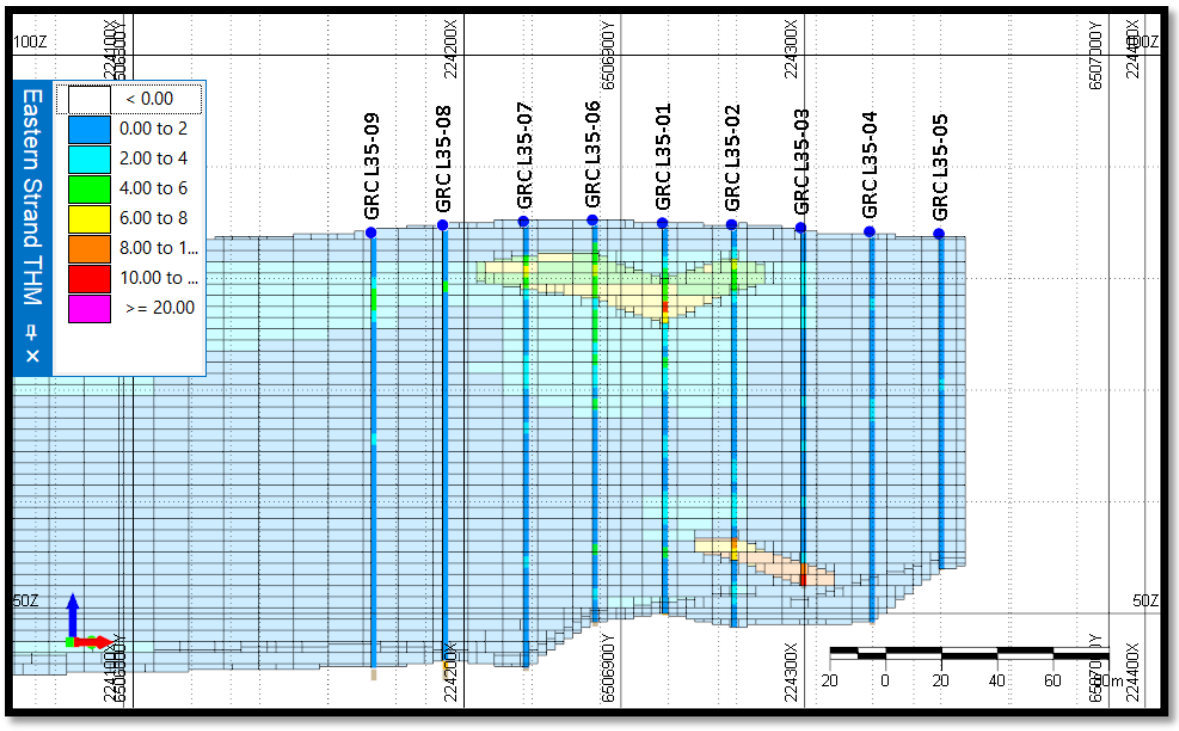

Figure 6: Example SW – NE cross-section at fence line 35 looking northwest comparing downhole assays and kriged block THM grades (%), Vertical Exaggeration = 5x.

Sampling and sub-sampling techniques

Samples were riffle split into two pre-numbered calico bags of ~5kg each, one for primary assaying at the onsite mine laboratory and a duplicate for external QA/QC. The remaining sample was collected in large plastic bags to be stored securely for reference. Primary samples of approximately 5kg were submitted to the Tormin mine laboratory to be analysed for slimes and heavy minerals.

Sample analysis method

A total of 4,214 samples were assayed at the Tormin onsite laboratory. The laboratory sample was dried, de-slimed (-45 micron) and screened (+2mm oversize), then 200g of sample split to use for heavy liquid separation using TBE with a density range between 2.94- 2.96g/ml to define THM content. The Tormin laboratory uses a heavy liquid separation with TBE for heavy mineral analysis. It also uses Panalytical Aeris XRD machines (the Rietveld method after HLS) in an automated mode setup (THM program) and industrial laboratory XRF (Panalytical Epsilon 3 ED) as a grade verification check on the XRD zircon content. Moreover, 15 samples were sent to the external laboratory in Pretoria (XRD Analytical and Consulting) for QA/QC purposes.

QA/QC was carried out by field and lab duplicates, blank samples, and Certified Reference Material. In general, all QA/QC indicated good to moderately good performance. QEMSCAN testwork by SJT MetMin was used to verify the mineral assemblage, the component mineralogy, VHM content and trash minerals.

Estimation Methodology and resource classification

The Mineral Resource estimation involved the use of drillhole and geology/topography to construct three-dimensional wireframes to define mineralised domains using Micromine software.

Domains were snapped to the nearest true intersection from sampling. Data was extrapolated between data points and approximately half of the drill spacing beyond. Ordinary kriging was used as the primary estimator for THM and VHM values. A block size of 25x12.5x1m reflects the geometry of the mineralised domains and drill hole spacing. Areas with drilling spaced between 200x20m and 400x20m were generally classified as Indicated Resources. Drilling spaced over 400x20m has been generally classified as Inferred Resources. No Mineralisation has been classified as Measured Resources.

Where blocks have a kriging slope of the regression between 0.7 and 0.85, even if other criteria have been met for higher classification, the resource was classified as Indicated. Where the slope is less than 0.7, even if other criteria have been met for higher classification, the resource was classified as Inferred.

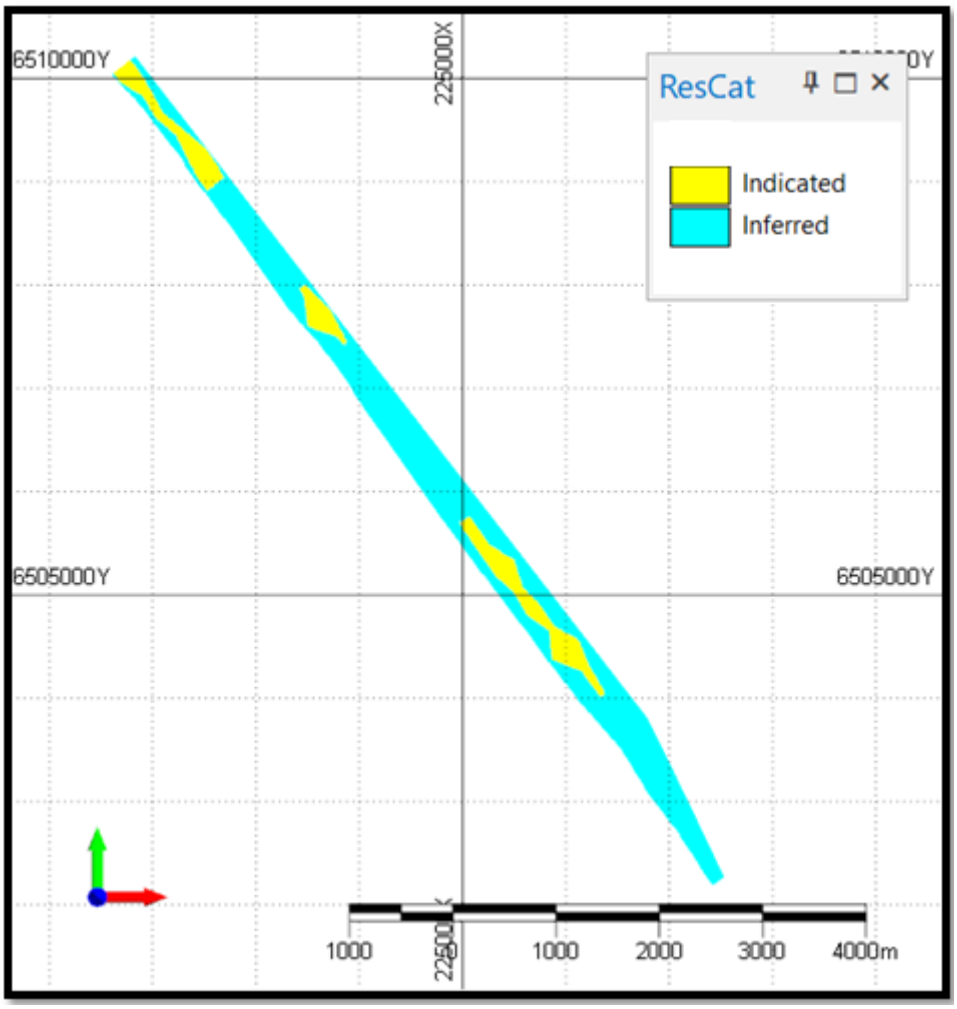

Figure 7: Resource Classifications on Eastern Strandline.

Cut-off grades

A 2% THM cut-off grade was applied for blocks, as this is the current minimum grade where there is a reasonable expectation for eventual extraction. 2% cut-off grade was based on grade-tonnage curves with respect to THM and VHM assemblage with the grade distribution along the length of the orebody. Also taken into account were current plant performance, and other similarly sized deposits in the region.

Mining and metallurgical methods and parameters

Typical open-pit mining is practised with excavators and rigid dump trucks. The resource is considered as dry mining feed and mineralisation can be any depth or width. The thickness of the mineralisation supports bulk mining methods.

The metallurgical recovery is similar to the Western Strandline and the other mineral sands operations and metallurgical parameters have been taken from the metallurgical tests to date. MSR has undertaken initial metallurgical testwork which support economic extraction of the deposit.

A summary of the maiden Mineral Resource for the Eastern Strandline is shown in Appendix 2 as defined by the JORC Code (2012).

Future work

MRC targets delivery of Ore Reserve estimates in early March quarter 2022. MSR is planning a final phase-3 drilling program designed to infill the existing targeted resource areas in the known mineralised zones on the Eastern and Western Strandlines as part of a strategy to unlock the full potential of the Prospecting Right by September quarter 2022.

END

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About Mineral Commodities Ltd

Mineral Commodities Ltd (ASX: MRC) is a global mining and development company with a primary focus on the development of high-grade mineral deposits within the mineral sands and battery minerals sectors.

The Company is a leading producer of zircon, rutile, garnet, and ilmenite concentrates through its Tormin Mineral Sands Operation, located on the Western Cape of South Africa.

In October 2019, the Company completed the acquisition of Skaland Graphite AS, the owner of the world's highest-grade operating flake graphite mine and one of the only producers in Europe.

The planned development of the Munglinup Graphite Project, located in Western Australia, builds on the Skaland acquisition and is a further step toward an integrated, downstream value-adding strategy which aims to capitalise on the fast-growing demand for sustainably manufactured lithium-ion batteries.

About Ascent Graphite

On 5 October 2021, the Company announced the results of a strategic review process[6], to optimise the Company's corporate and capital structure to fund future growth and accelerate shareholder value, targeting the development of anode production from a

[6] Refer ASX announcement entitled 'MRC to form a European Sustainable Graphite Business', dated 5 October 2021.

dedicated Active Anode Materials Plant ("AAMP") in Norway. MRC announced plans to separate its Norwegian Graphite Assets and its environmentally sustainable purification process into a newly incorporated Norwegian entity branded Ascent Graphite with a Norway/European facing, independent Board and operating structure to provide an optimal platform to attract funding and increase value.

Cautionary Statement

This report may contain forward-looking statements. Any forward-looking statements reflect management's current beliefs based on information currently available to management and are based on what management believes to be reasonable assumptions. It should be noted that several factors could cause actual results or expectations to differ materially from the results expressed or implied in the forward-looking statements.

Competent Persons Statement

The information in this Announcement related to Mineral Resources is based on information compiled and approved for release by Mr Bahman Rashidi, who is a member of the Australian Institute of Mining and Metallurgy ("AusIMM") and the Australian Institute of Geoscientists ("AIG"). Mr Rashidi is the Group Exploration Manager and a full-time employee of the Company. Mr Rashidi is also a shareholder of Mineral Commodities Ltd. He has sufficient experience which is relevant to the style of mineralisation and types of deposit under consideration and to the activity, he is undertaking to qualify as a Competent Person in accordance with the JORC Code (2012). The information from Mr Rashidi was prepared under the ("JORC Code (2012). Mr Rashidi consents to the inclusion in this ASX release in the form and context in which it appears.

Appendix 1
JORC TABLE 1
Tormin Western Strandline

Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code Explanation	Commentary
• ***Sampling techniques***	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• The current resource update is based on 179 aircore holes, representing 6049 m of vertical drilling, and their analytical data. • Sample taken from surface to bedrock. • Mineralogical studies and grade testwork undertaken according to mine control standards within Tormin mine site laboratory. • Sampled exclusively by vertical holes. • One-metre air core drill samples from a cyclone were collected in 20-25kg plastic bags. • Each bag was riffle split into two pre-numbered calico bags of ~5kg each and the remainder of the samples collected in a large plastic bag. • 5kg samples were submitted directly to the Tormin mine laboratory to be analysed for oversize, slimes and heavy minerals. • The laboratory sample was dried, de-slimed (removal of -45 micron fraction) and screen (+2mm oversize). • 200g of sample split to use for heavy liquid separation using TBE with density range between 2.92 and 2.96g/ml to define THM content.
• ***Drilling techniques***	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Banka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Air core drilling was used by Wallis drilling (Mantis 80) . Air core drilling is considered a standard industry drilling method for HMS mineralisation. • 85mm drill bits and rods were used. • All holes were drilled vertically.
• ***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.*	• Metric samples from aircore drill were taken and riffled down to a representative sample for heavy liquid separation and XRD. • No sample loss or cavitation were experienced. Dry samples may lose some of their slimes fraction due to blowing out of sampling equipment, however HM are not affected. • Sample recovery was very good. • The twin aircore and sonic drilling provide high quality samples from the face of the drill hole.
• ***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.*	• Each hole was logged by a geologist on pre-printed log sheets. • Geological and lithological observations per depth were recorded together with field sections and hand drawn down-the-hole logs. • Special attention was given to heavy minerals intersected as a guide to potential marine strandlines and marine diamond deposits. • Percentage HMS was recorded from visual observations as well as the magnetic content of each metre by handheld pen magnet. • Marine gravels and contact with basement bedrock recorded as maximum depth of mineralisation. • Each 1m sample was washed and sieved to obtain a representative sample stored in numbered chip trays.
• ***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 representativity 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.*	• Sampling over 1m down the hole intervals as determined by 1m marks on the rig mast. • Drill samples were riffle split into approximately 3kg samples to be assayed. • All samples were dry. • Technicians undertaking the splitting were supervised by mine site geologists to ensure sampling quality. • The sample sizes were considered suitable based on industry practices of mineral sand exploration. • Field duplicate samples were riffled for the Tormin mine laboratory and external QA/QC checks for every 25th sample • Lab duplicate samples were split for the Tormin mine laboratory and for external QA/QC checks.

Criteria	JORC Code Explanation	Commentary
• ***Quality of assay data and laboratory tests***	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• All sample analyses were undertaken by the Tormin mine laboratory. • The mine owns and operates a state of the art heavy liquid separation (HLS) lab using TBE with density range between 2.92 and 2.96g/ml with Panalytical XRD machines (the Rietveld method after HLS in an automated mode setup). All grades reported are from XRD results on heavy liquid sink. • Industrial laboratory XRF machines (Panalytical Epsilon 3 ED) are used by Tormin mine as a grade verification check on the XRD zircon content. • The Tormin mine laboratory completes its own internal QA/QC using Certified Reference Material ("CRM") at the rate of approximately 1 in 50 and sending every 25th sample to the external labs. • 171 field duplicates plus 50 blank samples, and 20 CRMs were included into the sample stream and submitted to the lab. • The CRMs, blank and duplicate sample results are within accepted limits. • External sampling checks for XRD have been done by XRD Analytical and Consulting (198 samples) in Pretoria. • For the 2020 drill program at the Western Strandline, external sampling checks for XRD have been undertaken by XRD Analytical and Consulting (200 samples) and UIS Analytical Services (20 samples) and for XRF in Mintek and UIS Analytical Services (10 samples each), accredited laboratories in Pretoria and Johannesburg. Also,10 samples have been assayed in Mintek and UIS Analytical Services by ICP-MS for trace elements and REEs. • The adopted QA/QC protocols are appropriate for the Mineral Resource and public reporting and QA/QC system returning acceptable results. • QEMSCAN testwork by SJT MetMin was used for verification of the mineral assemblage and the component mineralogy. • No geophysical tools or handheld instruments were utilised in the sample analysis.
• ***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.*	• All sampling was undertaken by mine site personnel overseen by a qualified and experienced mine geologist and independent consultants. • All sample preparation was carried out by qualified staff, supervised by chemists and the laboratory manager. • The lab results and logging have been reviewed by external consultants to MSR as well as internally by MRC's exploration manager. • The drillhole logs have been converted to electronically stored formats and stored in a database provided by Maxgeo (DataShed). This database is hosted on an offsite server supplied by Maxgeo and managed by their trained database staff. • No adjustments to assay data results were made outside the standard XRD and XRF calibration software being used.
• ***Location of data points***	• *Accuracy and quality of surveys used to locate drillholes (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.*	• Hole collars were surveyed by DGPS accurate to within centimetres by mine surveyors. • Down hole surveys for shallow vertical air core holes are not required. • WGS 84 datum and UTM/ zone 34S coordinate system is used.
• ***Data spacing and distribution***	• *Data spacing for reporting of exploration results.* • *Whether the data spacing and distribution are 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.*	• Systematic grade spacing used in the drilling program was initially 250m x 20m containing 30 fence lines. • Each drillhole is spaced 20m apart along each drill line perpendicular to the strandline inferred strike. • The abovementioned drill fence line is 250m apart along the strandline strike. • infill fence lines with 500mx 25m and 250mx 25m grade were drilled between the primary lines.
• ***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.*	• Vertical drilling to intersect sub-horizontal strata. • Orientation of the drillholes will not result in sampling bias.

Criteria	JORC Code Explanation	Commentary
• ***Sample security***	• *The measures taken to ensure sample security.*	• Sampling was carried out using pre-printed calico bags to prevent mislabelling. • All sample bag numbers were logged against the drillhole by the site geologist. • Three samples per metre drilled were produced. The reject was stored securely in a bag farm for reference, one for external QA/QC use and one were sent directly to the mine lab at the end of each day's drilling in a secure area. • The Tormin mine laboratory inspected the submitted samples and did not report any missing, nor any error of the samples against the sample lists. • Where external laboratories were used, their chain of custody controls for shipping and sample submission were used.
• ***Audits or reviews***	• *The results of any audits or reviews of sampling techniques and data.*	• The lab results and logging have been reviewed by external consultants to MSR and internally as part of normal validation processes by MRC.

Section 2 Reporting of Exploration Results

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

Criteria	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.*	• The area has a granted prospecting right (WC 30/5/1/1/2/10262 PR) in the name of Mineral Sands Resources (Pty) Ltd, a subsidiary of ASX listed Mineral Commodities Ltd (ASX: MRC). • This Prospecting Right (Inland Strand) incorporates an area approximately 12km in length covering 1,741 hectares of coastal area adjacent to the existing beach mining operations on the Company-owned farm Geelwal Karoo 262. • 162 and 163 Expanded Mining Right (WC 30/5/1/2/2/10108 MR) encompassing the Northern Beaches and Inland Strandline expansion project was approved by the Department of Mineral Resources - South Africa on 30 June 2020.
• ***Exploration done by other parties***	• *Acknowledgment and appraisal of exploration by other parties.*	• The general area has been investigated and mined for heavy mineral deposits as far back as the 1930s (Haughton, 1931). Subsequent geological surveys and exploration programs investigated the distribution, mineralogy and economic potential of the heavy mineral sands along the coastline of Geelwal Karoo (Toerien & Groeneveld 1957, Abele 1989, Swart 1990, Barnes 1998) and Trans Hex 1989-1991). • De Beers drilled 9 fence lines across the property and bulk sampled the area in the 1960s. • During 1999, Trans Hex conducted additional onshore drilling of strandlines and identified the inland raised beach deposits containing heavy minerals. Trans Hex subsequently bulk sampled the material by digging several trenches in 1999-2000. • Geelwal Karoo Diamante conducted small diameter forum drilling to a depth of 40m between 2000 and 2002, with a total of 42 drillholes. • Extensive work, including mining of the inshore strandlines along the coast, was undertaken by Namakwa Diamond Company in 2003-2005. This work also identified the presence of the Inland Strand.
• ***Geology***	• *Deposit type, geological setting and style of mineralisation.*	• The western coastal plain of South Africa contains a significant resource of detrital heavy minerals by world standards. • The heavy mineral sand deposits occur in a current active beach environment (eg Tormin mine) as well as in older palaeo-beach raised strandlines found inland (inland strandlines) eg Tronox Namakwa Sands. • Apart from the mid-Jurassic, Cretaceous and Tertiary (Paleogene) sediments along the coast, numerous small fossiliferous, marine and terrestrial deposits of Neogene age outcrop along the coastal zone. • The onshore mineral sands are marine palaeo-terraces "Inland Strands", aeolian sands and fluvial sediments. These targets were formed during Miocene, Pliocene and Quaternary/Pleistocene coastal transgression (sea move inland) and regression cycles. • The lithological units of the Western Strandline can be described as below: a. Aeolian sand – non mineralised b. Red Aeolin sand – mineralised

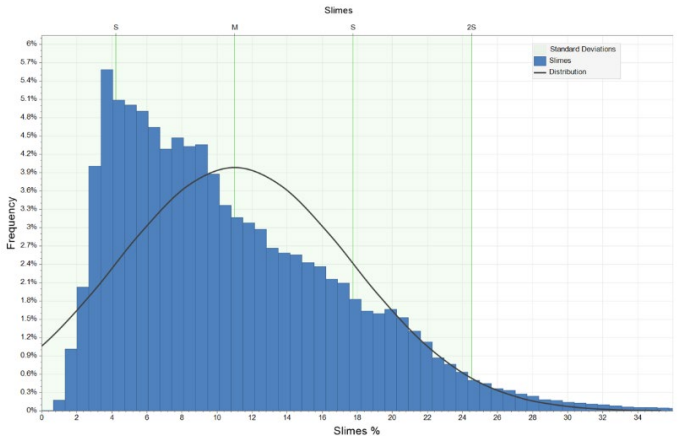
Criteria	Explanation	Commentary
		c. Silcrete Duricrust/ dorbank d. Orange Feldspathic Sand – non mineralised e. Orange Feldspathic Sand – mineralised f. Dorbank – mineralised g. Strandline – mineralised h. Base pebble beds – mineralised i. Schist basement • For purposes of estimation, the lithology has been grouped into the following: A: Red Aeolian sand B: Silcrete Duricrust/dorbank C: Orange Feldspathic Sand D: Main Strandline Mineralisation (including the thin mineralised dorbank) E: Secondary perched strandline mineralisation F: Gravel G: Schist basement • The orebody hosts mineralisation in all geological units/layers except for the schist basement.
• ***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 Competent Person should clearly explain why this is the case.*	• The minimum hole length is 5m, maximum 60m and average depth of drilling is 26 metres. • East collar ranges – 220,261mE to 227,375mE. • North collar ranges – 6,500,851mN to 6,510,874mN. • Height collar ranges- 34.25m to 93.63m. • Azimuth ranges/dip ranges – vertical drilling.
• ***Data aggregation methods***	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Not relevant. • No grade cutting of HM values were undertaken. • No metal equivalents were used for reporting of Mineral Resources.
• ***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').*	• Not relevant. • The strandline mineralisation is sub-horizontal in nature and the air core drilling intercepts are vertical. • Thickness of intercept reported is therefore true thickness of the mineralisation.
• ***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.*	• Maps, sections and plan views are provided in the main body of the report.
• ***Balanced reporting***	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Statistics of drillhole grades used during the Mineral Resource Estimate are contained in the main body of the report. • This report provides the total information available to date and is considered to represent a balanced report.
• ***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.*	• Historical drill data is not reported as it is classified as historical foreign estimates that are non-JORC compliant. • Aeromagnetic geophysical data has been used for drilling target delineations. • Only 48 holes (1,192m) from historical drilling were verified and included into the resource model. This is an increase from the previous model, as new drilling has confirmed logging and assays from more of the historical dataset.

Criteria	Explanation	Commentary
• ***Further work***	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Further drilling is planned to produce more Measured/Indicated resources over the western Strandline.

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.*	• The data was plotted and plots where expected with no mis-plots or extraneous data found. Maximum and minimum values and average values were all within the norm. Duplicate values were confirmed as such. The coordinates were confirmed as being WGS84 UTM zone 34S. • Data is stored in an offsite database hosted by Maxgeo.
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 is currently a full time employee of Mineral Commodities Ltd. • No site visits were undertaken for this resource estimate due to COVID-19 travel ban, although the Competent Person did visit the project previously and is familiar with the site and resource conditions.
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.*	• The deposit is a classic inland strandline mineral sands deposit with no doubt as to its genesis. • The grain size characteristics are interpreted to support an offshore depositional setting closer to the shoreline position. • Samples were collected for resource estimation purposes. • The geology/topography of the deposit has been used to constrain the resource envelope. The data was partitioned into areas (subsets) based on geology/topography. The base of the deposit is defined by the underlying bedrock, the landward side by barren land and sand dunes.
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 total deposit, inside MSR controlled Prospecting Rights, has a strike length of approximately 12,125m and an average width (including low grade halo) of 380m. High grade strandline core of the deposit averages approximately 200m width, along the entire strike length. It is developed from surface to a maximum depth of 49m and the average resource thickness is approximately 21m (including low grade halo). The deposit occurs from the surface down.
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 (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.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	• Micromine software was used to domain and estimate each of the valuable heavy minerals. Domains were snapped to the nearest true intersection from sampling. • Assays were all generally 1.0m, with some assayed field composited to 4m in length,and so the entire data set was composited down to 1m. • Outlier values were cut based on local analysis for each lithology. Only THM percentage was required to be top cut for the low grade Dorbank and RAS lithologies (cut to 30% and 15% respectively), and the only constituent mineral requiring topcut was Garnet within the RAS (cut to 10%) • Data was extrapolated between data points and approximately half of the drill spacing beyond. Data points are nominally 125 x 25m to 250 x 25m. There are generally between 2-15 drill holes per line (average 7 holes). • Ordinary kriging was used as the primary estimator. Each variable was estimated separately, using variograms created for each lithology. • An anisotropic search was used, with the variable ratios of direction of greatest continuity: Across the continuity: depth. (STRAND 1:0.4:0.04, LGSANDS 4:0.4:0.08) A maximum search distance of 500m was used for the STRAND unit, and 750m for LGSAND units. Octant searching was used, with maximum points per sector of between 5 and 12. Minimum points to estimate a block were 5. These neighbourhood parameters were all confirmed using QKNA. • This is a resource estimate and mining parameters are not used beyond normal global parameters of grades, dimensions, and accessibility. • The THM standard deviation in the block model is as follows:

Criteria	JORC Code explanation	Commentary
		- 10.55 with a coefficient of variation of 1.09 • These values are acceptable as they indicate the modelling algorithm produces realistic values within the range of the dataset. In addition, an in-depth validation process was used to test the robustness of the modelled data, including visual checks, check estimates (NN), swath plots and detailed statistical comparisons. • Maiden Mineral Resources have been previously estimated for the Western Strandline in August 2020.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• The resource tonnages are estimated on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• Final report was based on a 2% THM cut-off grade for blocks as this is the current minimum grade where there is a reasonable expectation for eventual extraction. • 2% cut off grade was based on grade-tonnage curves with respect to THM and VHM assemblage with the grade distribution along the length of the orebody. Also taken into account was current processing plant performance, and other similarly deposits in the region.
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.*	• The resource is considered as dry mining feed and mineralisation can be any depth or width. Dry mining techniques are preferred in situations involving high grades. • Mining would be through conventional open pit methods. • The thickness and continuous nature of the mineralisation, supports a bulk mining method. • The Company believes there are no mining factors which affect the assumption that the deposit has reasonable prospects for eventual economic mining.
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.*	• The metallurgical recovery is similar to other mineral sand operations. • Metallurgical parameters have been taken from the metallurgical tests, and metallurgical test work results support the recovery. • The most recent studies are: o 2020 Tormin Expansion projects-implementation strategy by MinSol Engineering o 2021 Pre-feasibility study report for Inland Strandline expansion by MinSol Engineering • To date, the Company considers there are no metallurgical factors which are likely to significantly affect the assumption that the deposit has reasonable prospects.
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 greenfield 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.*	• There are no environmental factors likely to affect the assumption that the deposit has reasonable prospects for eventual economic extraction. • The local vegetation environment generally consists of strandveld plant communities. Topsoil stripped from the mining operations will be stockpiled for later use during rehabilitation. Slime is low (~11%) and tailings generated in the processing plant will be pumped back into the open pits as part of the rehabilitation strategy. Any excess water will be recovered and recycled to the process.  • There are no pollutants introduced with the tailings and the material is inert, however further studies for tailing and slime waste classification are ongoing.
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*	• The bulk density is based on a calculation of the specific gravity of the silica and heavy mineral content fractions of each sample. It is therefore not fixed and fluctuates between 1.56 and 2.1 as per the formula: SG=1.68+(0.0095 x THM).

Criteria	JORC Code explanation	Commentary
	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.*	• The use of a bulk density algorithm is a standard industry practice for the estimation of mineral sands resource.

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 Resources have been classified as Measured, Indicated, and Inferred Categories, in accordance with the 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves ("JORC Code (2012)").
		• A range of criteria has been considered in determining this classification including:
		  ○ Geological continuity
		  ○ Drillhole spacing:
		  - Areas with aircore drilling spaced at 125x25m have been generally classified Measured
		  - Areas with aircore drilling spaced at 250x20m have been generally classified Indicated.
		  - Areas outside this has been classified as Inferred, as broadly spaced scoping drilling in the south, coupled with other widely spaced historic data, gives some confidence in the continuity of mineralisation up to 100m from the main high grade strandline core, providing the search criteria are met.
		• The results of the validation of the block model show acceptable correlation of the input data to the estimated grades.
		• The author is confident that all relevant factors have been considered and the results reflect his views.

Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• The Mineral Resource has been reviewed internally as part of normal validation processes by MRC. • Wardell Armstrong International ("WAI") conducted a review of the Mineral Resource Estimate. Mr Ché Osmond (CGeol) and Richard Ellis (CGeol) (WAI) undertook an audit of the Mineral Resource estimate as an independent technical review.
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 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.*	• An in-depth geostatistical study has been completed on this resource, which has allowed for robust estimation and high levels of confidence in the resource. • No production has occurred from the deposit. Since September 2020 when mining commenced in the Western Strandline, a total of 1.6Mt has been mined from the South pit, with all material being stockpiled and not processed. This material was depleted from the updated mineral resource and reported as a stockpile.

Appendix 2
JORC TABLE 1
Tormin Eastern Strandline

Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code Explanation	Commentary
• ***Sampling techniques***	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• The current resource database for the Eastern Strandline consists of 120 aircore holes, representing 4,132 m of vertical drilling, and their analytical data. • Sample taken from surface to bedrock. • Mineralogical studies and grade testwork undertaken according to mine control standards within Tormin mine site laboratory. • Sampled exclusively by vertical holes. • One-metre air core drill samples from a cyclone were collected in 20-25kg plastic bags. • Each bag was riffle split into two pre-numbered calico bags of ~5kg each and the remainder of the samples collected in a large plastic bag. • 5kg samples were submitted directly to the Tormin mine laboratory to be analysed for oversize, slimes and heavy minerals. • The laboratory sample was dried, de-slimed (removal of -45 micron fraction) and screen (+2mm oversize). • 200g of sample split to use for heavy liquid separation using TBE with density range between 2.92 and 2.96g/ml to define THM content.
• ***Drilling techniques***	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Banka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Air core drilling was used by Wallis drilling (Mantis 80) . Air core drilling is considered a standard industry drilling method for HMS mineralisation. • 85mm drill bits and rods were used. • All holes were drilled vertically.
• ***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.*	• Metric samples from aircore drill were taken and riffled down to a representative sample for heavy liquid separation and XRD. • No sample loss or cavitation were experienced. Dry samples may lose some of their slimes fraction due to blowing out of sampling equipment, however HM are not affected. • Sample recovery was very good. • The twin aircore and sonic drilling provide high quality samples from the face of the drill hole.
• ***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.*	• Each hole was logged by a geologist on pre-printed log sheets. • Geological and lithological observations per depth were recorded together with field sections and hand drawn down-the-hole logs. • Special attention was given to heavy minerals intersected as a guide to potential marine strandlines and marine diamond deposits. • Percentage HMS was recorded from visual observations as well as the magnetic content of each metre by handheld pen magnet. • Marine gravels and contact with basement bedrock recorded as maximum depth of mineralisation. • Each 1m sample was washed and sieved to obtain a representative sample stored in numbered chip trays.
• ***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 representativity 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.*	• Sampling over 1m down the hole intervals as determined by 1m marks on the rig mast. • Drill samples were riffle split into approximately 3kg samples to be assayed. • All samples were dry. • Technicians undertaking the splitting were supervised by mine site geologists to ensure sampling quality. • The sample sizes were considered suitable based on industry practices of mineral sand exploration. • Field duplicate samples were riffled for the Tormin mine laboratory and external QA/QC checks for every 25th sample • Lab duplicate samples were split for the Tormin mine laboratory and for external QA/QC checks.

Criteria	JORC Code Explanation	Commentary
• ***Quality of assay data and laboratory tests***	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• All sample analyses were undertaken by the Tormin mine laboratory. • The mine owns and operates a state of the art heavy liquid separation (HLS) lab using TBE with density range between 2.92 and 2.96g/ml with Panalytical XRD machines (the Rietveld method after HLS in an automated mode setup). All grades reported are from XRD results on heavy liquid sink. • Industrial laboratory XRF machines (Panalytical Epsilon 3 ED) are used by Tormin mine as a grade verification check on the XRD zircon content. • The Tormin mine laboratory completes its own internal QA/QC using Certified Reference Material ("CRM") at the rate of approximately 1 in 50 and sending every 25th sample to the external labs. • 36 field duplicates plus 11 blank samples, and 20 CRMs were included into the sample stream and submitted to the lab. • The CRMs, blank and duplicate sample results are within accepted limits. • External sampling checks for XRD have been done by XRD Analytical and Consulting (15 samples) in Pretoria • The adopted QA/QC protocols are appropriate for the Mineral Resource and public reporting and QA/QC system returning acceptable results. • QEMSCAN testwork by SJT MetMin was used for verification of the mineral assemblage and the component mineralogy. • No geophysical tools or handheld instruments were utilised in the sample analysis.
• ***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.*	• All sampling was undertaken by mine site personnel overseen by a qualified and experienced mine geologist and independent consultants. • All sample preparation was carried out by qualified staff, supervised by chemists and the laboratory manager. • The lab results and logging have been reviewed by external consultants to MSR as well as internally by MRC's exploration manager. • 12 holes (316m) from historical drilling were verified and included into the resource model. • The drillhole logs have been converted to electronically stored formats and stored in a database provided by Maxgeo (DataShed). This database is hosted on an offsite server supplied by Maxgeo and managed by their trained database staff. • No adjustments to assay data results were made outside the standard XRD and XRF calibration software being used.
• ***Location of data points***	• *Accuracy and quality of surveys used to locate drillholes (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.*	• Hole collars were surveyed by DGPS accurate to within centimetres by mine surveyors. • Down hole surveys for shallow vertical air core holes are not required. • WGS 84 datum and UTM/ zone 34S coordinate system is used.
• ***Data spacing and distribution***	• *Data spacing for reporting of exploration results.* • *Whether the data spacing and distribution are 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.*	• Systematic grade spacing used in the drilling program was initially 1000m x 20m containing 9 fence lines. • Each drillhole is spaced 20m apart along each drill line perpendicular to the strandline inferred strike. • The abovementioned drill fence line is 1000m apart along the strandline strike. • 11infill fence lines with 500mx 25m and 250mx 25m grade were drilled between the primary lines. • 12 holes from historical drilling were verified and included into the resource model.
• ***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.*	• Vertical drilling to intersect sub-horizontal strata. • Orientation of the drillholes will not result in sampling bias.
• ***Sample security***	• *The measures taken to ensure sample security.*	• Sampling was carried out using pre-printed calico bags to prevent mislabelling.

Criteria	JORC Code Explanation	Commentary
		• All sample bag numbers were logged against the drillhole by the site geologist. • Three samples per metre drilled were produced. The reject was stored securely in a bag farm for reference, one for external QA/QC use and one were sent directly to the mine lab at the end of each day's drilling in a secure area. • The Tormin mine laboratory inspected the submitted samples and did not report any missing, nor any error of the samples against the sample lists. • Where external laboratories were used, their chain of custody controls for shipping and sample submission were used.
• ***Audits or reviews***	• *The results of any audits or reviews of sampling techniques and data.*	• The lab results and logging have been reviewed by external consultants to MSR and internally as part of normal validation processes by MRC.

Section 2 Reporting of Exploration Results

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

Criteria	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.*	• The area has a granted prospecting right (WC 30/5/1/1/2/10262 PR) in the name of Mineral Sands Resources (Pty) Ltd, a subsidiary of ASX listed Mineral Commodities Ltd (ASX: MRC). • This Prospecting Right (Inland Strand) incorporates an area approximately 12km in length covering 1,741 hectares of coastal area adjacent to the existing beach mining operations on the Company-owned farm Geelwal Karoo 262. • The Company owned Geelwal Karoo Farm 262.
• ***Exploration done by other parties***	• *Acknowledgment and appraisal of exploration by other parties.*	• The general area has been investigated and mined for heavy mineral deposits as far back as the 1930s (Haughton, 1931). Subsequent geological surveys and exploration programs investigated the distribution, mineralogy and economic potential of the heavy mineral sands along the coastline of Geelwal Karoo (Toerien & Groeneveld 1957, Abele 1989, Swart 1990, Barnes 1998) and Trans Hex 1989-1991). • De Beers drilled 9 fence lines across the property and bulk sampled the area in the 1960s. • During 1999, Trans Hex conducted additional onshore drilling of strandlines and identified the inland raised beach deposits containing heavy minerals. Trans Hex subsequently bulk sampled the material by digging several trenches in 1999-2000. • Geelwal Karoo Diamante conducted small diameter forum drilling to a depth of 40m between 2000 and 2002, with a total of 42 drillholes. • Extensive work, including mining of the inshore strandlines along the coast, was undertaken by Namakwa Diamond Company in 2003-2005. This work also identified the presence of the Inland Strands.
• ***Geology***	• *Deposit type, geological setting and style of mineralisation.*	• The western coastal plain of South Africa contains a significant resource of detrital heavy minerals by world standards. • The heavy mineral sand deposits occur in a current active beach environment (eg Tormin mine) as well as in older palaeo-beach raised strandlines found inland (inland strandlines) eg Tronox Namakwa Sands. • Apart from the mid-Jurassic, Cretaceous and Tertiary (Paleogene) sediments along the coast, numerous small fossiliferous, marine and terrestrial deposits of Neogene age outcrop along the coastal zone. • The onshore mineral sands are marine palaeo-terraces "Inland Strands", aeolian sands and fluvial sediments. These targets were formed during Miocene, Pliocene and Quaternary/Pleistocene coastal transgression (sea move inland) and regression cycles. • The lithological units of the Eastern Strandline can be described as below: a. Orange Feldspathic Sand – non mineralised b. Orange Feldspathic Sand – mineralised c. Strandline – mineralised d. Base pebble beds – mineralised e. Schist basement • For purposes of estimation, the lithology has been grouped into the following:

Criteria	Explanation	Commentary
		A: Orange Feldspathic Sand B: Strandline mineralisation C: Gravel D: Schist basement • The orebody hosts mineralisation in all geological units/layers except for the schist basement.
• ***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 Competent Person should clearly explain why this is the case.*	• The minimum hole length is 6m, maximum 120m and average depth of drilling is 34.4metres. • East collar ranges – 220,767mE to 227,835mE. • North collar ranges – 6,501,1522mN to 6,511,251mN. • Height collar ranges- 49.88m to 125.26m. • Azimuth ranges/dip ranges – vertical drilling.
• ***Data aggregation methods***	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Not relevant. • No grade cutting of HM values were undertaken. • No metal equivalents were used for reporting of Mineral Resources.
• ***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').*	• Not relevant. • The strandline mineralisation is sub-horizontal in nature and the air core drilling intercepts are vertical. • Thickness of intercept reported is therefore true thickness of the mineralisation.
• ***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.*	• Maps, sections and plan views are provided in the main body of the report.
• ***Balanced reporting***	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Statistics of drillhole grades used during the Mineral Resource Estimate are contained in the main body of the report. • This report provides the total information available to date and is considered to represent a balanced report.
• ***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.*	• Historical drill data is not reported as it is classified as historical foreign estimates that are non-JORC compliant. • Aeromagnetic geophysical data has been used for drilling target delineations. • Only 12 holes (316m) from historical drilling were verified and included into the resource model.
• ***Further work***	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Further drilling is planned to produce a Measured/Indicated resource over the Eastern Strandline.

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.*	• The data was plotted and plots where expected with no mis-plots or extraneous data found. Maximum and minimum values and average values were all within the norm. Duplicate values were confirmed as such. The coordinates were confirmed as being WGS84 UTM zone 34S. • Data is stored in an offsite database hosted by Maxgeo.

Criteria	JORC Code explanation	Commentary
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 is currently a full time employee of Mineral Commodities Ltd. • No site visits were undertaken for this resource estimate due to COVID-19 travel ban, although the Competent Person did visit the project previously and is familiar with the site and resource conditions.
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.*	• The deposit is a classic inland strandline mineral sands deposit with no doubt as to its genesis. • The grain size characteristics are interpreted to support an offshore depositional setting, closer to the shoreline position. • Samples were collected for resource estimation purposes. • The geology/topography of the deposit has been used to constrain the resource envelope. The data was partitioned into areas (subsets) based on geology/topography. The base of the deposit is defined by the underlying bedrock, the landward side by barren land and sand dunes.
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 total deposit, inside MSR controlled Prospecting Rights, has a strike length along the coastline of approximately 7,400m and an average width of 60m, ranging from over 100m wide in the south to 30m wide in the north. The resource area includes northern part in 4.4km length and southern part in 3km length. It is developed from surface to a maximum depth of 72m and the average resource thickness is approximately 40m. The deposit occurs from the surface down.
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 (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.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	• Micromine software was used to domain and estimate each of the valuable heavy minerals. Domains were snapped to the nearest true intersection from sampling. • Assays were all generally 1.0m, with some assayed field composited to 4m in length, and so the entire data set was composited down to 1m. • Outlier values were cut based on local analysis for each lithology. • No Outliers were present, as such no outlier restriction or top cutting was required. • Data was extrapolated between data points and approximately half of the drill spacing beyond. Data points are nominally 250 x 20m to 500 x 20m. There are generally between 2-11 drill holes per line. • Ordinary kriging was used as the primary estimator. Each variable was estimated separately, using variograms created for the Western Strandline resource, which is similar in population. • An anisotropic search was used, with the variable ratios of direction of greatest continuity: Across the continuity: depth. 1:0.4:0. A maximum search distance of 1,000m was used to ensure the resource was filling with estimated data. Tight sample numbers were used to confirm the smearing effects of using a large search were mitigated. Octant searching was used, with maximum points per sector of 4. Minimum points to estimate a block were 4. • This is a resource estimate and mining parameters are not used beyond normal global parameters of grades, dimensions, and accessibility. • The THM standard deviation in the block model is as follows: - 1.46 with a coefficient of variation of 1.20. • These values are acceptable as they indicate the modelling algorithm produces realistic values within the range of the dataset. In addition, an in-depth validation process was used to test the robustness of the modelled data, including visual checks, check estimates (IDW and NN), swath plots and detailed statistical comparisons. • Mineral Resources have not been previously estimated for the Eastern Strandline.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• The resource tonnages are estimated on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• Final report was based on a 2% THM cut off grade for blocks as this is the current minimum grade where there is a reasonable expectation for eventual extraction. • 2% cut off grade was based on grade-tonnage curves with respect to THM and VHM assemblage with the grade distribution along the length of the orebody. Also taken into

Criteria	JORC Code explanation	Commentary
		account was current processing plant performance and other similarly deposits in the region.
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.*	• The resource is considered as dry mining feed and mineralisation can be any depth or width. Dry mining techniques are preferred in situations involving high grades. • Mining would be through conventional open pit methods. • The thickness and continuous nature of the mineralisation, supports a bulk mining method. • The Company believes there are no mining factors which affect the assumption that the deposit has reasonable prospects for eventual economic mining.
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.*	• The metallurgical recovery is similar to other mineral sand operations. • Metallurgical parameters have been taken from the metallurgical tests, and metallurgical test work results support the recovery. • To date, the Company considers there are no metallurgical factors which are likely to significantly affect the assumption that the deposit has reasonable prospects.
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 greenfield 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.*	• There are no environmental factors likely to affect the assumption that the deposit has reasonable prospects for eventual economic extraction. • The local vegetation environment generally consists of strandveld plant communities. Topsoil stripped from the mining operations will be stockpiled for later use during rehabilitation. • Slime is low (~8%) and tailings generated in the processing plant will be pumped back into the open pits as part of the rehabilitation strategy. Any excess water will be recovered and recycled to the process. • There are no pollutants introduced with the tailings and the material is inert, however further studies for tailing and slime waste classification are ongoing.
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 between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• The bulk density is based on a calculation of the specific gravity of the silica and heavy mineral content fractions of each sample. It is therefore not fixed and fluctuates between 1.56 and 2.1 as per the formula: SG=1.68+(0.0095 x THM). • The use of a bulk density algorithm is a standard industry practice for the estimation of mineral sands resource.

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 Resources have been classified as Indicated, and Inferred Categories, in accordance with the 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves ("JORC Code (2012)").
		• A range of criteria has been considered in determining this classification including:
		  ○ Geological continuity
		  ○ Drillhole spacing:
		  - Areas with aircore drilling spaced at between 200x20m and 400x20m have been generally classified Indicated.
		  - Areas with aircore drilling spaced at greater than 400x20m have been generally classified as inferred.
		  - No Mineralisation has been classified as Measured.
		  ○ Slope of regression of the kriging estimate – this is a measure of the robustness of the estimate:
		  - Where there is a cluster of blocks with slope between 0.7 and 0.85, even if other criteria have been met for higher classification, the resource has been classified as Indicated.
		  - Where there is a cluster of blocks where slope is less than 0.7, even if other criteria have been met for higher classification, the resource has been classified as Inferred.
		• The results of the validation of the block model show acceptable correlation of the input data to the estimated grades.
		• The author is confident that all relevant factors have been considered and the results reflect his views.

Criteria	JORC Code explanation	Commentary
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• The Mineral Resource has been reviewed internally as part of normal validation processes by MRC. • This is considered to be a maiden Mineral Resource Estimate under the guidelines of the JORC Code (2012) since this is the first resource estimate completed in this project.
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 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.*	• An in-depth geostatistical study has been completed on this resource, which has allowed for robust estimation and high levels of confidence in the resource. • The size of the Eastern Strandline is modest in term of both HM tonnes and HM grade, but it represent a mining project due to an existing mineral sand operation in Tormin. • The southern half of the deposit does remain open to the south potentially opening extension opportunities for the deposit. • The estimate is appropriate for input into long term planning studies. • No production has occurred from the deposit.