

## SUMMARY OF THE PROPOSED MINING OPERATION.

### 1. List of activities, scale and extent of activities applied for

All mining related activities for the recovering of diamonds by means of trenching:

NAME OF ACTIVITY	ARIAL EXTENT OF THE ACTIVITY HA OR M <sup>2</sup>	APPLICABLE LISTING NOTICE
<b>Total Application</b>	<b>± 5 ha</b>	
Mining	<b>&lt; 4 ha</b>	
Excavations	< 3 ha	<p>NEMA GNR 983, Listed 1, Activity 21: Any activity including the operation of that activity which requires a mining permit ... (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource ...</p> <p>NEMA GNR 983, Listed 1, Activity 27: The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation ...</p>
Topsoil and Overburden	< 0.2 ha	<p>NEMA GNR 983, Listed 1, Activity 21: Any activity including the operation of that activity which requires a mining permit ... (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource ...</p> <p>NEMA 2017, GNR 983, Listed 1, Activity 22: The decommissioning of any activity ... (i) a closure certificate in terms of Section 43 of the MPRDA ...</p>
Ore dumps	< 0.30 ha	<p>NEMA GNR 983, Listed 1, Activity 21: Any activity including the operation of that activity which requires a mining permit ... (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource ...</p> <p>NEMWA 2015, GNR 633, Category A, Activity 15: The continuous establishment and reclamation of temporary stockpiles resulting from activities which require a .... Mine Permit ...</p>

		NEMA 2017, GNR 983, Listed 1, Activity 22: The decommissioning of any activity ... (i) a closure certificate in terms of Section 43 of the MPRDA ...
Waste dumps	< 0.17 ha	<p>NEMA GNR 983, Listed 1, Activity 21: Any activity including the operation of that activity which requires a mining permit ... (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource ...</p> <p>NEMWA 2014, GNR 449, Category B, Activity 13: Inert waste ... (c) discarded soil, stones ...</p> <p>NEMA 2017, GNR 983, Listed 1, Activity 22: The decommissioning of any activity ... (i) a closure certificate in terms of Section 43 of the MPRDA ...</p>
Stockpiles	< 0.3 ha	<p>NEMA GNR 983, Listed 1, Activity 21: Any activity including the operation of that activity which requires a mining permit ... (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource ...</p> <p>NEMWA 2015, GNR 633, Category A, Activity 15: The continuous establishment and reclamation of temporary stockpiles resulting from activities which require a .... Mine Permit ...</p> <p>NEMA 2017, GNR 983, Listed 1, Activity 22: The decommissioning of any activity ... (i) a closure certificate in terms of Section 43 of the MPRDA ...</p>
Mine related infrastructure	<b>± 0.5449 ha</b>	
Office site	0.0025 ha	NEMA GNR 983, Listed 1, Activity 21: Any activity including the operation of that activity which requires a mining permit ... (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource ...

		NEMA 2017, GNR 983, Listed 1, Activity 22: The decommissioning of any activity ... (i) a closure certificate in terms of Section 43 of the MPRDA ...
Processing plant	0.5 ha	<p>NEMA GNR 983, Listed 1, Activity 21: Any activity including the operation of that activity which requires a mining permit ... (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource ...</p> <p>NEMWA 2014, GNR 449, Category B, Activity 11: Building and demolition waste ... (e) other discarded building and demolition waste</p> <p>NEMA 2017, GNR 983, Listed 1, Activity 22: The decommissioning of any activity ... (i) a closure certificate in terms of Section 43 of the MPRDA ...</p>
Ablution Facility	0.0008 ha	NEMA GNR 983, Listed 1, Activity 21: Any activity including the operation of that activity which requires a mining permit ... (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource ...
Vehicle parking	0.0308 ha	
Parking lot Wash bay Part storeroom	0.02 ha 0.006 ha 0.0048 ha	<p>NEMA GNR 983, Listed 1, Activity 21: Any activity including the operation of that activity which requires a mining permit ... (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource ...</p> <p>NEMWA 2014, GNR 449, Category A, Activity 12: Oil wastes and wastes of liquid fuels ... (a) waste hydraulic oils ... (b) waste engine, gear and lubricating oils ... (d) oil/water separator contents</p> <p>NEMWA 2014, GNR 449, Category B, Activity 13: Inert waste ... (a) discarded concrete ...</p>

		NEMA 2017, GNR 983, Listed 1, Activity 22: The decommissioning of any activity ... (i) a closure certificate in terms of Section 43 of the MPRDA ...
Temporary workshop facility	0.005 ha	<p>NEMA GNR 983, Listed 1, Activity 21: Any activity including the operation of that activity which requires a mining permit ... (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource ...</p> <p>NEMWA 2014, GNR 449, Category A, Activity 12: Oil wastes and wastes of liquid fuels ... (a) waste hydraulic oils ... (b) waste engine, gear and lubricating oils ... (d) oil/water separator contents...</p> <p>NEMWA 2014, GNR 449, Category B, Activity 13: Inert waste ... (a) discarded concrete ...</p> <p>NEMA 2017, GNR 983, Listed 1, Activity 22: The decommissioning of any activity ... (i) a closure certificate in terms of Section 43 of the MPRDA ...</p>
Chemical and hydrocarbon fluid storage	0.0025 ha	<p>NEMA GNR 983, Listed 1, Activity 21: Any activity including the operation of that activity which requires a mining permit ... (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource ...</p> <p>NEMWA 2014, GNR 449, Category B, Activity 13: Inert Waste ... (a) discarded concrete ...</p> <p>NEMWA 2014, GNR 449, Category A, Activity 12: Oil wastes and wastes of liquid fuels ... (a) waste engine, gear and lubricating oils ... (d) oil/water separator contents</p>

		NEMA 2017, GNR 983, Listed 1, Activity 22: The decommissioning of any activity ... (i) a closure certificate in terms of Section 43 of the MPRDA ...
Diesel storage	0.0025 ha	<p>NEMA GNR 983, Listed 1, Activity 21: Any activity including the operation of that activity which requires a mining permit ... (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource ...</p> <p>NEMWA 2014, GNR 449, Category A, Activity 12: Oil wastes and wastes of liquid fuels ... (d) oil/water separator contents</p> <p>NEMWA 2014, GNR 449, Category B, Activity 13: Inert waste ... (a) discarded concrete ...</p> <p>NEMA 2017, GNR 983, Listed 1, Activity 22: The decommissioning of any activity ... (i) a closure certificate in terms of Section 43 of the MPRDA ...</p>
Domestic waste facility	0.0008 ha	<p>NEMA GNR 983, Listed 1, Activity 21: Any activity including the operation of that activity which requires a mining permit ... (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource ...</p> <p>NEMWA 20174, GNR 449, Category B, Activity 12: Domestic Waste ... (b) municipal waste</p>
Access and hauling roads	0.4 ha	NEMA GNR 983, Listed 1, Activity 21: Any activity including the operation of that activity which requires a mining permit ... (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource ...

		NEMA 2017, GNR 983, Listed 1, Activity 22: The decommissioning of any activity ... (i) a closure certificate in terms of Section 43 of the MPRDA ...
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	Activity total
	Grouped activity
	Information unknown / Cannot be determined

## 2. Typical impacts of activities

- Vegetation loss – a total area of < 40 000 m<sup>2</sup> will be cleared for mining related structures (excavations, topsoil, overburden, ore dumps, waste dump and stock piles) and ± 5 449 m<sup>2</sup> for plant, and office site establishment. The impact can be regarded as medium, with minimum long term effects. If rehabilitation of these areas is done correctly adequate recovery of the environment is possible.
- Noise disturbance – during excavation, hauling and mineral processing activities is noise generated by the machinery. Again the noise will be much localized and should have no impact on the surrounding environment.
- Air quality loss – dust will be generated during the excavating and hauling activities. The dust generated may have an impact on the air quality, but with localized effects and should not have an effect on the surrounding environment. For this the impact can be regarded as low.
- Soil pollution – chemical soil pollution is always a possibility during mechanical mining operations. Working machinery and storage facilities bears a risk for chemical spillage and the impact thereof may be very severe.
- Soil compaction – heavy vehicles driving off-road bears a great risk to the trampling of vegetation and the compaction of the soil. The plant site area will also become compacted during the duration of the mine. If not rehabilitated vegetation re-growth is unforeseen and poses a medium risk to the environment.
- Littering pollution – littering during the mining activities can happen and may have a low to medium impact on the environment depending on the type of littering and the remediation thereof.
- Water pollution – chemical contaminated water from the storage facilities bears a risk to the environment. This impact should always be regarded as high and proper mitigation and/or remediation measures should be in place.

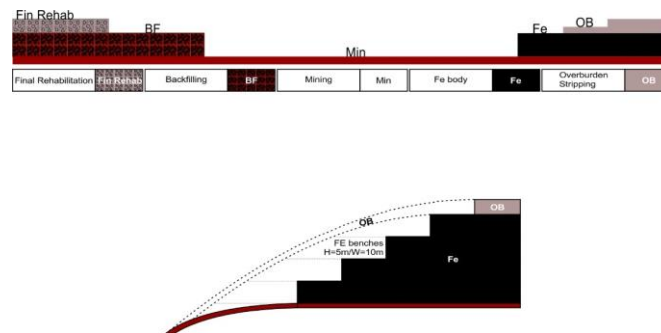
## 3. Duration of each activity

All of the listed activities will be occurring concurrently and the time frame applied for at the Department of Mineral Resources is 2 years which is the duration of the permit.

#### 4. Details regarding intended operation

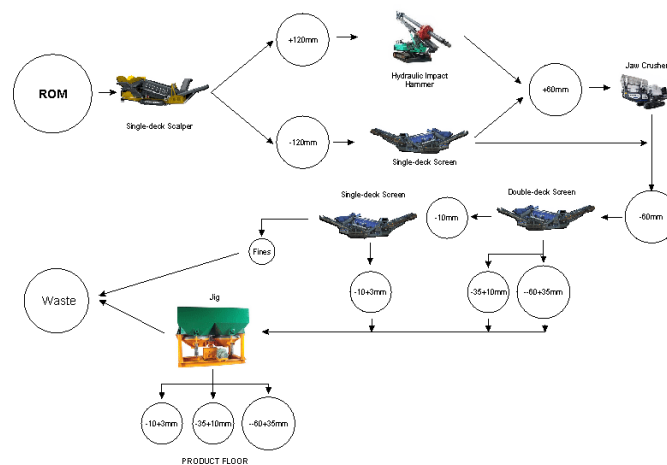
A total approximate area of 3 hectares will be excavated to remove all possible Iron and/or Manganese ore over a period of 2 years as applied for. The method of mining to be applied in opencast bench mining. Against the hills it will be mine from the top and on the flats, once overburden is stripped, as a single bench varying in thickness up to 5 m.

Due to the competency of the iron ore benches of 5 m high and 10 m wide is envisaged to allow loading, hauling and safe transport. The bench slope angle should be 80°. Overburden and topsoil layers would be removed with bench heights of 3 m and slope angles of 60°



The ore material removed and transported to the plant site will be scalped to remove all +120 mm material. This material will be broken up to -120 mm with a hydraulic Impact hammer mounted onto a 30 to 35 ton excavator.

The scalped material will then be screened to remove all -60 mm material. The +60 mm will be crushed down to -60 mm to break loose the -40 mm Fe (interlayered waste) material. The initial -60 mm material will be added and screened into -60+35 mm, -35+10 mm and -10+3 mm fractions. Each fraction will be stockpiled independently for washing purposes by using a jig. The jig will be used to separate the -40% Fe, in the process upgrading the material to ±55% Fe.



Rehabilitation is planned to occur in the following manner:

- All areas mined below the surrounding surface of the land will be backfilled as part of the mining operation, then covered with the initial topsoil removed as rehabilitation material to encourage plant growth as final part of rehabilitation
- Once the specific pit on the flats has been mined out the mining roads will be lifted if it was made with fines, else it will be ripped to encourage vegetation growth.
- The rehabilitated area will be continuously inspected against invader plant species and to monitor the indigenous vegetation regrowth

During the decommissioning of the project the following will be done to ensure a successful closure

- All mining and mining related infrastructure will be removed from the area and the compacted ground ripped and rehabilitated.
- Mine roads will also be ripped and rehabilitated.
- All rehabilitated areas will be monitored and regularly inspected against invader species as well as monitoring the indigenous vegetation regrowth rate.

The end-land use after final rehabilitation would probably be the continuation of farming activities, but is dependable on the decision of the land owner.