mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

NAME OF APPLICANT: Mineral Sands Resources (Pty) Ltd

REFERENCE NUMBER: 10433PR

PROSPECTING WORK PROGRAMME

SUBMITTED FOR A PROSPECTING RIGHT APPLICATION WITHOUT BULK SAMPLING

AS REQUIRED IN TERMS OF SECTION 16 READ TOGETHER WITH REGULATION 7(1) OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT (ACT 28 of 2002)

STANDARD DIRECTIVE

All applicants for mining rights are herewith, in terms of the provisions of Section 16 and in terms of Regulation 7(1) of the Mineral and Petroleum Resources Development Act, directed to submit a Prospecting Work Programme, strictly under the following headings and in the following format together with the application for a prospecting right.

1. **REGULATION 7.1.(a): FULL PARTICULARS OF THE APPLICANT**

Table 1: Applicant's Contact Details

ITEM	COMPANY CONTACT DETAILS
Name	Mineral Sands Resources Pty Ltd
Tel no	+27 87 150 4020
Fax no:	N/A
Cellular no	+27 63 298 8813
E-mail address	sibonelo@mineralcommodities.com
Postal address	Mineral Sands Resources (Pty) Ltd P. O. Box 139 Lutzville 8165 Western Cape Province

Table 2: Consultant's Details

ITEM	CONSULTANT CONTACT DETAILS (If applicable)
Name	N/A
Tel no	N/A
Fax no:	N/A
Cellular no	N/A
E-mail address	N/A
Postal address	N/A

2. REGULATION 7(1)(b): PLAN CONTEMPLATED IN REGULATION 2(2) SHOWING THE LAND TO WHICH THE APPLICATION RELATES

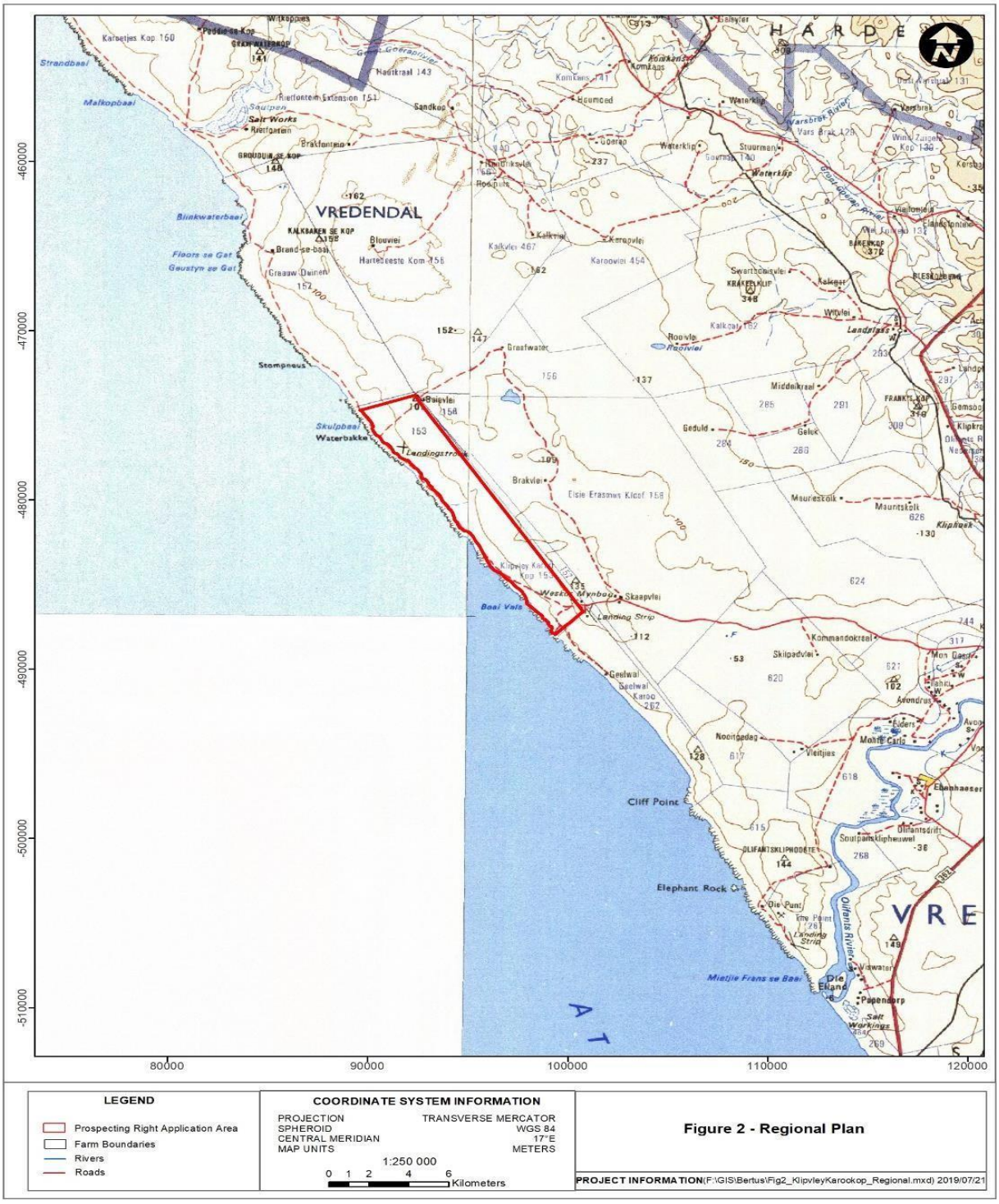

Figure 1A: Prospecting area plan

3. REGULATION 7(1)(c): THE REGISTERED DESCRIPTION OF THE LAND TO WHICH THE APPLICATION RELATES

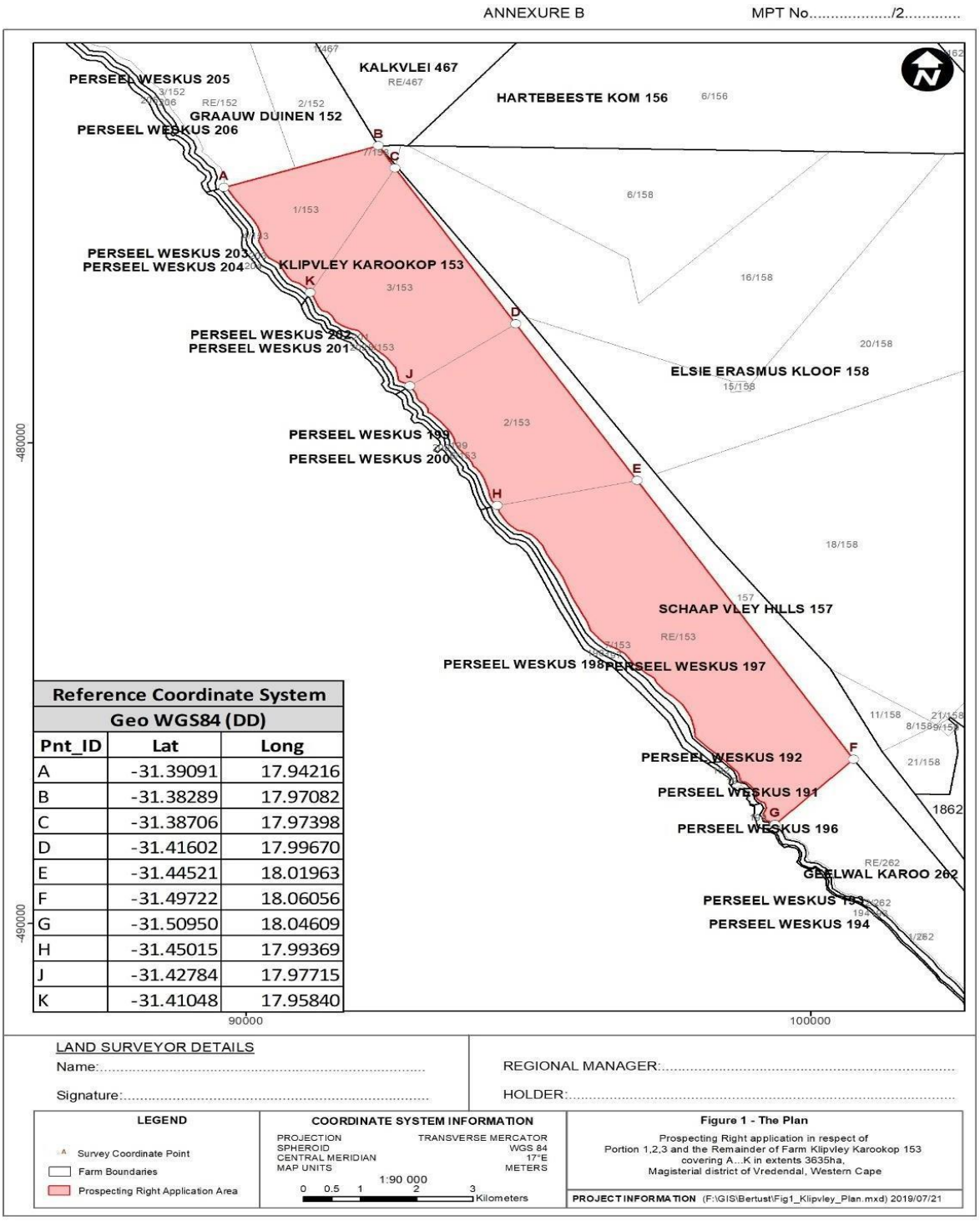

Figure 1B: Prospecting area description.

Portions 1, 2, 3 and the remainder of the farm Klipvley Karoo Kop #153 being approximately 3970ha in extend. Located in the administrative district of Vanrhynsdorp – Magisterial District of Vredendal.

No.	Farm/Erf no.	Name	Area (ha)	SG Code
1	RE/153	Klipvley Karookop	1 595.94	C07800070000 015300000
2	1/153	Klipvley Karookop	777.65	C07800070000 015300001
3	2/153	Klipvley Karookop	809.88	C07800070000 015300002
4	3/153	Klipvley Karookop	451.45	C07800070000 015300003
Total		**3 634.92**		

4. REGULATION 7(1)(d) and (e): THE MINERAL OR MINERALS TO BE PROSPECTED FOR

Table 4.1: Minerals to be prospected for

ITEM	DETAIL
Type of mineral(s)	DIAMOND (DIA), DIAMOND ALLUVIAL (DA), DIAMOND (GENERAL) (D), GARNET (ABBRASIVE) (Gn), HEAVY MINERALS (GENERAL) (HM), MINERAL (Lx), MONAZITE (HEAVY MINERAL) (Mz), RARE EARTHS (RE), RUTILE (HEAVY MINERAL) (Rt), ZIRCON (HEAVY MINERAL) (Zr), LEUCOXCENE, ILMENITE (HEAVY MINERAL)
Type of minerals continued	
Type of minerals continued	
Locality **(Direction and distance from nearest town)**	The farms are located 40 km west of the town Lutzville, within the Western Cape Province (1:50 000 Sheet 3118 AC Landplaas). Access is via the N7 and 363 tarred roads, and via gravel roads west of Koekenaap.
Extent of the area required for prospecting	3 635ha
Geological formation	The regional geology of the west coast of South Africa consists of thin and narrow

	elevated Cenozoic marine and aeolian strata draped uniformly onto an undulating Proterozoic basement. The oldest rocks in the immediate area include diverse basement lithologies of the mainly Mesoproterozoic Namaqualand Metamorphic Province with thrust-related slices of the Neoproterozoic Gariep Supergroup and fringes of the Vanrhynsdorp Group volcano-sedimentary lithologies. The generally rocky coastal plain is extensively blanketed by an unconsolidated Cenozoic sedimentary cover. The Cenozoic deposits extending northward from Elands Bay to Alexander Bay are classified as the West Coast Group.

4.2 Description why the Geological formation substantiates the minerals to be prospected for (provide a justification as to why the geological formation supports the possibility that the minerals applied for could be found therein)

The generally rocky coastal plain is extensively blanketed by an unconsolidated Cenozoic sedimentary cover. The Cenozoic deposits extending northward from Elands Bay to Alexander Bay are classified as the West Coast Group. The bulk of the overlying sediments occurs as marine- aeolian couplets with lithologic successions that are increasingly more marine in proportion north of Doring Bay. Conversely, the aeolian component turns dominant south of Hondeklip Bay. Generally, the basal, shallow-marine deposits rest unconformably on four main wavecuts, raised terraces corresponding to late Miocene and Pliocene sea-level transgressive maxima around 90, 50, 30, and 10 m amsl (meters above mean sea level). Heavy minerals, however, are concentrated in both marine and aeolian sediments, particularly north of Doring Bay.

Substantial terrigenous reworking of the marine sediments during the Quaternary to Holocene resulted in the development of complex dune systems interspersed with marine sediment contemporaries south of Hondeklip Bay. These aeolian sediments directly overlie the marine deposits and reach a substantial thickness. These dune systems, which are referred to as the Graauw Duinen Formation, represent some of the oldest remaining aeolian sand deposits mapped north of the Olifants River and overlie reworked Alexander Bay Formation lithologies near the coastline. The quartzofeldspathic aeolian sands are

marked by sharply increasing isopachs, partial induration and significant heavy mineral concentration.

The area applied for is situated to the south of the world class Namakwa Sands mine of Tronox that has been in operation from 1995. The region is well known for heavy mineral concentrations and smaller deposits has been described in the area by the Council for Geoscience in Bulletin 25, by CB Coetzee, 1957. The geological setting of the area is favorable for orogenic gold deposits and informal reports of gold is know from the area. Kaolin deposit has been investigated in the area and has been written up by the Council for Geoscience in Bulletin 36, by H Heystek, 1961.

4.3 Attach a geological map that justifies the description why there is a possibility that the minerals applied for could occur on the land concerned.

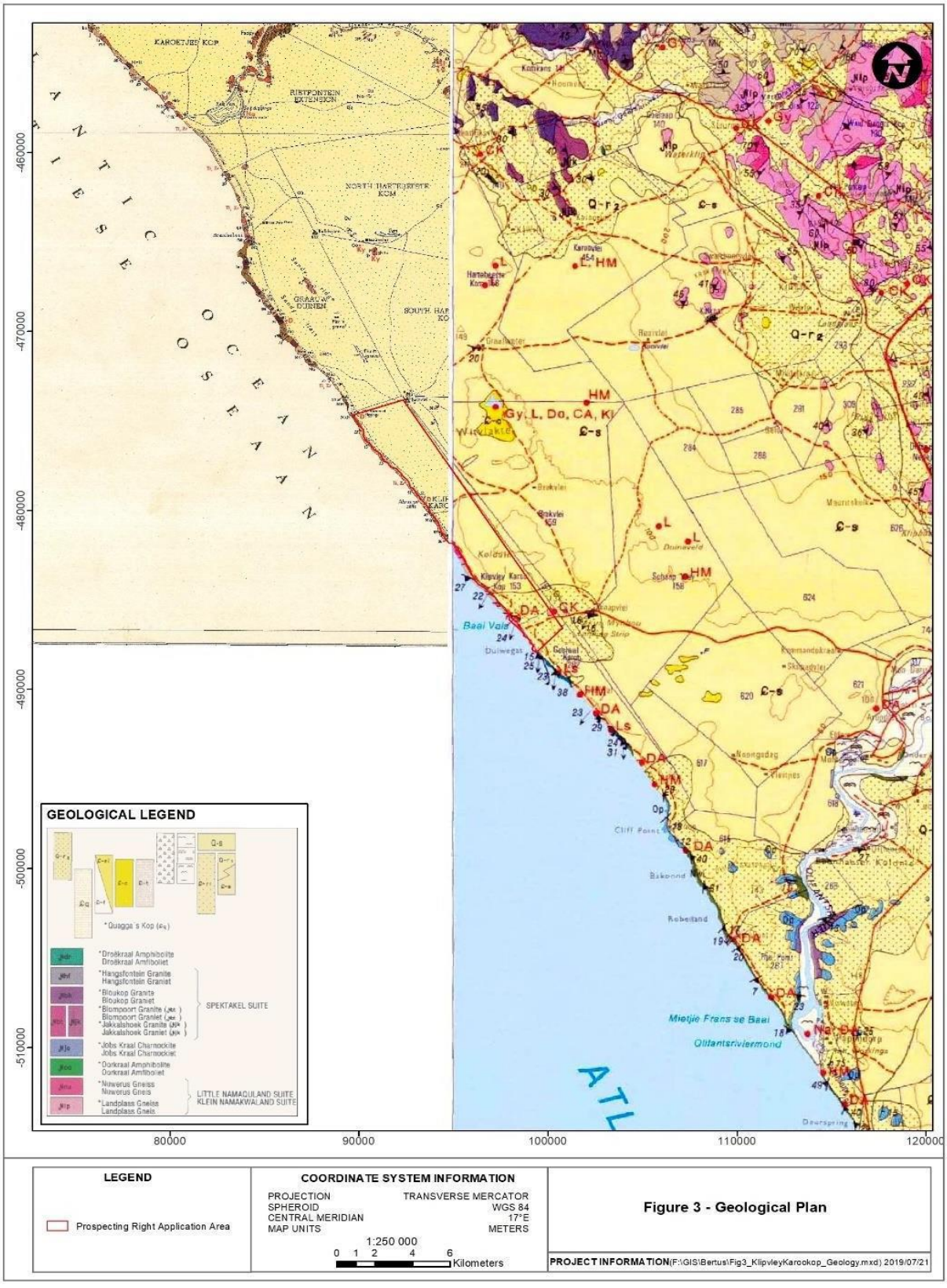

Figure 2. Geological map of application area.

5. REGULATION 7(1)(f): A DESCRIPTION OF HOW THE MINERAL RESOURCE AND MINERAL DISTRIBUTION OF THE PROSPECTING AREA WILL BE DETERMINED

The existence and possible size of heavy mineral deposits in the application area will be determined as follows:

• **Desktop review:** This will include data acquisition from government and private sources, and analysis of any existing/previous prospecting and drilling data, satellite (Landsat) imagery, aerial photos, and terrain data, as well as existing geological map interpretation. The interpretation and analysis of this information will contribute towards the understanding of mineralization and identification of potentially mineralized zones. This will inform the geophysical survey and the design of the drilling programme to be executed in Phase 3.

• **Airborne geophysical survey** to identify drill targets. A horizontal gradient fixed-wing magnetic and radiometric ("AMR") survey will be conducted by the Consultant Geophysicist under the direction of the project geologist to obtain maps and a report confirming drill targets. Geophysical surveys are designed to detect magnetism from target minerals such as magnetite and ilmenite and radiometric signatures of minerals such as ilmenite and zircon which are depicted as mineralization trends on geophysical survey maps. It is these trends that are targeted for drilling.

• **Aircore drilling and Resource modelling**. The drill plan will be designed from the geophysical maps generated in Phase 2 above. The Aircore drilling method will be employed to drill approximately 250 boreholes between 50 – 60mdepth and into the bedrock to define the end of mineralization. Borehole collars will be pegged using GPSs to direct drilling. Borehole samples will be collected into plastic bags and analyzed for heavy mineral content mainly at the on-site laboratory with a percentage of these samples analyzed externally for Quality Assurance/ Quality Control purposes.

Furthermore, a geological model of the deposit and a JORC compliant resource model will be generated to define the mineral deposit's economic potential. As is the nature of exploration drilling, more drilling may be required based on the results of the geophysical survey and Aircore drilling to better define the orebody and from the resource modeling to increase confidence in the resource estimates. Additional drilling access routes may also be required (existing roads will be used and new tracks only permitted in exceptional circumstances).

- **Scoping and feasibility study with possible additional sampling.** Analytical desk-top study. All the data collected will be analysed and compiled into a final report/model in order to determine the potential of the project and to outline possible future drill sampling programs if any.

AND

REGULATION 7(1)(h): ALL PLANNED PROSPECTING ACTIVITIES MUST BE CONDUCTED IN PHASES AND WITHIN SPECIFIC TIMEFRAMES

The prospecting will be conducted in 5 phases, each one dependent on the results of the previous.

• **Phase 1:** Desktop review of existing information and reports in order to understand the geology and potential mineralization trends.

• **Phase 2:** Airborne geophysical survey to identify drill targets. A horizontal gradient fixed-wing magnetic and radiometric ("AMR") survey will be conducted by the Consultant Geophysicist under the direction of the project geologist to obtain maps and a report confirming drill targets.

• **Phase 3:** Aircore drilling and Resource modelling – The drill plan will be designed from the geophysical maps generated in Phase 2 above. The Aircore drilling method will be employed to drill approximately 250 boreholes between 50 – 60m depth and into the bedrock to define the end of mineralization. Borehole samples will be collected into plastic bags and analyzed for heavy mineral content mainly at the on-site laboratory with a percentage of these samples analyzed externally for Quality Assurance/ Quality Control purposes.

Furthermore, a geological model of the deposit and a JORC compliant resource model will be generated to define the mineral deposit's economic potential. As is the nature of exploration drilling, more drilling may be required based on the results of the geophysical survey and Aircore drilling to better define the orebody and from the resource modeling to increase confidence in the resource estimates. Additional drilling access routes may also be required (existing roads will be used and new tracks if mineralization is found to occur out of reach from existing tracks.

• **Phase 4: Analytical desktop studies** to generate the reserve model and the deposit's future profitability forecasts – This phase involves reserve modeling and generation of multiple scenarios or alternative mine designs, schedules and financial models to determine the extractability and profitability of the mineral deposit.

• **Phase 5: Scoping and feasibility study** in order to determine the feasibility desktop study with possible additional sampling. extensive testwork (e.g., metallurgical, mineralogical, petrographical studies) and engineering analysis will be conducted to determine the mineralogy, best processing and recovery system to upgrade the minerals to a saleable product. At this stage, a decision will be made whether or not to advance the project to the final engineering and construction stage i.e., proceed to apply for a mining right.

Table 5.1: Summary of the 5 prospecting phases.

Phase	Activity	Timeframe	Quantities
Phase 1	Desktop study	6 months	Entire area
Phase 2	Airborne geophysical survey	6 months	Entire area
Phase 3	Aircore drilling and Resource modelling	24 months	~250 boreholes and all borehole analysis
Phase 4	Reserve and financial modelling	6 months	All data
Phase 5	Scoping and feasibility study	18 months	All data

AND

REGULATION 7(1)(i): TECHNICAL DATA DETAILING THE PROSPECTING METHOD OR METHODS TO BE IMPLEMENTED AND THE TIME REQUIRED FOR EACH PHASE OF THE PROPOSED PROSPECTING OPERATION.

PHASE	ACTIVITY (what are the activities that are planned to achieve optimal prospecting)	SKILL(S) REQUIRED (refers to the competent personnel that will be employed to achieve the required results)	PLANNED TIMEFRAME (in months) for the activity	OUTCOME (what is the expected deliverable)	OUTCOME TIMEFRAME (deadline for the expected outcome to be delivered)	QAUALIFIED SIGNATORY What technical expert will sign off on the outcome?(eg. geologists, mining engineers, surveyors, etc)
e.g.1	**Non-Invasive Prospecting** Geophysical Survey	Geologist / Mineral economist	Month 1 – 6	Flight Plans, Flight Line and Traverse Lines Digital Data gathered	Month 6	Geophysicist
	Non-Invasive Prospecting Literature Survey	Geologist	Month 1 – 6	Maps or Plans and detailed report on results	Month 6	Geologist
	Invasive prospecting Boreholes,	Geologist	Month 6-24	Borehole core data	Month 24	Geologist
e.g.2	Trenches and/	Geologist	Month 7- 24	Detailed report on sidewall profiles, volumes, average grades, locality	Month 24	Geologist
e.g.3	Excavations	Works foreman / labourers / drilling con.	Month 7- 24	sidewall mapping, lithological profiles	Month 24	Geologist
e.g.4	**Non-Invasive prospecting** **Analytical Desktop Studies**	Mine Economist / Geologist	Month 24-36	Geological or pre-feasibility Reports Resource Statements, Geological Maps/Plans	Month 36	Geologist / Mineral Economist (professionally Qualified Persons)

The table below incorporates the information required in respect of Regulations 7(1)(f), 7(1)(h) and 7(1)(i):

Table 5.1 Prospecting plan.

Phase	Activity (what are the activities that are planned to achieve optimal prospecting)	Skill(s) required (refers to the competent personnel that will be employed to achieve the required results)	Timeframe (in months) for the activity)	Outcome (What is the expected deliverable, e.g., Geological report, analytical results, feasibility study, etc.)	Timeframe for outcome (deadline for the expected outcome to be delivered)	What technical expert will sign off on the outcome? (e.g. geologist, mining engineer, surveyor, economist, etc)
1.	**Non-invasive** Desktop study	Project Geologist	Month 1 - 6	GIS maps and report providing details about the nature of mineralization and terrain	Month 6	Project Geologist
2.	**Non-invasive** Geophysical survey – aeromagnetic and radiometric surveys	Geophysicist and Project Geologist	Month 7 – 12	Geophysical maps and report confirming drill targets - Drill plan	Month 12	Geophysicist and Project Geologist
3.	**Invasive** Aircore drilling and, **Non-invasive** Resource modeling	Project and Resource Geologists	Month 13 – 36	Geological and resource models that can be used to direct further drilling or to report resources	Month 36	Project Geologist and Resource Geologist (JORC Compliant)

4.	**Non-invasive** Technical and financial modelling	Mine Economist, Mine Planner and Geologist	Month 37 – 42	JORC compliant reserve statement, mine design and future economic forecasts	Month 42	Competent/ JORC Compliant Resource and Reserve Specialists
5.	**Non-invasive** Scoping and feasibility study possibly with additional sampling	Project Manager and feasibility study team	Month 43 - 60	Outcome whether to move to final engineering and construction stage (mining right application) or abandon the project	Month 60	Company Board of Directors and/ or Chairman

6. REGULATION 7(1)(g): A DESCRIPTION OF THE PROSPECTING METHOD OR METHODS TO BE IMPLEMENTED

(i) DESCRIPTION OF PLANNED NON-INVASIVE ACTIVITIES:

(These activities do not disturb the land where prospecting will take place e.g., aerial photography, desktop studies, aeromagnetic surveys, etc)

Desktop review of existing information and reports in order to understand the geology and potential mineralization trends. This will include data acquisition from government and private sources, and analysis of any existing/previous prospecting and drilling data, satellite (Landsat) imagery, aerial photos, and terrain data, as well as existing geological map interpretation.

Airborne geophysical survey to identify drill targets. A horizontal gradient fixed-wing magnetic and radiometric ("AMR") survey will be conducted by the Consultant Geophysicist under the direction of the project geologist to obtain maps and a report confirming drill targets. This entails an aircraft fitted with geophysical equipment flying over the prospecting area and mapping mineralization anomalies or trends which are then targeted for drilling.

(ii) DESCRIPTION OF PLANNED INVASIVE ACTIVITIES:

(These activities result in land disturbances e.g., sampling, drilling, bulk sampling, etc)

Air-core drilling to obtain geological information and representative samples for analytical analysis (e.g., chemistry, mineralogy and petrography). The Aircore rig uses steel or tungsten blades to bore a hole into unconsolidated ground. The drill cuttings are removed by the injection of compressed air into the hole. This method of drilling is used to drill unconsolidated sands and soft sediments. It is relatively inexpensive and is often used in first pass exploration programmes targeting 50 – 60metres depths.

Should the project reach the feasibility stage, up to 4 sampling pits will be dug for metallurgical testwork. These will be 50X50m wide to allow for digging to the depth of mineralization.

(iii) DESCRIPTION OF PRE-/FEASIBILITY STUDIES

(Activities in this section includes but are not limited to initial, geological modeling, resource determination, possible future funding models, etc)

Generation of geological and resource models for resource definition (dimensions) and grade (quality) estimation). These will be generated from the

drilling field data, survey data and laboratory analysis in line with the JORC Code and will form inputs into the subsequent stages described below.

Technical and financial modelling including reserve model generation which is utilized for mine design and financial (economic viability) modelling. Reserve and cashflow modeling and formal reporting of reserve statements. Mine design and financial modeling, which include cut-off grade determination, the reserve's future profitability forecasts and Life-of Mine scheduling will also be conducted with multiple scenarios generated with the best eventually selected for the business.

Scoping and feasibility study which seeks to establish whether to advance to engineering design and construction or abandon the project - If deemed economical viable after the previous stage, the project will move to a feasibility stage where extensive testwork (e.g., metallurgical, mineralogical, petrographical studies) and engineering analysis will be conducted to determine the mineralogy, best processing and recovery system to upgrade the minerals to a saleable product. At this stage, a decision will be made whether or not to advance the project to the final engineering and construction stage i.e., proceed to apply for a mining right.

Commitment to provide addendums in respect of additional prospecting activities

I herewith commit to provide the Department of Mineral Resources with an addendum in respect of both the EM Plan and Prospecting Work Programme regarding any future in-fill prospecting required but not described above, prior to undertaking such activities. The addendum will cover all the Regulations as per the Prospecting Work Programme.

I agree that the addendums will provide for similar activities only and if the scope changes, I would be required to apply in terms of Section 102 of the MPRDA for an amendment of the Prospecting Work Programme

Mark with X

ACCEPT	**X**

7. REGULATION 7(1)(j)(i): DETAILS WITH DOCUMENTARY PROOF OF THE APPLICANT'S TECHNICAL ABILITY OR ACCESS THERETO TO CONDUCT THE PROPOSED PROSPECTING OPERATION

7.1 Competencies to be employed in terms of the Mine Health and Safety Act

COMPETENCIES TO BE EMPLOYED (List the legal appointments that will be made in terms of the Mine Health and Safety Act, appropriate for the type of operation)
Existing in-house geologists, environmental officers, OHS officers, field staff and operators will be used that currently employed by MSR Tormin operation near the prospecting site.
This includes the following people:
Mine geologist - Thulisiwe Hlela
Exploration geologist – External Consultant
Environmental officer - Sibonelo Mkhize
Radiation officer Consultant – Liezel van Zyl
Drilling work will be contracted out.

I herewith confirm that I, in Table 9.1 have budgeted and financially provided for the required skills listed above.

CONFIRMED (Mark with an **X**)	**X**

7.2 List of Appropriate equipment at your disposal (If Applicable)

Table D: Appropriate Equipment Available

4x4 vehicles – fully fitted with safety lights and communication equipment
GPS equipment, geological hammers, surveying equipment, sampling bags
Laboratory to analyse HMS including XRF and XRD machines and lab personnel
Geological software e.g., Micromine, ArcInfo, ArcView

7.3 Technical skills provided Free of Charge

7.3.1 Information (CV's) in respect of skills already acquired (append)

See Annexure 1A below.

7.3.2 Copy of the relevant contractual agreements between the service provider and the applicant relative to the duration of the planned prospecting period, where applicable. (append)

All sample analyses will be done by the MSR 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). 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.

7.3.3 ALL other evidence of Technical Ability (append)

MSR has an operating mine in the area of prospecting and as such will make use of available personnel and in-house skills where possible.
The Health, Safety & Environment Manager from the Tormin Mineral Sands Mine (Tormin) at Geelwal Karoo will ensure that proper procedures are in place prior to any physical activities taking place. The Geologist in full-time employ at Tormin will assist with the identification of sampling sites and analysis of geological data during the Geophysical Surveys. To facilitate the sampling phase, lower confidence testing of the grab samples can be handled by the Metallurgist and the laboratory at Tormin Mine.

MSR have a strong track record in the prospecting and development of HMS deposits in South Africa.

8. REGULATION 7(1)(j)(ii): DETAILS WITH DOCUMENTARY PROOF OF A BUDGET AND DOCUMENTARY PROOF OF THE APPLICANT'S FINANCIAL ABILITY OR ACCESS THERETO

MSR's immediate holding company is MRC Resources (Pty) Ltd, a South African registered company. Its ultimate holding company is Mineral Commodities Limited (MRC), Australian public company listed on the Australian Stock Exchange.

MSR's ability to source funding required for the prospecting activities outlined in the PRA is linked to its position as a subsidiary of MRC. Its latest annual report and ASX releases are freely available on its website www.mineralcommodities.com where is strong cash flow position is indicated. Please find attached a March 2020 ASX release indicating a yearly EBITDA of US$21.3million and an after-tax profit of US$13.4 million.

The construction of infrastructure for the Tormin operations were completed in late 2013 and mining operations commenced in December 2013. The processing plant is currently producing non-magnetic saleable concentrate, Ilmenite saleable concentrate and Garnet saleable concentrate.

Based on the above and the relatively low costs of the proposed prospecting activities, MRC/ MSR is considered financially capable of funding this project with internal cash funds.

AND

9. REGULATION 7(1)(k) A COST ESTIMATE OF THE EXPENDITURE TO BE INCURRED FOR EACH PHASE OF THE PROPOSED PROSPECTING OPERATION (remember to also include prospecting fees)

Table 9.1 Cost estimate of the expenditure.

ACTIVITY	YEAR 1 Expenditure (R')	YEAR 2 Expenditure (R')	YEAR 3 Expenditure (R')	YEAR 4 Expenditure (R')	YEAR 5 Expenditure (R')
PHASE 1 (6 months)					
Desktop Study	**150,000.00**				
PHASE 2 (6 months)					
Geophysical Survey	**2,000,000.00**				
PHASE 3 (24 months)					
Aicore Drilling incl. sample analysis		**1,500,000.00**	**700,000.00**		
Resource Estimation			**300,000.00**		
PHASE 4 (6 months)				**800,000.00**	
Reserve Modelling					
Financial Modelling					
PHASE 5 (18 months)				**500,000.00**	**2,000,000.00**
Scoping and feasibility study possibly with additional sampling					
Annual Total					
				Total Budget	**7, 950,000.00**

NOTE! If any person (including the applicant) provides services in any job or skills category at a reduced rate or free of charge, then such person's Curriculum Vitae (CV) must be attached as documentary proof of the technical ability available to the applicant.

10. FINANCIAL ABILITY TO GIVE EFFECT TO THE WORK PROGRAMME

10.1 The amount required to finance the Work Programme.

(State the amount required to complete the work)

As per Table 9.1 above, the total amount required is SAR 7.95 million.

10.2 Detail regarding the financing arrangements

(Elaborate on the financing arrangements, in terms of where the finance will be sourced, extent to which the financing has been finalized and on the level of certainty that such financing can be secured.)

As mentioned in Section 9, MSR's ability to source funding required for the prospecting activities is linked to its position as a subsidiary of MRC and its current positive cashflow from its Tormin mining operation. Due to the relatively low costs of the proposed prospecting activities, funding will be obtained internally from MRC and its holding company MSR.

10.3 Confirmation of supporting evidence appended.

(Attach evidence of available funding and or financing arrangements such as balance sheets, agreements with financial institutions, underwriting agreements, etc. and **specifically confirm** in this regard what documentation has been attached as appendices).

Please see attached profit release of EBITDA US$13.4million - Annexure B.

11 Confirmation of the availability of funds to implement the proposed project.

See Section 10.3 above.

12 I herewith confirm that I have budgeted and financially provided for the total budget as identified in Regulation 7(1)(k).

Confirmed (Mark with an X)	**X**

13 REGULATION 7(1) (m): UNDERTAKING, SIGNED BY THE APPLICANT, TO ADHERE TO THE PROPOSALS AS SET OUT IN THE PROSPECTING WORK PROGRAMME

Table: 13.1 Undertaking.

Herewith I, the person whose name and identity number are stated below, confirm that I am the Applicant, or the person authorised to act as representative of the Applicant in terms of the resolution submitted with the application, and undertake to implement this prospecting work programme and adhere to the proposals set out herein.	
Full Names and Surname	Sibonelo P. Mkhize
Identity Number	8204195444088

END

Annexure A: Geologist's CV.

Thulisiwe Claudia Hlela| Geologist

Physical Address: Lutzville, Western Cape, South Africa
Cell: +27 82 562 3561
Email: thulisiwe_hlela@yahoo.com

1. Professional Profile

Currently employed as a Mineral Resource Manager responsible for mining resource management and managing mine expansion exploration projects.

2. Core Skills

- Mining/ Production Geology
- Managing Drilling Projects
- Database Management

3. Career Summary

Jan 2014 – Present — **Mineral Sands Resources (Pty) Ltd, Mineral Sands Mineral Resource Manager**

*Outline: M*anagement of Mine Survey, Geology, Planning and Geotechnical functions of the mine to ensure optimal safe extraction of the mineral resource.

Key Responsibilities:

- Ensure geological, mining and survey data collection, interpretation, analysis and presentation
- Reporting
- Compile scope of works for projects
- Manage drafting of Codes of Practices
- Manage consultants to ensure quality outputs in line with scope of works
- Provide on-the-job training
- Manage mine expansion drilling projects
- Conducted mine grade control and mine production duties

May 2008 – Dec 2013 — **Foskor (Pty) Ltd, Phosphate Geologist**

Outline: Mine grade control with a focus in database management to ensure data integrity; liaised with processing plant production teams on issues of ore quality; grade control modelling for mine scheduling and resource management.

Key Responsibilities:

- Conducted and supervised mine grade control
- Managed geological and geochemical databases

Thulisiwe Claudia Hlela| Geologist

Physical Address: Lutzville, Western Cape, South Africa
Cell: +27 82 562 3561
Email: thulisiwe_hlela@yahoo.com

- Conducted geological solids modelling, grade control modelling and mining reconciliation analysis
- Assisted in short-, medium- and long-term mine planning
- Liaised with processing plant to inform on mine ore quality
- Conducted a quality assurance and quality control (QA/QC) study for blasthole samples
- Managed a geotechnical study of the open pit
- Managed the revision of the mine's code of practice for combatting slope instability and rock burst accidents

Jan 2006 – Apr 2008 **Richards Bay Minerals (Pty) Ltd, Mineral Sands**
Drilling Geologist/ Production Geologist

Outline: Drilled in front of mining faces for resource estimation and grade control , analysed, presented mine production data and liaised with processing plant production teams on ore quality.

Key Responsibilities:

- Supervised reverse circulation (RC) and sonic drilling; logged and sampled core
- Updated borehole databases
- Conducted mine grade control and production
- Assisted with mine short- and medium-term planning
- Investigated the viability of a hand-held x-ray fluorescence machine for the analysis of field drill samples

Feb 2005 – Dec 2005 **Kudu Granite Operations (Pty) Ltd, Dimension Stone**
Geologist-in-training

Outline: Drilled in front of quarrying faces to define granite blocks for production planning and to inform blasting activities (whether ore or waste) and exploration for expansion and alterative orebodies.

Key Responsibilities:

- Supervised diamond drilling, logged and sampled core
- Conducted outcrop and quarrying face mapping
- Estimated block recoveries and performed block classification according to quality

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4. Education and Qualifications

Tertiary

- 2010 | University of Stellenbosch | Management Development Programme-Certificate

Thulisiwe Claudia Hlela| Geologist

Physical Address: Lutzville, Western Cape, South Africa
Cell: +27 82 562 3561
Email: thulisiwe_hlela@yahoo.com

- 2004 | University of Johannesburg | BSc Hons Geology
- 2003 | University of Kwa-Zulu Natal | BSc Geology

Certificate of attendance short courses

- 2005 | The Geological Society of South Africa (GSSA) | Drilling Methods and Techniques in Exploration and Mining
- 2005 | GSSA | Technical Evaluation of Exploration Projects
- 2007 | AcQuire Techonology Solutions | AcQuire Concepts, Storage and QA/QC of Results, Reports
- 2007 - 2013 | Surpac/ Geovia | Surpac Foundation, Geology and Resource Estimation
- 2013 | Snowden | Successful Sampling, QA/QC of Assay Data, Grade Control, Practical Reconciliation
- 2013 | Innovative Business Solutions | Project Management For Exploration Geologists
- 2014 | Dr Isobel Clark | Practical Geostatistics

Software

- Surpac
- AcQuire
- Minescape
- Trimble Business Centre
- ModelMaker
- Global Mapper

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5. **Membership Of Professional Bodies**

- Member | The Geological Society Of South Africa
- Registered Professional | The South African Council For Natural Scientific Professions

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6. **Referees**

- Available upon request