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**SITE SENSITIVITY VERIFICATION
AND
AGRICULTURAL AGRO-ECOSYSTEM SPECIALIST ASSESSMENT
FOR
A SAND MINING APPLICATION ON FARM NUMBER 4/814 DOORNFONTEIN
NEAR MALMSBURY, WESTERN CAPE**

**Report by
Johann Lanz**

13 May 2026

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1 INTRODUCTION

Environmental authorisation is being sought for a sand mining permit application on farm number 4/814 Doornfontein near Malmsbury (see location in Figure 1). In terms of the National Environmental Management Act (Act No 107 of 1998 - NEMA), an application for environmental authorisation requires an agricultural assessment. In this case, because of the verified high agricultural sensitivity of the mining area (see Section 8), the level of agricultural assessment required by NEMA's agricultural protocol is an Agricultural Agro-Ecosystem Specialist Assessment.

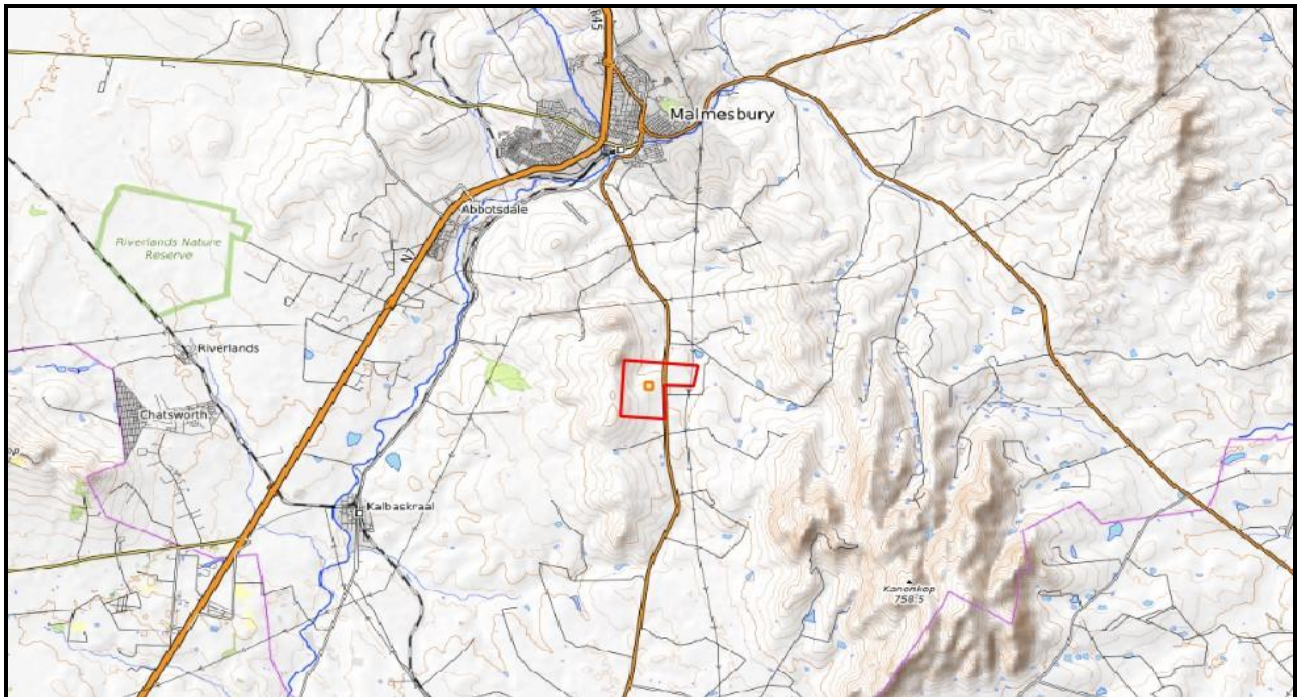


Figure 1. Locality map of the investigated site (orange outline) within the farm boundary (red outline) south of Malmsbury.

The main purpose of an agricultural assessment for mining is to determine whether or not the proposed mining will cause a significant, long-term reduction in agricultural production potential. This is done in Section 9 of this report. In addition, it must recommend mitigation and rehabilitation measures that will minimise any impact on agricultural production potential (Section 10). To achieve this, it is first necessary for the assessment to determine the existing agricultural production potential of the land that will be impacted, and specifically whether it is viable arable land or not (Section 8).

2 PROJECT DESCRIPTION

The project is an open cast sand and gravel mine. Topsoil will be stockpiled and then the underlying sand and gravel will be dug out by an excavator and loaded onto trucks. Topsoil will be returned to the surface on completion of mining.

3 TERMS OF REFERENCE

The terms of reference for this study are to fulfill the requirements of the *Protocol for the specialist assessment and minimum report content requirements of environmental impacts on agricultural resources*, gazetted on 20 March 2020 in GN 320 (in terms of Sections 24(5)(A) and (H) and 44 of NEMA, 1998).

The terms of reference for an Agricultural Agro-Ecosystem Specialist Assessment, as copied exactly from the protocol, are listed in the table below, and included, is the place in this report where each is addressed.

Table 1: Reporting requirements as per NEMA's Agricultural Protocol

Number	Requirement	Where it is addressed
2.	Agricultural Agro-Ecosystem Specialist Assessment	
2.1	The assessment must be undertaken by a soil scientist or agricultural specialist registered with the South African Council for Natural Scientific Professionals (SACNASP).	Appendix 3
2.2	The assessment must be undertaken on the preferred site and within the proposed development footprint.	Figure 2
2.3	The assessment must be undertaken based on a site inspection as well as an investigation of the current production figures, where the land is under cultivation or has been within the past 5 years, and must identify:	Section 4
2.3.1	the extent of the impact of the proposed development on the agricultural resources; and	Section 9
2.3.2	whether or not the proposed development will have an unacceptable impact on the agricultural production capability of the site, and in the event where it does, whether such a negative impact is outweighed by the positive impact of the proposed development on agricultural resources.	Section 11
2.4	The status quo of the site must be described, including the following	Section 7

	aspects which must be considered as a minimum in the baseline description of the agro-ecosystem:	
2.4.1	the soil form/s, soil depth (effective and total soil depth), top and sub-soil clay percentage, terrain unit and slope;	Appendix 4
2.4.2	where applicable, the vegetation composition, available water sources as well as agro-climatic information;	Section 7
2.4.3	the current productivity of the land based on production figures for all agricultural activities undertaken on the land for the past 5 years, expressed as an annual figure and broken down into production units;	Section 9
2.4.4	the current employment figures (both permanent and casual) for the land for the past 3 years, expressed as an annual figure; and	Section 9
2.4.5	existing impacts on the site, located on a map (e.g. erosion, alien vegetation, non-agricultural infrastructure, waste, etc.).	Section 9
2.5	Assessment of impacts, including the following aspects which must be considered as a minimum in the predicted impact of the proposed development on the agro-ecosystem:	Section 9
2.5.1	change in productivity for all agricultural activities based on the figures of the past 5 years, expressed as an annual figure and broken down into production units;	Section 9
2.5.2	change in employment figures (both permanent and casual) for the past 5 years expressed as an annual figure; and	Section 9
2.5.3	any alternative development footprints within the preferred site which would be of “medium” or “low” sensitivity for agricultural resources as identified by the screening tool and verified through the site sensitivity verification.	
2.6	The findings of the Agricultural Agro-Ecosystem Specialist Assessment must be written up in an Agricultural Agro-Ecosystem Specialist Report.	
2.7	This report must contain the findings of the agro-ecosystem specialist assessment and the following information, as a minimum:	
2.7.1	details and relevant experience as well as the SACNASP registration number of the soil scientist or agricultural specialist preparing the assessment including a curriculum vitae;	Appendix 3
2.7.2	a signed statement of independence by the specialist;	Appendix 2
2.7.3	the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;	Section 4
2.7.4	a description of the methodology used to undertake the on-site assessment inclusive of the equipment and models used, as relevant;	Section 4
2.7.5	a map showing the proposed development footprint (including supporting infrastructure) with a 50m buffered development envelope,	Section 8

	overlaid on the agricultural sensitivity map generated by the screening tool;	
2.7.6	an indication of the potential losses in production and employment from the change of the agricultural use of the land as a result of the proposed development;	Section 9
2.7.7	an indication of possible long term benefits that will be generated by the project in relation to the benefits of the agricultural activities on the affected land;	Section 11
2.7.8	additional environmental impacts expected from the proposed development based on the current status quo of the land including erosion, alien vegetation, waste, etc.;	Section 9
2.7.9	information on the current agricultural activities being undertaken on adjacent land parcels;	Section 7
2.7.10	an identification of any areas to be avoided, including any buffers;	
2.7.11	a motivation must be provided if there were development footprints identified as per paragraph 2.5.3 above that were identified as having a “medium” or “low” agriculture sensitivity and that were not considered appropriate;	
2.7.12	confirmation from the soil scientist or agricultural specialist that all reasonable measures have been considered in the micro-siting of the proposed development to minimise fragmentation and disturbance of agricultural activities;	Section 10
2.7.13	a substantiated statement from the soil scientist or agricultural specialist with regards to agricultural resources on the acceptability or not of the proposed development and a recommendation on the approval or not of the proposed development;	Section 11
2.7.14	any conditions to which this statement is subjected;	Section 11
2.7.15	where identified, proposed impact management outcomes or any monitoring requirements for inclusion in the Environmental Management Programme (EMPr); and	Section 10
2.7.16	a description of the assumptions made and any uncertainties or gaps in knowledge or data.	Section 5
2.8	The findings of the Agricultural Agro-Ecosystem Specialist Assessment must be incorporated into the Basic Assessment Report or Environmental Impact Assessment Report, including the mitigation and monitoring measures as identified, which are to be contained in the EMPr.	

4 METHODOLOGY OF STUDY

The assessment was based on an on-site investigation of the soils and agricultural conditions conducted on 16 September 2025 and again on 28 January 2026. It was also informed by existing climate, soil, and agricultural potential data for the site (see references). The aim of the on-site assessment was to assess and determine the cropping potential across the site. Soils were assessed by an investigation of test pits distributed across the site. Soils were classified according to the South African soil classification system (Soil Classification Working Group, 2018).

An assessment of soils and long-term agricultural potential is in no way affected by the season in which the assessment is made, and therefore the date on which this assessment was done has no bearing on its results. The level of agricultural assessment is considered entirely adequate for an understanding of on-site agricultural production potential for the purposes of this assessment.

5 ASSUMPTIONS, UNCERTAINTIES OR GAPS IN KNOWLEDGE OR DATA

There are no assumptions, uncertainties or gaps in knowledge or data that affect the findings of this assessment.

6 APPLICABLE LEGISLATION AND PERMIT REQUIREMENTS

This section identifies all applicable agricultural legislation and permit requirements over and above what is required in terms of NEMA. In the case of a mining right or permit application, there are no additional approvals required in terms of agriculture. Rehabilitation after disturbance to agricultural land must meet the requirements stipulated in the Conservation of Agricultural Resources Act (Act 43 of 1983 - CARA).

7 BASELINE DESCRIPTION OF THE AGRO-ECOSYSTEM

The purpose of this section is firstly to present the baseline information that controls the agricultural production potential of the site and then, most importantly, to assess that potential. Agricultural production potential, and particularly cropping potential, is one of the four factors that determines the significance of an agricultural impact. The other three factors are magnitude of impact, size of footprint, and duration of impact. Cropping potential also directly determines the true agricultural sensitivity of the land and therefore informs the site sensitivity verification.

All the important parameters that control the agricultural production potential of the site are presented in Table 2. A soil map of the development site is shown in Figure 2 and photographs of site conditions are shown in Figures 3 to 6.

It is not necessary to consider climate and terrain in an assessment of the cropping potential of the site because the suitability of both for crop production is indisputable given that the area has been and is currently used extensively for successful crop production. This section therefore focuses on the on-site soil suitability.

Table 2: Parameters that control and/or describe the agricultural production potential of the site.

	Parameter	Value
Soil	Geology (DAFF, 2002)	Mainly greywacke and phyllite of the Moorreesburg Formation, Malmesbury Group, and granite of the Paardeberg Pluton, Cape Granite Suite; also Quaternary quartz sand of the Springfontyn Formation.
	Land type (DAFF, 2002)	Fa859
	Description of the soils	Three different soil types occur across the site and are shown and described on the soil map, below.
	Soil capability classification (out of 9) (DAFF, 2017)	3 (low) to 5 (moderate)
	Soil limitations	Low water and nutrient holding capacity
Land use	Agricultural land use in the surrounding area	Lucerne / medics, oats, wine grapes
	Agricultural land use on the site	Oats
	Land capability classification (out of 15) (DAFF, 2017)	5 (low) to 8 (moderate)
	Within Protected Agricultural Area (DALRRD, 2020)	Yes, Swartland PAA, B rating, Rainfed

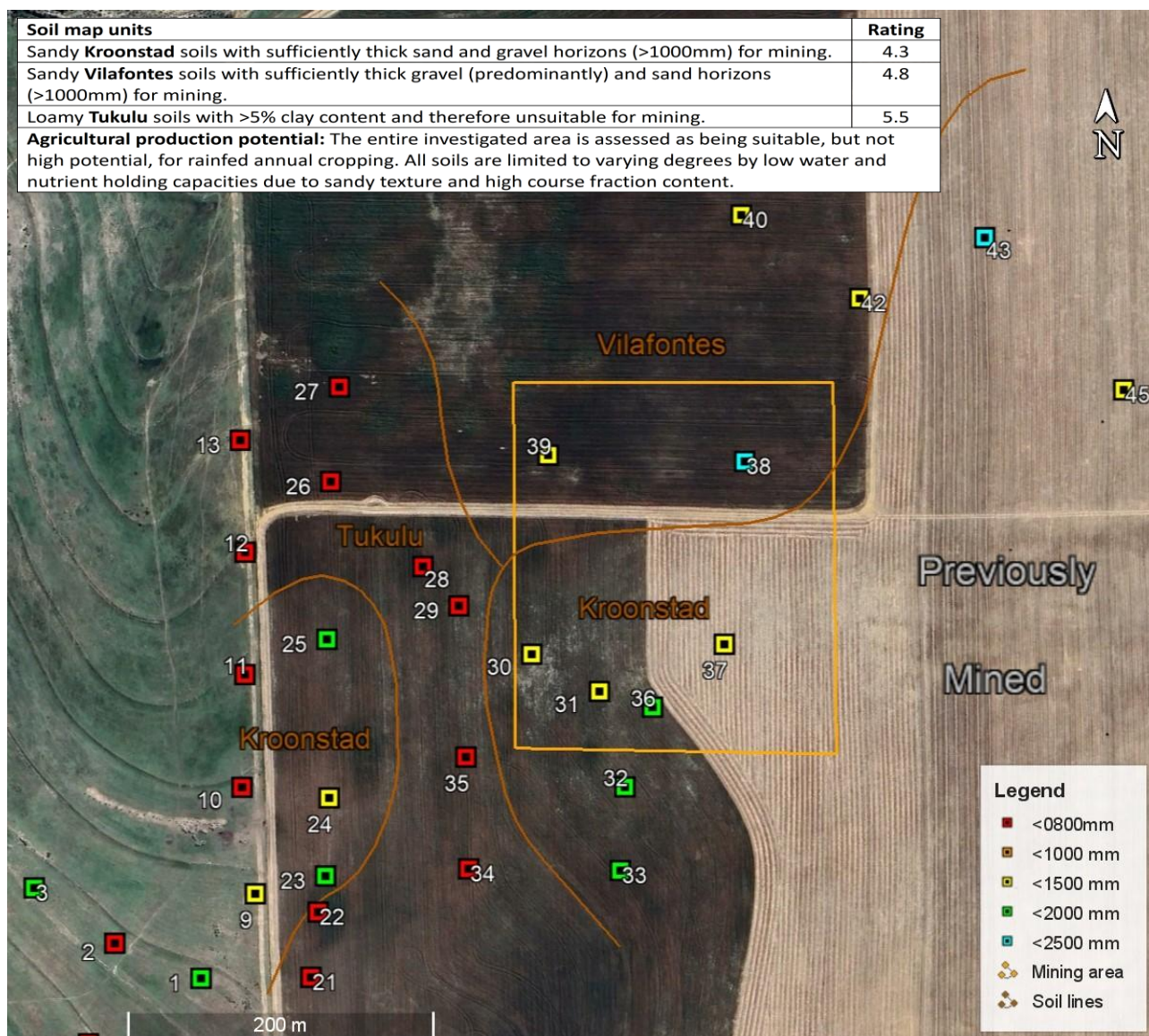


Figure 2. Soil map of the area in which the mining permit is proposed.



Figure 3. Typical site conditions.



Figure 4. Typical site conditions.



Figure 5. Typical deep, sandy Kroonstad soil profile on site.



Figure 6. Typical Vilafontes soil profile from site with a sandy E horizon and a gravel B horizon.

The agricultural protocol requires the current productivity of the land based on detailed production figures and it requires the current employment figures. However, yield details are not available for this land but are not considered necessary for this assessment of agricultural impact. What is relevant is simply that the site is suitable for production of oats, regardless of what yields have been. Employment figures are also irrelevant because the site represents a very small proportion of the total farming enterprise that utilises the land and its use for mining will therefore not affect employment within that enterprise.

The soils down the slope have previously been mined and are now utilised for oats in the same way as the rest of the land. There are no other existing impacts on the site that are relevant to this assessment of agricultural impact.

7.1 Assessment of the agricultural production potential

The entire investigated area is assessed as being suitable, but not high potential, for rainfed annual cropping of hardy crops such as oats that are tolerant of low water holding capacity soils. All soils are limited to varying degrees by low water and nutrient holding capacities due to sandy texture and high coarse fraction content. The assessed soils are unsuitable for quality wine production because of their low buffer capacity.

7.2 Compliance with the minimum criteria for sand mining

This section, in table form below, addresses the minimum criteria for sand mining as detailed in the document, *Guidelines for sand and laterite (hard plinthite) mining on agricultural land in the Western Cape*.

Criteria	Compliance and discussion
Soil depth	The soils are sufficiently deep (>1000mm to the limiting layer). See soil map.
Clay content	The soils recommended for mining all have a suitably low clay content of <5% clay.
Slope	Slopes are <6%.
Soil colour	The soils on site have yellow E horizons when wet as per the classification criteria, but these are acceptable for mining.
Soil observation grid not exceeding 75 x 75 metres	In my opinion an appropriate grid spacing should be determined by the soil scientist on the site according to the site specifics. In this case soil pits were dug during the investigation at variable spacings to give the best indication of soil variation across the area of interest.
Before and after mining soil depth maps	Before mining soil depths are provided on the soil map. After mining soil depths are specified as 500mm minimum.

Before and after-mining agricultural production potential maps	Before mining agricultural production potential across the entire investigated site is assessed as being suitable, but not high potential, for rainfed annual cropping of hardy crops such as oats that are tolerant of low water holding capacity soils. All soils are limited to varying degrees by low water and nutrient holding capacities due to sandy texture and high coarse fraction content. After mining agricultural production potential will still be suitable for rainfed annual cropping of hardy crops such as oats.
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Figure 7. East-west cross section down the middle of the proposed mining area (parallel to the road).

8 SITE SENSITIVITY VERIFICATION

A specialist agricultural assessment is required to include a verification of the agricultural sensitivity of the development site as per the sensitivity categories used by the web-based environmental screening tool of the Department of Forestry, Fisheries and the Environment (DFFE). The screening tool's classification of sensitivity is merely an initial indication of what the sensitivity of a piece of land might be, as indicated by the only data that is available. What the screening tool attempts to indicate is whether the land is suitable for crop production (high and very high sensitivity) or unsuitable for crop production (low and medium sensitivity). To do this, the screening tool uses three independent criteria, from three independent data sets, which are all indicators of suitability for crop production but are limited and were not designed for this purpose. The three criteria are:

1. Whether the land is classified as cropland or not on the field crop boundary data set (Crop Estimates Consortium, 2019). All classified cropland is, by definition, either high or very high sensitivity.
2. Its land capability rating as per the Department of Agriculture's updated and refined, country-wide land capability mapping (DAFF, 2017). Land capability is defined as the

combination of soil, climate, and terrain suitability factors for supporting rain-fed agricultural production. The direct relationship between land capability rating, agricultural sensitivity, and rain-fed cropping suitability is summarised by this author in Table 3.

3. Whether the land is classified as a protected agricultural area (PAA) or not (DALRRD, 2020). All classified PAAs are, by definition, either high or very high sensitivity.

The limitations for determining cropping suitability based on these data are as follows:

1. The field crop boundary data set used by the screening tool is very outdated
2. Land capability mapping is fairly coarse, modelled data which is not accurate at site scale.
3. PAAs are demarcated broadly, not at a fine scale, and there is therefore much variation of cropping suitability within a PAA. All land within these demarcated areas is not necessarily of sufficient agricultural potential to be suitable for crop production, due to finer scale terrain, soil, and other constraints.

These three inputs operate independently, and the screening tool's agricultural sensitivity is simply determined by whichever of these gives the highest sensitivity rating. The agricultural sensitivity of the site, as classified by the screening tool, is shown in the map below.

Table 3: Relationship between land capability, agricultural sensitivity, and rain-fed cropping suitability.

Land capability value	Agricultural sensitivity	Rain-fed cropping suitability	
		Summer rainfall areas	Winter rainfall areas
1 - 5	Low	Unsuitable	Unsuitable
6	Medium		Suitable
7			
8 - 10	High		
11 - 15	Very High		

The true agricultural sensitivity of any land is equivalent to its actual suitability for crop production on the ground, rather than being determined by a parameter that serves as a proxy for crop suitability in a dataset, which is how the screening tool determines sensitivity. The land's suitability for cropping directly determines how important it is to conserve that land as agricultural production land. To determine suitability for crop production, and hence sensitivity, requires a site-specific assessment, as has been conducted in this assessment, rather than a reliance on data sets that have significant limitations.

Despite the detail in this section above, the determinants of agricultural sensitivity are actually very straightforward and may be summed up as follows. If land is suitable for viable crop

production - that is if it has the capability to deliver an above break-even crop yield on a sustainable basis - then it is of high or very high agricultural sensitivity. If it has limitations that prevent it from being able to deliver an above break-even crop yield on a sustainable basis, then it is of medium or low agricultural sensitivity.

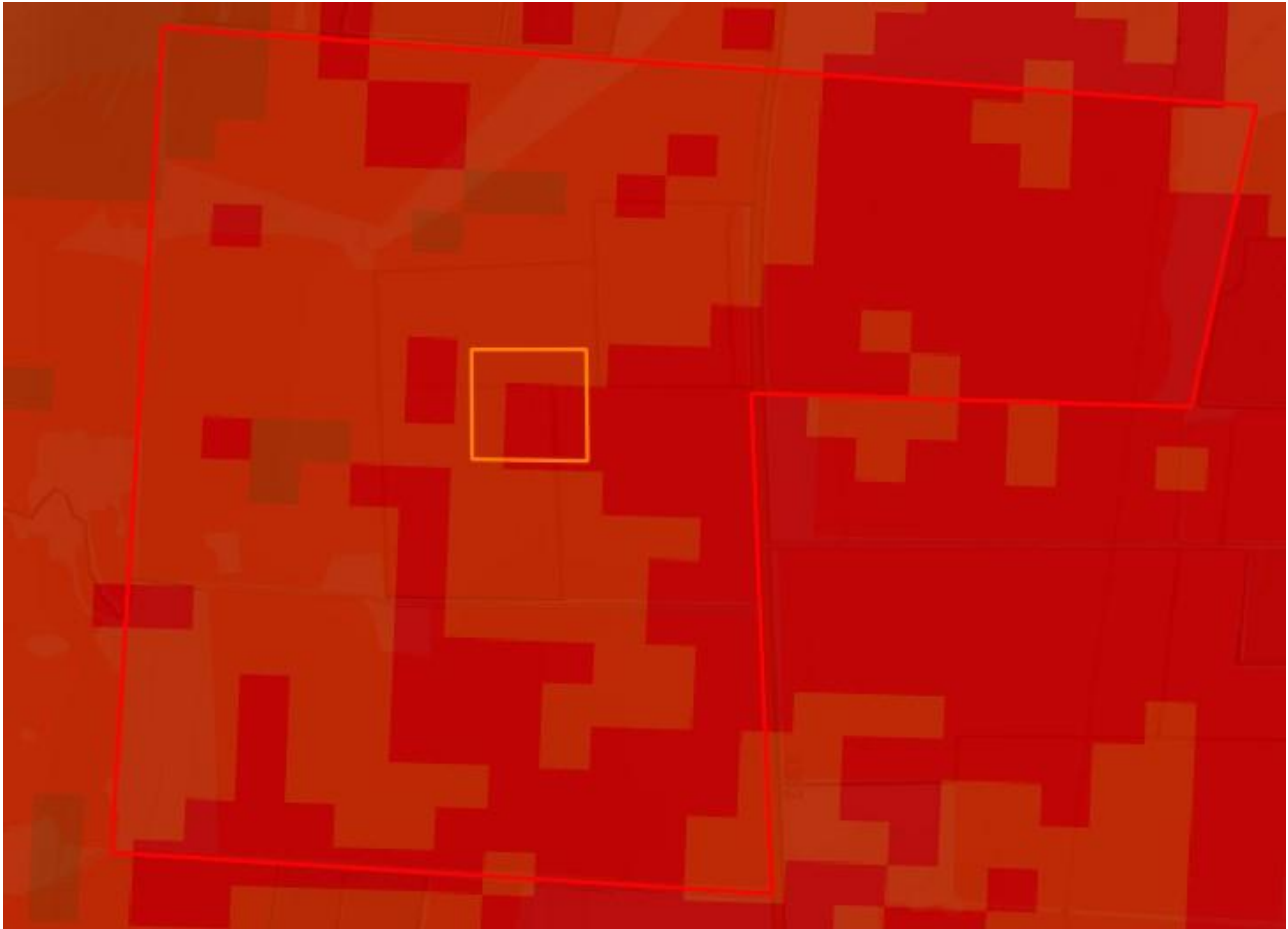


Figure 8. The proposed mining application area, within the farm boundary, overlaid on agricultural sensitivity, as classified by the screening tool.

The screening tool classifies the assessed site as being entirely very high agricultural sensitivity due to its PAA status. As has been shown in the previous section, the site is suitable for rain fed crop production and is therefore verified as high sensitivity according to its cropping potential. This assessment therefore disputes the very high agricultural sensitivity classification of the site by the screening tool and verifies it as being of high agricultural sensitivity because of its assessed cropping potential.

9 THE IMPACTS OF MINING ON AGRICULTURAL RESOURCES AND PRODUCTION

Mining can have both direct and indirect impacts on agricultural potential. Direct impacts are

those that change the soil potential on site in terms of growing agricultural crops. Indirect impacts are those that do not directly affect plant growth, but that might impact the ability of farmers in the area to successfully run their agricultural enterprises.

9.1 Indirect impacts

The following potential indirect impacts are identified.

9.1.1 Alteration of the agricultural sense of place

Mining is an intrusive activity of an industrial nature that, during its operational phase, can alter the agricultural sense of place in a farming area. This is only relevant to an agricultural assessment if it affects surrounding agricultural revenue generation. If it does not, it is a social issue that is beyond the relevance and scope of an agricultural impact assessment. In this case, the alteration of agricultural sense of place is not considered likely to affect surrounding agricultural revenue generation. There are also other mining activities in the surrounding area.

9.1.2 Dust deposition on surrounding crops

Mining can result in dust on surrounding crops. There are not dust sensitive agricultural crops that could be impacted in close proximity, but dust should still be mitigated by means of damping down surfaces when required. The significance of this impact is low.

9.2 Direct impacts

There is ultimately only ever a single direct agricultural impact of mining and that is a change to the future agricultural production potential of the land. This impact can occur by way of different mechanisms. There will be a temporary cessation of agricultural production for the duration of mining activity on the site, but the potential impact of major concern is a reduction in the long-term agricultural production potential of the site. In this case, this assessment finds that there may be a minor but not significant reduction in long-term agricultural production potential of the site provided that effective rehabilitation is implemented. This is because the site has fairly low pre-mining cropping potential, unsuitable for permanent crops, and retention of sufficient topsoil will retain the existing agricultural potential of the site.

Mining with well managed and effectively implemented rehabilitation will therefore have an impact of low significance on agricultural resources. However, without effective mitigation, there may well be some long-term reduction in soil and production potential and the impact on agricultural resources will therefore be higher.

The agricultural protocol requires an indication of the potential losses in production and employment from the change of the agricultural use of the land as a result of the proposed development. Because the mining represents a small and temporary part of the farming enterprise the expected losses in production and employment will be insignificant.

There are no additional environmental impacts of the proposed development that are relevant to this agricultural assessment.

10 RECOMMENDED MITIGATION AND REHABILITATION PLAN

A very important factor affecting the success of rehabilitation, and consequently the significance of all direct impacts, is the level of care that is taken to rehabilitate effectively. This is dependent on the level of environmental management of all mining activities that can impact on rehabilitation, both during the mining process and during the rehabilitation phase.

The following is the sequence of recommended rehabilitation steps:

1. During mining, the outflow of run-off water from the mining excavation must be controlled to prevent any down-slope erosion. This must be done by way of the construction of temporary banks and ditches that will safely disperse run-off water. These should be in place above the mining area, to minimise run-off into the excavation and at any points where overflow out of the excavation might occur.
2. The upper 50 cm of soil, even if it contains gravel, must first be stripped and stockpiled before mining.
3. Topsoil is a valuable and essential resource for rehabilitation, and it should therefore be managed carefully to conserve and maintain it throughout the stockpiling and rehabilitation processes.
4. Topsoil stripping, stockpiling and re-spreading must be done in a systematic way. The mining plan should be such that topsoil is stockpiled for the minimum possible time by rehabilitating different mining blocks progressively as the mining process continues.
5. Topsoil stockpiles should be protected against losses by water and wind erosion. Stockpiles should be positioned so as not to be vulnerable to erosion by wind and water. The establishment of plants on the stockpiles will help to prevent erosion. Stockpiles should be no more than 2 metres high.
6. To ensure that soil drainage is sufficiently maintained, it is important that the mining excavation, including along its bottom edge, remains free draining after rehabilitation and does not form a depression.
7. After mining, any steep slopes, along the edges of the mining excavation or within it, must be reduced to a minimum and profiled to blend with the surrounding topography.

8. The stockpiled topsoil must then be evenly spread across the entire mining area. The depth should be monitored during spreading to ensure that coverage is adequate and even. A slope must be maintained so that ponding of water does not occur on the surface.
9. A cover crop must be planted and established immediately after spreading of topsoil, to stabilise the soil and protect it from erosion. The cover crop should be fertilized for optimum growth, and any soil chemical deficiencies should be corrected, based on a chemical analysis of the re-spread soil. It is important that rehabilitation is taken up to the point of cover crop stabilisation. Rehabilitation cannot be considered to be complete until the first cover crop is well established.
10. The rehabilitated area must be monitored for erosion, and appropriately stabilised if any erosion occurs.
11. On-going alien vegetation control must keep the area free of alien vegetation after mining.

11 CONCLUSIONS

The conclusion of this assessment is that there are adequate reserves of sand and gravel within the proposed mining area. The proposed mining will not significantly reduce the future agricultural production potential of the site, if effective rehabilitation is implemented. The proposed mine is therefore acceptable, and, from an agricultural impact point of view, it is recommended that it be approved.

The agricultural protocol requires confirmation that all reasonable measures have been taken through micro-siting to minimize fragmentation and disturbance of agricultural activities. The mining area will not cause unacceptable fragmentation and disturbance of agricultural activities.

The conclusion of this assessment on the acceptability of the proposed development and the recommendation for its approval is subject to the following conditions:

Mine management must be held accountable for well managed and effective implementation of all the recommended rehabilitation steps above. The specific, measurable rehabilitation outcomes against which the effectiveness of completed rehabilitation must be measured are:

1. that the topography and surface has been sufficiently smoothed without steep excavation edges to allow for cultivation;
2. that topsoil has been spread on the surface;
3. that there is a potential rooting depth of at least 50 cm of soil that is suitable for root growth above any existing depth limitation, across the entire mining area;
4. that there are no non free-draining depressions across the surface and that the depth of mining has not created an effective sub-surface dam, that is lower than the low point for drainage out of the mining area, and therefore, that no ponding of water occurs on the

surface of the mined area;

7. that there is no visible erosion across the area, or down-slope of it as a result of mining, and that no part of the area has been left unacceptably vulnerable to erosion;
9. that a successful cover crop has been established across the entire area.
10. that there is no invasive alien vegetation within the mining area.

12 REFERENCES

- Crop Estimates Consortium, 2019. *Field Crop Boundary data layer, 2019*. Pretoria. Department of Agriculture, Forestry and Fisheries.
- Department of Agriculture, Forestry and Fisheries (DAFF). 2017. National land capability evaluation raster data layer, 2017. Pretoria.
- Department of Agriculture, Forestry and Fisheries (DAFF). 2002. National land type inventories data set. Pretoria.
- Department of Agriculture, Land Reform and Rural Development (DALRRD). 2020. Protected agricultural areas – Spatial data layer. 2020. Pretoria.
- Schulze, R.E. 2009. South African Atlas of Agrohydrology and Climatology, available on Cape Farm Mapper. Available at: <https://gis.elsenburg.com/apps/cfm/>
- Soil Classification Working Group. 2018. Soil Classification: A Natural and Anthropogenic System for South Africa. ARC-Institute for Soil, Climate and Water, Pretoria.

APPENDIX 1: SPECIALIST CURRICULUM VITAE

Johann Lanz Curriculum Vitae

Education

M.Sc. (Environmental Geochemistry)	University of Cape Town	1996 - 1997
B.Sc. Agriculture (Soil Science, Chemistry)	University of Stellenbosch	1992 - 1995
BA (English, Environmental & Geographical Science)	University of Cape Town	1989 - 1991
Matric Exemption	Wynberg Boy's High School	1983

Professional work experience

I have been registered as a Professional Natural Scientist (Pri.Sci.Nat.) in the field of soil science since 2012 (registration number 400268/12) and am a member of the Soil Science Society of South Africa.

Soil & Agricultural Consulting Self employed 2002 - present

Within the 23 years of running my soil and agricultural consulting business, I have completed more than 1000 agricultural assessments (EIAs, SEAs, EMPRs) in all 9 provinces for renewable energy, mining, electrical grid infrastructure, urban, and agricultural developments. I was the appointed agricultural specialist for the 2015 nation-wide SEAs for wind and solar PV developments (that informed NEMA's current agricultural protocol), electrical grid infrastructure, and gas pipelines. My regular clients include: Zutari; CSIR; SiVEST; SLR; WSP; SRK; Landscape Dynamics; Environamics; Royal Haskoning DHV; ABO; Enertrag; WKN-Windcurrent; JG Afrika; Mainstream; Redcap; G7; Mulilo; and Tiptrans. Agricultural clients for soil resource evaluations and mapping include Cederberg Wines; Western Cape Department of Agriculture; Vogelfontein Citrus; De Grendel Estate; Zewenwacht Wine Estate; and Goedgedacht Olives. In 2018 I completed a ground-breaking case study that measured the agricultural impact of existing wind farms in the Eastern Cape.

Soil Science Consultant Agricultural Consultors International (Tinie du Preez) 1998 - 2001

Responsible for providing all aspects of a soil science technical consulting service directly to clients in the wine, fruit and environmental industries all over South Africa, and in Chile, South America.

Contracting Soil Scientist De Beers Namaqualand Mines July 1997 - Jan 1998

Completed a contract to advise soil rehabilitation and re-vegetation of mined areas.

Publications

- Lanz, J. 2012. Soil health: sustaining Stellenbosch's roots. In: M Swilling, B Sebitosi & R Loots (eds). *Sustainable Stellenbosch: opening dialogues*. Stellenbosch: SunMedia.
- Lanz, J. 2010. Soil health indicators: physical and chemical. *South African Fruit Journal*, April / May 2010 issue.
- Lanz, J. 2009. Soil health constraints. *South African Fruit Journal*, August / September 2009 issue.
- Lanz, J. 2009. Soil carbon research. *AgriProbe*, Department of Agriculture.
- Lanz, J. 2005. Special Report: Soils and wine quality. *Wineland Magazine*.

I am a reviewing scientist for the *South African Journal of Plant and Soil*.

APPENDIX 2: SPECIALIST DECLARATION FORM AUGUST 2023

Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE: SAND MINING APPLICATION ON FARM NUMBER 4/814 DOORNFONTEIN NEAR MALMESBURY

Kindly note the following:

1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
2. This form is current as of August 2023. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.dffe.gov.za/documents/forms>.
3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
4. The specialist must be aware of and comply with '*the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation - GN 320/2020*)', where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Agricultural Assessment
Specialist Company Name	SoilZA (sole proprietor)
Specialist Name	Johann Lanz
Specialist Identity Number	6607045174089
Specialist Qualifications:	M.Sc. (Environmental Geochemistry)
Professional affiliation/registration:	Registered Professional Natural Scientist (Pr.Sci.Nat.) Reg. no. 400268/12 Member of the Soil Science Society of South Africa
Physical address:	2 Roeland Terrace, CAPE TOWN, 8001
Postal address:	Postnet Suite #500, Private Bag X16 Constantia, 7848
Telephone	Not applicable
Cell phone	+27 82 927 9018
E-mail	johann@soilza.co.za

2. DECLARATION BY THE SPECIALIST

I, **Johann Lantz** declare that –

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. “the Protocols”) and in Government Notice No. 1150 of 30 October 2020.
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing –
 - any decision to be taken with respect to the application by the competent authority; and;
 - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.



Signature of the Specialist

SoilZA (sole proprietor)

Name of Company:

28 March 2026

Date

SPECIALIST DECLARATION FORM – AUGUST 2023

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, **Johann Lanz**, swear under oath that all the information submitted or to be submitted for the purposes of this application is true and correct.

Signature of the Specialist

SoilZA – sole proprietor

Name of Company

Date

Signature of the Commissioner of Oaths

Date

SUID-AFRIKAANSE POLISIEDIENS
HOUT BAY
28 MAR 2026
COMMUNITY SERVICE
SOUTH AFRICAN POLICE DEPARTMENT

APPENDIX 3: SACNASP REGISTRATION CERTIFICATE



herewith certifies that

Johan Lanz

Registration Number: 400268/12

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)

in the following field(s) of practice (Schedule 1 of the Act)

Soil Science (Professional Natural Scientist)

Effective **15 August 2012**

Expires **31 March 2027**



President of Council

Chief Executive Officer

