SITE SENSITIVITY VERIFICATION REPORT FOR THE PROPOSED MINING PERMIT ON A PORTION OF PORTION 3 OF THE FARM WELVERDIEND NO 511 MAGISTERIAL DISTRICT OF VANRHYNSDORP WESTERN CAPE PROVINCE

REFERENCE NUMBER: *WC 30/5/1/3/2/10284 MP*

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EXECUTIVE SUMMARY

Seboway (Pty) Ltd, applied for environmental authorisation (EA) and a mining permit to mine all forms of Limestone, Dimension stone and Marble on a Portion of Portion 3 of the farm Welverdiend no 511 magisterial district of Vanrhynsdorp Western Cape province. The mining method will entail an open-pit quarry with diamond wire cutting, loading and hauling of the mined material. The quarry is dug on a pit with face walls of sub-vertical inclination, benching is not required due to the shallow nature of the deposit. A system of ramps is to be excavated within the pit to provide access to all face wall sides. The angle of the pit face wall is determined carefully to prevent and minimize damage and danger from rock falls and/or safety hazards.

The proposed mining area is approximately 4.9 ha in extent and the applicant, intents to win material from the area for at least 2 years with a possible extension of another 3 years. Waste and mineralisation on a scale of a few hundred to thousands tons per day may be drilled and blasted to break off from the pit face in blocks. The material is then loaded and hauled to various stockpiles and/or waste dumps. Waste rock is hauled to a waste dump. Waste dumps can be piled at the surface of the active pit, or in previously mined pits. Mineralised material is stockpiled in a separate location. The land surface rights are owned by the applicant of this application area.

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 Final Basic Assessment Report, forms part of the departmental requirements, and presents the first report of the EIA process.

Project description

Seboway (Pty) Ltd (“hereinafter referred to as “the Applicant”), applied for environmental authorisation (EA) and a mining permit for all forms of Limestone, Dimension stone and Marble on a Portion of Portion 3 of the farm Welverdiend no 511 magisterial district of Vanrhynsdorp Western Cape province.

The proposed mining area is approximately 4.9 ha in extent and the applicant, intents to win material from the area for at least 2 years with a possible extension of another 3 years. The mining method will entail an open-pit quarry with diamond wire cutting, loading and hauling of the mined material. The quarry is dug on a pit with face walls of sub-vertical inclination, benching is not required due to the shallow nature of the deposit. A system of ramps is to be excavated within the pit to provide access to all face wall sides. The angle of the pit face wall is determined carefully to prevent and minimize damage and danger from rock falls and/or safety hazards. All mining related activities will be contained within the approved mining permit boundaries.

Waste and mineralisation on a scale of a few hundred to thousands tons per day may be drilled and blasted to break off from the pit face in blocks. The material is then loaded and hauled to various stockpiles and/or waste dumps. Waste rock is hauled to a waste dump. Waste dumps can be piled at the surface of the active pit, or in previously mined pits. Mineralised material is stockpiled in a separate location. The land surface rights are owned by the applicant of this application area

The mining site will contain the following:

- Drill and blast rigs – used to drill small diameter holes into the material
- Excavators – moving heavy stone blocks
- Front End Loaders – ramp/road building and material shifting
- Plant operations (to be confirmed)
- Light Domestic Vehicles (LDVs)
- Flatbed/Low-bed and Ore transport trucks

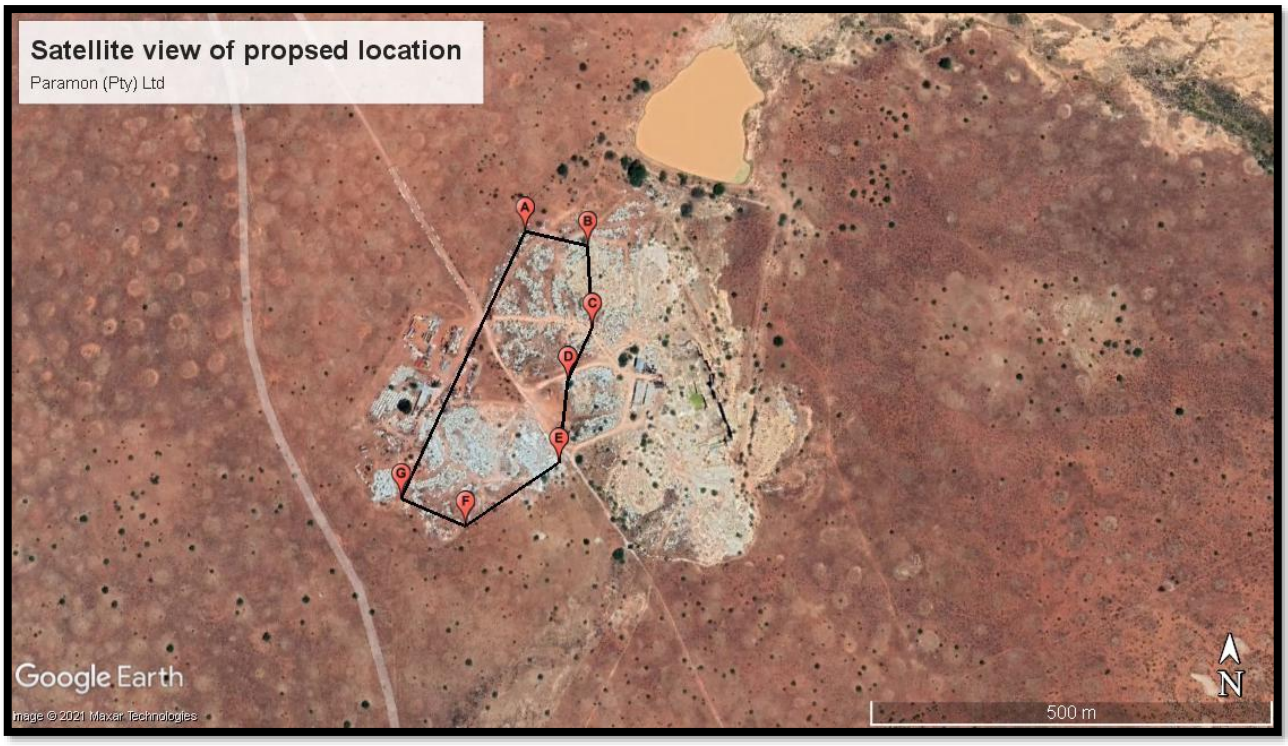

Figure 1: Figure 1: Satellite view of the proposed mining permit area (black polygon) of Seboway (Pty) Ltd (image obtained from Google Earth).

This report addresses the findings of the Screening Tool Report (Appendix P), 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 medium sensitivity area from an animal species perspective, a low sensitivity area from an aquatic biodiversity perspective, a low sensitivity area from a civil aviation perspective, a low 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):

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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
The screening report identified the following list of specialist assessment for inclusion in the assessment report: • Agricultural Impact Assessment; • Archaeological and Cultural Heritage Impact Assessment; • Paleontology Impact Assessment; • Terrestrial Biodiversity Impact Assessment; • Aquatic Biodiversity Impact Assessment; • Hydrology Assessment; • Noise Impact Assessment; • Radioactivity Impact Assessment; • Traffic Impact Assessment; • Geotechnical Assessment; • Socio-economic Assessment; • Plant Species Assessment; • Animal Species Assessment.			
• Agricultural Impact Assessment (AIA):			

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The portion of Portion 3 of the farm Welverdiend No 511 magisterial district of Vanrhynsdorp, Western Cape Province is a previously disturb area. The agricultural potential of the farm was assessed as part of the EIA, however, Greenmined is of the opinion that a specialist AIA is not needed as the application footprint extends into an area previously used for mining purposes. The proposed project will not necessitate the loss of any agricultural field, center pivot or similarly operated agricultural area.

- Archaeological and Cultural Heritage Impact Assessment (HIA) & Paleontology Impact Assessment (PIA):

The proposed mining footprint extends into an area that has been previously disturb, and therefore no sites of archaeological or cultural importance is expected within the footprint. In light of this, it is proposed that a chance-find protocol be incorporated in the EMPR to be adhered to for the duration of the site establishment-, operational- and decommissioning phases. However, a notice of intent for the HIA and PIA were conducted and no further studies proposed by the specialist.

As per the Notice of Intent to develop conducted by Jonathan Kaplan (ACRM) (Refer to Appendix O Appendix O Heritage NID (& Paleo Statement) Later Stone Age (LSA) and Middle Stone Age (MSA) tools have been recorded on portions of Farm 511 (Kaplan 2010, 2017), but the impact of proposed mining on heritage resources will be low, as proposed mining will take place within the footprint of the existing mine.

However, should artefacts archaeological items be observed during the mining activities, then all activity should cease immediately, the area marked off activity and a specialists consulted prior to any further activity. This also includes if any graves are observed on site during activity progress then all activity should have ceased and the area demarcated as a no-go zone

According to consulting palaeontologist John Pether (email correspondence dated 08 October, 2021), `The quarry exploits the limestone, dolomite and marble of the Widouw Formation (Gariep Supergroup, Gifberg Group) which date from ~770 to 700 million years ago. The earliest microfossils and tiny sponges had appeared by this time, but the quarrying will not impact on this cryptic fossil resource. The palaeontological sensitivity is LOW (SAHRIS)

Only FFP required in case of fossil finds in the overlying coversands'.

- Terrestrial Biodiversity Impact Assessment (TBIA) & Animal Species Assessment (ASA) & Plant Species Assessment:

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As mentioned earlier, the proposed mining footprint extends into an area that has previously been disturb. The earmarked area falls within a CBA area and therefore requires a Biodiversity Impact Assessment which is currently underway. It is proposed, by Greenmined, that should the Applicant implement the mitigation measures proposed in the EMPr the impact of the proposed activity on the riparian vegetation, groundcover and/or fauna is deemed to be of low significance. According to Mucina and Rutherford (2012) the proposed area can be described as mainly flat or only slightly undulating landscape supporting succulent shrubland dominated by *Salsola* (over large stretches), *Drosanthemum, Ruschia* and some disturbance indicators such as (mainly) short-lived *Aizoaceae*, including representatives of the genera *Galenia, Psilocaulon, Caulipsolon* and *Mesembryanthemum*. In the south, the shale plains can acquire a grassland appearance through seasonal dominance of *Bromus pectinatus* and *Stipa capensis*. Spectacular annual and geophyte flora can appear in spring after good winter rains.

According to the Screening tool report, the application area falls over an Ecological Support area and the Terrestrial Biodiversity theme has a very high sensitivity thus the impact on Biodiversity was assessed as part of the EIA. It is highly unlikely that this development will have an impact on the status of the Ecosystem and Vegetation Types due to the limited extent of the mine as well as the 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. As per the Plant Species and Terrestrial Biodiversity Theme Compliance Statement dated October 2021 compiled by Enviroworks (see appendix N) It is anticipated that the proposed development (Alternative one and two) will have negligible impact on the biodiversity and botanical features identified by the screening tool as the development footprint is extensively disturbed and does not represent likely habitat for any plant species that may be threatened with extinction, as listed by the Screening Tool.

None of the plant species listed by the screening tool were directly observed on the footprint during the site visit. There is however one provincially protected species located on site (Table 4 of the said report), but this species is not threatened in terms of the Red List of South African Plants. Individuals of this species must be relocated effectively as per the recommendations in Section 6 (of the said report). Because the site inspection was conducted in late spring, some geophytic and annual species may not have been visually present during the site inspection. it is recommended that a botanical survey be conducted in early spring (August-early September) to confirm that no additional Species of Conservation Concern are found on site.

Some of the western portion of Alternative one may have some ecological value, albeit minimal, because it is located on a degraded Ecological Support Area (ESA). However, given that the entire area surrounding the proposed mining permit area is located in the ESA, the cumulative conservation loss of developing or mining in the ESA located in Site Alternative one is not expected to be significant. Taking into consideration the sensitivity of the development footprint, sensitive features identified by the screening tool, the results from the baseline biodiversity and ecosystem of the site, which was verified by a site visit for Alternative one, it can be concluded that both site alternatives is of low sensitivity for the Plant Species and Terrestrial

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Biodiversity Theme. Provided that all the management outcomes are adhered to, this compliance statement is considered sufficient to meet the requirements for authorisation under the Plant Species and Terrestrial Theme Minimum requirements.

- Aquatic Biodiversity Impact Assessment (ABIA) & Hydrology Assessment (HA):

None of the activities will take place in or in close proximity to any water bodies. Any water required for the implementation of the project will be bought and transported to site. A Risk Matric Assessment was conducted as part of the EIA.

As per the Water Use Risk Matrix date October 2021 and compiled by Enviroworks, the proposed mining footprint is situated adjacent to and old marble mine. The surface area of the proposed mining permit is currently used as a stockpile for the marble. The mining footprint thus has been affected by the marble mine's activities across the surface area.

Due to the arid nature of the area, there were no surface water visible in the natural watercourses that were encountered. Surface flow through the drainage features and watercourses are considered to be limited to flood or precipitation events. No natural perennial watercourses occur in the study area and watercourses within 500m from the proposed footprint are all classified as ephemeral that flow during heavy rainfall and run-off events. There is an artificial dam upstream from the mine footprint which had water in at the time of the site visit, but from historical satellite imagery from Google Earth, the dam has been empty at times, and is thus not perennial. The proposed mining footprint is upstream from an ephemeral watercourse, but outside the 100m regulated area. Based on impacts observed on site from and old mine (adjacent to the proposed mining area), the posed mine can potentially impact the regulated area of the watercourse, and the ephemeral watercourse that it is connected to.

Two location alternatives were provided for the proposed mine. A berm, adjoining an artificial dam wall to the north of the proposed mine, has been constructed around the eastern boundary of the old mine, and it effectively divert surface water that would have flown through the non-perennial watercourse. For this reason, choosing the preferred alternative will not differ significantly from the second alternative in terms of impacts on watercourses; as the watercourse indicates on GIS databases have been transformed by mining. Using the preferred alternative could however provide opportunity in the future to restore the transformed watercourses and could re-establish the more natural and meandering flow path, as opposed to the more rigid and straightened path created by the berm's diversion. The second alternative was thus excluded from further assessment during the study.

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The ephemeral watercourse can be classified as having a PES of C, thus it is moderately modified. A loss and change of natural habitat, hydrology and biota have occurred, but the basic ecosystem functions are still predominantly unchanged, despite the significant impact in changes in hydrology and disturbance within the regulated area and part of the ephemeral watercourse.

The EIS for the ephemeral drainage line is C, thus ecologically important and sensitive on a local scale only. Biodiversity not usually sensitive to flow and habitat modifications.

The inherent soil properties on the site make them prone to erosion, and this is confirmed by the features of soil sealing and erosion observed on the old mine. This means vegetation clearing, soil disturbance and stored soil will require specific management measures to manage and mitigate the impacts of the proposed mine. Clearing of vegetation, disturbance of soil and creating stockpiles leaves bare soil vulnerable to soil sealing and erosion. Sealed soil will generate increased run-off with higher erosion potential downstream. This in turn can erode watercourses and increase sedimentation in the system downstream. Exposed or bare soil (and stockpiles) will also be vulnerable to erosion, this will also increase the impact of sedimentation downstream. Given the infrequency of rainfall in the area, these impacts may fortunately happen at a relatively slow rate.

The mining activities in the mining permit application areas do not fall within the regulated area according to the definition in the NWA (in the absence of a 1:100 year flood line delineation) (within 100m of a watercourse) but the proposed mining will impact upon the regulated areas, which is in turn connected to the ephemeral watercourse; thus even though the proposed mining permit footprint is not directly in the regulated area of the watercourse it can impact the regulated area and consequently the watercourse. This assessment assumed that no new access roads will be created. The existing access roads on site pass though the ephemeral watercourse and its regulated area, thus if the access roads have not yet been registered for c & I water uses, it should be done now. For this reason, it is recommended that the proposed mine and associated infrastructure be registered for a c & i water use. If any activities will take place within the regulated area of the ephemeral watercourse, it should be properly assessed and licenced/registered of a c & i water use. The potential impact of changes in water quality and quantity are also a risk of the proposed development. Since the ephemeral watercourse has a relatively high vegetation cover, water quality and sedimentation impacts are expected to be filtered by the vegetation. Significant downstream impacts on the ephemeral watercourse and Wiedou River (> 2.5 km south) are thus expected to be buffered, especially considering the arid nature of the environment.

Surface water flowing from upslope of the proposed mining footprint in a south-western and western direction will likely flow through the proposed mining footprint, before flowing into the valley and ephemeral watercourse downstream. It will be important to develop and implement a proper stormwater management plan, so that clean surface run-off be diverted around the proposed mine, ‘dirty’ water from the proposed mine footprint should be contained if contaminated with waste or hazardous matter and should be allowed to settle out sediments if sediment

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is picked up in the disturbed mining footprint, before entering into the natural environment or the regulated area of the ephemeral watercourse. Stormwater management should also prevent the proposed mine from impeding surface water flow to reach the downstream watercourse, thus the stormwater management should aim to maintain the natural hydrological flow (quantity, timing and speed of surface water run-off) in the landscape as best as possible.

With suitable mitigation measures the impacts can be decreased, and construction- and operation activities should not have any significant impact upon the regulated area and downstream watercourses.

The impacts of the proposed mine on the regulated area of the ephemeral watercourse are considered of low significance in their mitigated state. Provided the site is well managed during the construction and operational phase, following suggested mitigation measures, the development is not considered to pose and unacceptable risk to the watercourses.

- Noise Impact Assessment (NIA):

The potential impact on the noise ambiance of the receiving environment is expected to be of low significance and representative of the machinery already operational at the property. Due to the small scale of the operation a NIA is not deemed applicable.

- Visual Impact Assessment

The viewshed analysis showed that the visual impact of the proposed mining operation will be of low significance. The land use of the earmarked property was previously used for mining marble, thus its already a disturbed area. The surrounding properties are mainly used for a variety of mixed agricultural purposes as well as mining and industrial purposes. The proposed mining area will be reached via the N7, making use of the existing internal/haul.

- Radioactivity Impact Assessment

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.

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• Traffic Impact Assessment (TIA): The Applicant will use the existing road to access the mining area and transport material from the open pit mining area to the stockpile area. No upgrading of the road is needed prior to commencement. 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. • Geotechnical Assessment: No reason for a geotechnical assessment could be identified as no permanent infrastructure will be established at the proposed mining area.			