

**PROPOSED DOLERITE MINE ON A PORTION OF THE  
REMAINING PORTION OF THE FARM RHENOSTERKOP NO  
155, REGISTRATION DIVISION OF BEAUFORT WEST,  
WESTERN CAPE PROVINCE  
SITE SENSITIVITY REPORT**



**MARCH 2023**

***REFERENCE NUMBER: WC30/5/1/3/2/10319MP***

**PREPARED FOR:**

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## **EXECUTIVE SUMMARY**

The Applicant, Otter Mist Trading 1057 (Pty) Ltd, applied for environmental authorisation (EA) and a mining permit to mine dolerite on a portion of the remaining portion of the Farm Rhenosterkop no 155, Registration Division of Beaufort West, Western Cape province.

The proposed mining area is approximately 5 ha in extent and will be developed over an undisturbed and inactive area of the farm. The applicant, intends to obtain material from the area for at least 2 years with a possible 3 year extension. The dolerite extracted from the quarry will be used for the construction industry in the surrounding area. The proposed quarry will contribute to the upgrading / maintenance of road infrastructure, renewable energy projects and building contracts in and around the Beaufort West area. The hard rock will be loosened by blasting as part of the mining process; the material will then be loaded and transported to the crushing plant and sorted into stockpiles of different sizes. Dolerite will be stacked up until tipper trucks are brought in to remove it from the site. Trucks will transfer the materials to the places along the N1 national road. All mining related activities will be contained within the limits of the authorized mining permit.

The proposed project triggers listed activities in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) and the Environmental Impact Assessment Regulations 2014 (as amended 2017) and therefore requires an environmental impact assessment (basic assessment process) that assess project specific environmental impacts and alternatives, consider public input, and propose mitigation measures, to ultimately culminate in an environmental management programme that informs the competent authority (Department of Mineral Resources and Energy) when considering the environmental authorisation. This report, the Draft Basic Assessment Report, forms part of the departmental requirements, and presents the first report of the EIA process.

### **Project description**

The proposed mining area is approximately 5 ha in extent and will be developed over an undisturbed and inactive area of the farm. The applicant, intends to obtain material from the area for at least 2 years with a possible 3 year extension. The dolerite extracted from the quarry will be used for the construction industry in the surrounding area. The proposed quarry will contribute to the upgrading / maintenance of road infrastructure, renewable energy projects and building contracts in and around the Beaufort West area. The hard rock will be loosened by blasting as part of the mining process; the material will then be loaded and transported to the crushing plant and sorted into stockpiles of different sizes. Dolerite will be stacked up until tipper trucks are brought in to remove it from the site. Trucks will transfer the

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Should the MP be issued and the mining of dolerite be allowed, the proposed project will comprise of activities that can be divided into three key phases namely the:

- (1) *Site establishment/construction phase* which will involve the demarcation of the permitted mining area. Site establishment will also necessitate the clearing of vegetation, the stripping and stockpiling of topsoil, and the introduction of mining machinery and equipment
- (2) *Operational phase* that will entail the mining of dolerite from the approved footprint area via conventional open cast mining methods. The mining method will make use of blasting in order to loosen the hard rock; upon which the loosened material will be transported to the crushing and screening processing plant where it will be screened to various sized stockpiles, before it is sold and transported from site to clients
- (3) *Decommissioning phase* which entails the rehabilitation of the affected environment prior to the submission of a closure application to the Department of Mineral Resources and Energy (DMRE). The permit holder will further be responsible for the seeding of all rehabilitated areas. Once the full mining area is rehabilitated, the mining permit holder will be required to submit a closure application to the DMRE in accordance with section 43(4) of the MPRDA, 2002. The Closure Application will be submitted in terms of Regulation 62 of the MPRDA, 2002, and Government Notice 940 of NEMA, 1998 (as amended).

The proposed mining area is approximately 5 ha in extent and the applicant, intends to win material from the area for at least 2 years with a possible extension of another 3 years. The gravel to be removed from the quarry will be used for construction industry in the

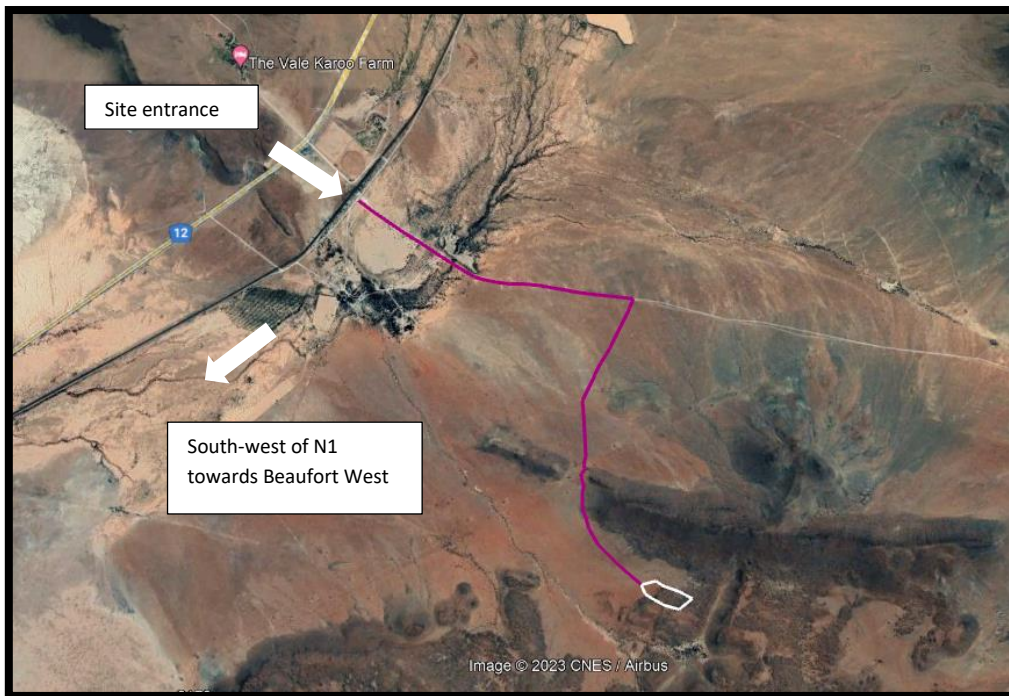
vicinity. The depth of the quarry will be approximately 35m with the intention to go deeper. The proposed quarry will therefore contribute to the upgrading / maintenance of road infrastructure and building contracts in and around the Beaufort West area

The mining activities will consist out of the following:

- Stripping and stockpiling of topsoil;
- Blasting
- Excavating;
- Crushing & Screening;
- Stockpiling and transporting;
- Sloping and landscaping upon closure of the site; and
- Replacing the topsoil and vegetation the disturbed area.

The mining site will contain the following:

- Drilling equipment;
- Excavating equipment;
- Earth moving equipment;
- Static crushing and screening plants
- Access Roads;
- Site Office (Containers);
- Site vehicles;
- Parking area for visitors and site vehicles;
- Vehicle service area;
- Wash bay;
- Workshop (Containers);



*Figure 1: Satellite view showing the access road entrance (white arrow) to the proposed mining area site alternative 1(white polygon).*

This report addresses the findings of the Screening Tool Report (Appendix N), generated from the National Web Based Environmental Screening Tool, and provides a motivation for the various specialist studies identified to be conducted. As per the Screening Tool Report, the proposed site is located within a low sensitivity area from an agricultural perspective, a high sensitivity area from an animal species perspective, a low sensitivity area from an aquatic biodiversity perspective, a high sensitivity area from a civil aviation perspective, a medium sensitivity area from a plant species perspective, a low sensitivity area from a defense perspective, a medium sensitivity form a paleontology perspective and a low sensitivity area from a terrestrial biodiversity perspective.

## Summary of specialist reports.

(This summary must be completed if any specialist reports informed the impact assessment and final site layout process and must be in the following tabular form):-

Table 1: Summary of specialist reports

LIST OF STUDIES UNDERTAKEN	RECOMMENDATIONS OF SPECIALIST REPORTS	SPECIALIST RECOMMENDATIONS THAT HAVE BEEN INCLUDED IN THE EIA REPORT  (Mark with X if applicable)	REFERENCE TO APPLICABLE SECTION OF REPORT WHERE SPECIALIST RECOMMENDATIONS HAVE BEEN INCLUDED
<p>The screening report for an environmental authorisation, as required in terms of the 2014 NEMA EIA Regulations on a portion of the remaining portion of the Farm Rhenosterkop no. 155, Registration Division of Beaufort West, Western Cape Province, identified the following list of specialist assessment for inclusion in the assessment report:</p> <ul style="list-style-type: none"> <li>■ Agricultural Impact Assessment;</li> <li>■ Archaeological and Cultural Heritage Impact Assessment;</li> <li>■ Paleontology Impact Assessment;</li> <li>■ Terrestrial Biodiversity Impact Assessment;</li> <li>■ Aquatic Biodiversity Impact Assessment;</li> <li>■ Hydrology Assessment;</li> <li>■ Noise Impact Assessment;</li> <li>■ Radioactivity Impact Assessment;</li> <li>■ Traffic Impact Assessment;</li> <li>■ Geotechnical Assessment;</li> </ul>			

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<ul style="list-style-type: none"> <li>■ Socio-economic Assessment;</li> <li>■ Plant Species Assessment;</li> <li>■ Animal Species Assessment.</li> </ul>	<p>Otter Mist Trading 1057 (Pty) Ltd (hereafter referred to as the applicant) appointed Greenmined Environmental (Pty) Ltd as the environmental impact assessment practitioner (EAP) to undertake the EIA associated with the mining permit application. In light of this Greenmined would like to respond as follows to the list of required specialist studies:</p> <ul style="list-style-type: none"> <li>■ Agricultural Impact Assessment (AIA):</li> </ul> <p>The portion of the remaining portion of the Farm Rhenosterkop no. 155, Beaufort West District, Western Cape Province is over an undisturbed and inactive and with low agricultural potential area of the farm with very low agricultural potential due to the rocky surface. According to the AIA (Appendix M) the conclusion of this assessment is that the proposed mining will not have an unacceptable negative impact on the agricultural production capability of the site. This is because the site naturally has extremely low agricultural production potential and very little potential is therefore lost due to mining. Therefore, from an agricultural impact point of view, it is recommended that the development be approved. The conclusion of the assessment on the acceptability of the proposed development and the recommendation for its approval is not subject to any conditions.</p>		
<ul style="list-style-type: none"> <li>■ Archaeological and Cultural Heritage Impact Assessment (HIA) &amp; Paleontology Impact Assessment (PIA):</li> </ul>	<p>According to the Notice of Intent to Develop conducted by Beyond Heritage (Pty) Ltd,(Appendix M3) a few CRM surveys have occurred close by with the most relevant being for a quarry access road immediately over the N1 from Rhenosterkop and the widening of the N1 through Courlandskloof just to the northeast (Orton 2010; the quarry itself has apparently been surveyed and permitted but no documentation of this is known and none could be sourced from the developer at the time of the road application), and a second quarry just further north (Gibble 2020).</p> <p>These projects showed that scatters of LSA and MSA stone artefacts occur in places and rock engravings including both animals and scratching/rubbing occur in the area. Some engravings of high significance occur very close to the Renosterkop Quarry but do not seem to be under threat yet. A stone-walled kraal is also on record north of the N1. Historical structures, artefacts scatters and aspects of the historical</p>		

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<p>nineteenth century Cape Town to Kimberley railway (which broadly follows the N1) were also recorded. The latter include cast iron and stone bridge and also an Anglo-Boer War blockhouse built at the bridge to guard it during the war. Around Nelspoort, to the northeast of the study area, there are a number of rock engravings and some rock gongs that are quite well-known (Parkington et al. 2008).</p> <p>More broadly, most Karoo farms include historical structures and graves and the kinds of archaeology noted above are expected to be widespread. Rock paintings are also known from the Karoo, but not from anywhere close to the study area. The only impact anticipated is to LSA scratched engravings on the dolerite rocks of the study area. While these “motifs” are poorly understood and might have once had significance beyond that which we might understand, they are also very common. A photographic record has been made of those in the study area and further work on this small sample is unlikely to accomplish anything further.</p> <p>In light of this, a Heritage Impact Assessment was not deemed necessary by the heritage specialist.</p>			



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<p>Terrestrial Biodiversity Impact Assessment (TBIA) &amp; Animal Species Assessment (ASA):</p> <p>According to the botanical assessment report conducted by Ecofloristix (Pty) Ltd, dated March 2023 attached as appendix M2, it is highly unlikely that this development will have an impact on ecosystem status or nationally listed vegetation types due to the limited extent of the mine, as well as the large extent of natural vegetation surrounding the mining area. Furthermore, this mine will not have a significant impact on the services and functions provided by the surrounding natural habitats, and development within this area is regarded as acceptable, provided that the mitigation measures given that in the Biodiversity Assessment report (Appendix M2) is closely followed.</p> <p>In terms of local plant species levels, the site is not exceptional rich in species and therefore not highly sensitive in this regard. Moreover, no SCC or range restricted species are present within the study area. The extensive nature of the study area vegetation and plant community types within the wider landscape means that all species within the study area will highly likely also be found in the surrounding areas. Thus, given that the majority of impacts associated with the proposed activities are likely to be local in nature and not of wider significance, loss of particular species within the study area will not be problematic.</p> <p>Five provincially protected species were found in the study area (but only in low numbers), as well in the surrounding areas. None of them are SCC and their loss from the study area will not be significant and will not compromise the viability of the local populations of these species.</p>			

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<p>In terms of the likely botanical impacts associated with the mine, impacts on vegetation during the construction and operational phases are likely to be relatively high (medium after mitigation), and are somewhat difficult to mitigate given the destructive nature of the proposed activities. However, given the large extent of the affected vegetation and plant community types, and given the small footprint of the mining area, the impact on the vegetation is likely to be of locally high intensity but not broadly significant. Potential cumulative impacts are also furthermore regarded limited and of low to moderate significance.</p>			
<p>■ Aquatic Biodiversity Impact Assessment (ABIA) &amp; Hydrology Assessment (HA):</p> <p>The proposed access road intersects with more than 2 drainage lines which necessitates a water use application in terms of Section 21 of the NWA, 1998. This was confirmed by the Risk Matrix Assessment conducted by the Biodiversity Company (Pty) Ltd (please see Appendix M1). Water required for the implementation of the project will be bought and transported to the site. A water use licence is currently underway.</p>			
<p>■ Noise Impact Assessment (NIA):</p> <p>The potential impact on the noise ambiance of the receiving environment is expected to be of low significance due to the location of the proposed mining area being far away from residential dwellings. Due to the small scale of the operation a NIA is not deemed applicable.</p>			

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<p>Radioactivity Impact Assessment</p>	<p>A radioactivity impact assessment is not deemed necessary for the proposed mining operation that will not store any chemicals on site, perform activities of radioactive nature or generate hazardous waste of radioactive nature.</p>		
<p>Traffic Impact Assessment (TIA):</p>	<p>Access to the proposed mining area will be via the N1, making use of the existing internal/haul roads to access the mining area. Haul roads will be extended as the open cast mining progress and will be rehabilitated as part of the final reinstatement of the area. Trucks delivering the materials to the destinations will take the N1 national route. In light of the small scale of the proposed operation a TIA is not deemed necessary, should the Applicant implement the mitigation measures to be proposed in the EMPr.</p>		
<p>Geotechnical Assessment:</p>	<p>No reason for a geotechnical assessment could be identified as no permanent infrastructure will be established at the proposed mining area.</p>		

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<p>■ Socio-economic Assessment (SEA):</p> <p>The material to be sourced from the mining area will be used for the upgrading of the road infrastructure in the vicinity of the site. The proposed mine will be operated on an area with very low agricultural potential. Should any additional workers to be required on this mining activity they will be sourced from the local community. Workers will daily be transported to the site. The establishment of the mining area on the farm will also assist the property owner in the diversification of their income. In light of this a SEA is not deemed applicable to this project.</p> <p>In light of the above mentioned, we propose that the no specialist studies are currently deemed applicable to the proposed mining operation.</p>			

