

**SITE SENSITIVITY VERIFICATION REPORT FOR THE
PROPOSED AGGREGATE / GRAVEL MINE ON
PORTION 4 OF THE FARM WAAI KRAAL 120,
REGISTRATION DIVISION OF BEAUFORT WEST,
WESTERN CAPE PROVINCE**



REFERENCE NUMBER: WC 30/5/1/3/2/10266 MP

PREPARED FOR:

Lombardskraal Doleriet (Pty) Ltd
PO BOX 4288 George East
6529
Boeteka
Beaufort West
6970
Tel: 023-4152654
E-mail: appieviviers@gmail.com

PREPARED BY:

Greenmined Environmental
Unit MO1, Office No 37
AECI Site, Baker Square
Paardevlei
De Beers Avenue
Somerset West
7130
Tel: 021 851 2673
Cell: 084 585 5706
Fax: 086 546 0579
E -mail:
sonette.s@greenmined.co.za



EXECUTIVE SUMMARY

Lombardskraal Doleriet (Pty) Ltd, applied for environmental authorisation (EA) and a mining permit to mine aggregate / gravel from over an undisturbed area of the farm occasionally used for grazing on a portion of Portion 4 of the farm Waai Kraal 120, Registration Division of Beaufort West, Western Cape province. The mining method will make use of blasting in order to loosen the hard rock; the material will then be loaded and hauled to the crushing plant where it will be screened to various sized stockpiles. The aggregate will be stockpiled until it is transported from site using tipper trucks. All mining related activities will be contained within the approved mining permit boundaries.

The proposed mining area is approximately 4.9 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 aggregate to be removed from the quarry will be used for the construction industry in the vicinity. The proposed quarry will therefore contribute to the upgrading / maintenance of road infrastructure and building contracts in and around the Beaufort West 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

Lombardskraal Doleriet (Pty) Ltd (hereinafter referred to as “the Applicant”), applied for environmental authorisation (EA) and a mining permit to mine gravel on a portion of Portion 4 of the farm Waai Kraal 120, Registration Division of Beaufort West, Western Cape province.

The proposed mining area is approximately 4.9 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 mining method will make use of blasting in order to loosen the hard rock; the material will then be loaded and hauled to the crushing plant where it will be screened to various sized stockpiles. The aggregate will be stockpiled until it is transported from site using tipper trucks. All mining related activities will be contained within the approved mining permit boundaries.

The gravel to be removed from the quarry will be used for construction industry in the vicinity. 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;
- 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:

- Excavating equipment;
- Earth moving equipment;
- Mobile crushing and screening plants;
- Access Roads;
- Site office (Container);
- Site vehicles;
- Parking area for visitors and site vehicles;
- Weighbridge;
- Ablution facilities (Chemical toilet).

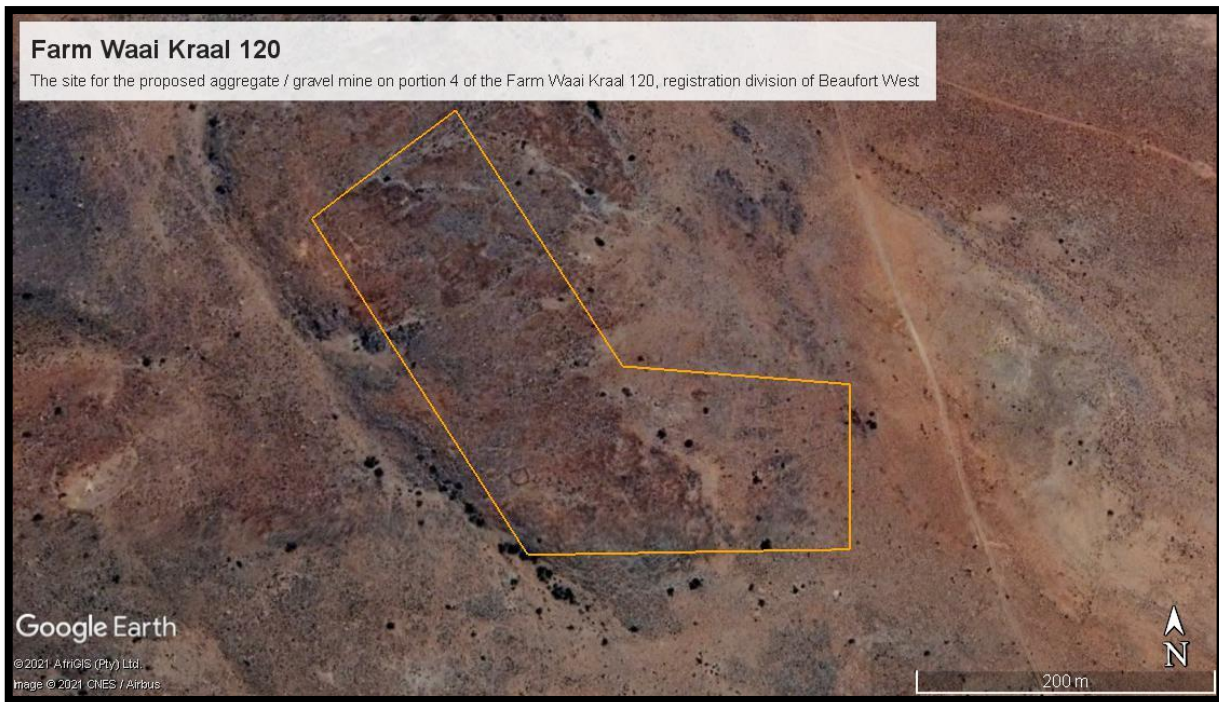


Figure 1: Figure 1: Satellite view of the proposed mining permit area (orange polygon) of Lombardskraal Doleriet (Pty) Ltd (image obtained from Google Earth).

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):-

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 of a portion of Portion 4 of the farm Waai Kraal No 120 situated in the Beaufort West magisterial district of the Western Cape Province identified the following list of specialist assessment for inclusion in the assessment report:</p> <ul style="list-style-type: none"> ■ 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; 			

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<ul style="list-style-type: none"> ■ Socio-economic Assessment; ■ Plant Species Assessment; ■ Animal Species Assessment. <p>Lombardskraal Doleriet (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"> ■ Agricultural Impact Assessment (AIA): <p>The portion of Portion 4 of the farm Waai Kraal No 120 situated in the Beaufort West magisterial district of the Western Cape Province is over an undisturbed area of the farm occasionally used for grazing but with very low agricultural potential due to the rocky surface. The agricultural potential of the farm will be assessed as part of the EIA, however, after consultation with the land owner Greenmined is of the opinion that a specialist AIA is not needed as the application footprint extends into an area with low agricultural potential. The proposed project will not necessitate the loss of any agricultural field, center pivot or similarly operated agricultural area.</p> <p>The desktop study, done by Dr Darren Bower (Pri Nat Sci 400081/16), confirmed that the proposed development site is of a “low” Agricultural sensitivity, as classified by the DEA Screening Tool. The landtypes of the area predict shallow rocky soils. This is further substantiated by satellite images of the survey area. These soils will have a low water holding capacity which will limit crop production and are not deemed suitable for irrigation. The grazing potential of 28 ha/LSU is very low and typical of the area. This is further substantiated by the low rainfall. It is the specialist’s opinion that the proposed development site is of a low agricultural sensitivity and that the development at the proposed site will not significantly impact agricultural activities. In terms of agricultural sensitivity, the proposed development should thus be allowed to proceed at the identified site subject to recommendations provided. (see Appendix S)</p>			

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<p>Recommendations</p> <ol style="list-style-type: none"> 1. Restrict the proposed development to the smallest footprint possible and do not disturb/alter areas outside the development; 2. Ensure that the mining activities and associated infrastructure is adequately fenced to prevent livestock from gaining access to the base station; and, 3. Ensure that access roads are kept clear and that construction and operational activities do not interfere with agricultural activities. <p>■ Archaeological and Cultural Heritage Impact Assessment (HIA) & Paleontology Impact Assessment (PIA):</p> <p>The Beaufort West region is known as a palaeontological sensitive area, and therefore a palaeontological impact assessment with heritage impact assessment will form part of the EIA process. A Notice of Intent to Develop will also be submitted to Heritage Western Cape for their perusal and commenting.</p> <p>The following <u>pre-quarrying</u> archaeological mitigation measures are recommended as per the Heritage Impact Assessment (Appendix N):</p> <ul style="list-style-type: none"> • An archaeological walkover survey of the site must be conducted by a suitably qualified professional archaeologist to identify any archaeological sites and/or materials and to assess the stone-walled structure; • If any significant archaeological remains are located during this survey which cannot be avoided by, or excluded from the quarrying, they will require mitigation prior to any quarry-related activities on the site. A Workplan application will need to be made to HWC to conduct this work; • Should any human remains be encountered at any stage during the works associated with the project, work must in the vicinity must cease immediately, the remains must be left in situ but made secure and the project archaeologist and HWC must be notified immediately in order to make a decision about how to deal with the remains. • All mining must be confined to the development footprint area. 			

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	<ul style="list-style-type: none"> If during the pre-construction phase, construction, operations or closure phases of this project, any person employed by the developer, one of its subsidiaries, contractors and subcontractors, or service provider, finds any artefact of cultural significance or heritage site, this person must cease work at the site of the find and report this find to their immediate supervisor, and through their supervisor to the senior on-site manager. It is the responsibility of the senior on-site Manager to make an initial assessment of the extent of the find, and confirm the extent of the work stoppage in that area. The senior on-site Manager must inform the ECO of the chance find and its immediate impact on operations. The ECO must then contact a professional archaeologist for an assessment of the finds who must notify the SAHRA. Work may only continue once the go-ahead was issued by SAHRA. <p>As per the Palaeontological Impact Assessment the following mitigation measures are recommended:</p> <ul style="list-style-type: none"> A site visit by a suitably qualified palaeontologist must take place prior to the commencement of quarrying to establish whether fossils are exposed on the site; A Fossil Chance Finds Protocol must be implemented once quarrying commences to ensure the reporting, safeguarding and recovery of any discoveries of fossils; The requirement to implement a Fossil Chance Finds Protocol, an example of which is attached as Appendix D of the Palaeontological Impact Assessment, (Appendix N) must be included in the EMPr for the project; and If fossils are found during quarrying, they must be excavated and collected by a professional palaeontologist, working under a HWC permit and then housed in a recognised repository. <p>Terrestrial Biodiversity Impact Assessment (TBIA) & Animal Species Assessment (ASA):</p> <p>An ecologist was appointed to conduct a study of the proposed footprint area. These findings are included under Plant Species Assessment (PSA).</p> <p>Aquatic Biodiversity Impact Assessment (ABIA) & Hydrology Assessment (HA):</p>		

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<p>The proposed project does not require a Water Use Authorisation in terms of Section 39 of the National Water Act, 1998 (Act No 36 of 1998). No activity 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. Therefore, in light of the consultation on this stage there is no need for a ABIA & HA.</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 and representative of the machinery already operational at the property. Due to the small scale of the operation a NIA is not deemed applicable.</p> <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>The Applicant will use the existing road to access the mining area and transport material from the mining area. The existing road has a formal entrance and was also used by the SANRAL to transport material. 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.</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> <p>■ Socio-economic Assessment (SEA):</p>			

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<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>■ Plant Species Assessment:</p> <p>According to Mucina and Rutherford (2012) the expansion area extends over two vegetation types known as the NKI 1 Gamka Karoo and the NKu 2 Upper Karoo Hardeveld. Both is classified as Least Threatened. According to the Western Cape Biodiversity Conservation Plan (WCBCP) – the area is classified as other National Area Area (ONA). An ecologist was appointed to conduct a vegetation study of the proposed footprint area. The findings from the botanical assessment were as follows:</p> <p>The proposed mining footprint will be approximately 4.9 ha in extent and will be located on a portion of Portion 4 of the farm Waai Kraal No 120 situated in the Beaufort West magisterial district of the Western Cape Province.</p> <p>The study area is situated in the Nama Karoo biome. The majority of the proposed site is located within the Gamka Karoo Vegetation Type whilst a small portion of the north-western corner of the site falls within the Upper Karoo Hardeveld Vegetation Type. Both of these vegetation types are listed as Least Concern by Mucina and Rutherford (2018) and is furthermore not listed within the Threatened Ecosystem List (NEM:BA). Furthermore, the study site itself is located outside of any CBAs and / ESAs according to the Western Cape CBA Spatial Data.</p> <ul style="list-style-type: none"> ○ The proposed development footprint is located outside of any CBA and ESA area as identified by the CapeNature (2017). ○ The closest CBA area is a CBA1 area located approximately 550m to the west of the proposed site and is regarded as an area in natural condition that are required to meet biodiversity targets for species, ecosystems or ecological process and infrastructure. Important features identified within this CBA are: <ul style="list-style-type: none"> ▪ Suitable habitat for Cape Mountain Zebra ▪ Watercourse Protection – Great Karoo 			

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	<ul style="list-style-type: none"> ▪ Shale Gass SEA Very High Significance Terrestrial <ul style="list-style-type: none"> ○ From a Floristic perspective this development will have no impact on the integrity of this CBA as this CBA is located within a plateau of a separate ridge/koppie system with its own micro-catchment, and it is highly unlikely that mining activities and their associated impacts will extend into this area due to the natural barrier created between the lower ridge system to be mined and the plateau of the steeper/higher ridge system. Subsequently this proposed development cannot contribute significantly to the integrity of the identified CBA areas. ○ The closest ESA area is the ESA1 associated with the extensive and broad ephemeral wash located approximately 1.06km to the east of the proposed development footprint. ESAs are areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of CBAs, and are often vital for delivering ecosystem services. This area has been classified as an ESA due to the presence of the fairly extensive ephemeral wash system acting as an important freshwater resource, as well as an important corridor for the movement of faunal and floral species. ○ It is unlikely that this proposed development will have an impact on downstream water resources due to the size of the development, distance from the freshwater resource and the relative low slope associated with the area between the mining area and the freshwater resource ($\pm 2\%$). With effective mitigation measures in place, including erosion control, stormwater management, and mine rehabilitation; the natural to near-natural vegetation between the mining area and the ESA1 will be maintained and subsequently the ESA will not be impacted. <p>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.</p> <p>In terms of local-level biodiversity, the site is not exceptional and the site is not highly sensitive in this regard, as there are no Species of Conservation Concern or unique and range restricted species present within the proposed mining as well as no unique habitats which are not widely available in the wider landscape. As a result, the majority of impacts associated with the development of the site are likely to be local in nature and not of wider significance. Only one provincially protected species has been recorded within the proposed mining area namely</p>		

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<p><i>Babianna hypogaeae</i>. This species is however not regarded as rare and the loss of the affected individuals from the development footprint would not be of wider significance or compromise the viability of the local populations of these species.</p> <p>In terms of the likely botanical impacts associated with the mine, impacts on vegetation during the operation phase are likely to be relatively moderate (rated mostly as medium significance prior to mitigation) and are difficult to mitigate as little can be done to avoid the large amounts of disturbance associated with this phase of the development. As the affected vegetation type is relatively widespread and the footprint area is regarded as limited, the impact on vegetation, as already mentioned, is likely to be of locally high intensity but is not considered to be of broader significance. Potential cumulative impacts are also furthermore regarded limited and of low significance.</p> <p>Subsequently the proposed development area is largely well located in terms of avoiding sensitive receptors and the development will not compromise the survival of any specific flora or terrestrial vertebrate species on the study area or beyond if mitigation measures are fully implemented.</p> <p>From a botanical perspective, no objective or motives (identification of impacts of high significance, etc.) were identified which would hinder the establishment of the proposed mine. Activities and Impacts are regarded as acceptable from a botanical perspective and will not cause detrimental impacts to the local flora, located within the affected area and surroundings. Therefore, it is the opinion of the specialist that the development may be authorised, subject to the implementation of the recommended mitigation measures.</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>			

