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SITE SENSITIVITY VERIFICATION AND AGRICULTURAL COMPLIANCE STATEMENT FOR THE GRID CONNECTION CORRIDOR OF THE MOGOBE BESS PROJECT NEAR KATHU, NORTHERN CAPE PROVINCE

Report by
Johann Lanz

28 April 2024

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EXECUTIVE SUMMARY

The overall conclusion of this assessment is that the proposed power line and switching station have negligible agricultural impact, regardless of the power line route and design and the agricultural potential and sensitivity of the land it crosses. The agricultural impact of a power line is negligible in almost all environments but is even more so where agricultural land use is predominantly grazing, which it is in the environment that is the subject of this assessment. All possible agricultural activities can continue entirely unhindered underneath the power line. The direct, permanent, physical footprint that has any potential to interfere with agriculture (pylon bases and servitude track, where it is needed), is insignificantly small. Soil degradation can be completely prevented by mitigation. The switching station is entirely located within the BESS facility fence and therefore does not add in any way to the footprint and agricultural impact of that facility, as assessed in the separate assessment for that facility. The power line development will result in negligible loss of future agricultural production potential and its agricultural impact is therefore assessed as being of very low significance and acceptable. From an agricultural impact point of view, it is recommended that the proposed development be approved.

1 INTRODUCTION

Environmental authorisation is being sought for the grid connection corridor of the Mogobe BESS project near Kathu, Northern Cape Province (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 the project is for linear infrastructure with minimal agricultural impact, and because of the low to medium agricultural sensitivity of the corridor, the level of agricultural assessment required by the protocol is an Agricultural Compliance Statement.

Figure 1. *Locality map of the assessed EGI corridor south of the town of Kathu.*

The purpose of an agricultural assessment is to answer this question:

> Will the proposed development cause a significant reduction in agricultural production potential, and most importantly, will it result in a loss of arable land?

As is shown in Section 9, this assessed development poses negligible threat to agricultural production potential.

2 PROJECT DESCRIPTION

Mogobe EGI (Pty) Ltd ('the Applicant') is proposing the construction of up to 132 kV Electrical Grid Infrastructure (EGI) to support the Mogobe BESS project located on Portion 1 of the Farm Legoko 460, south east of the town of Kathu within the Gamagara Local Municipality in the Northern Cape Province. The EGI will traverse Portion 1 of the Farm Legoko 460 and Farm Sekgame 461. The site is accessible via the existing farm access from the N14.

The Mogobe EGI will comprise of the following:

- A 132 kV double circuit monopole and/or lattice tower overhead power line, approximately 9.0 km in length and 30 m in height to connect to the Existing Eskom Ferrum Substation located within an approved corridor of approximately 200 m wide. The power line will be constructed within an approximately 31 m wide servitude.
- A service road of approximately 4 m wide below the power line.
- An on-site switching station, with an estimated footprint of 1.0 ha and up to 5 m in height, at the Mogobe BESS facility. This refers specifically to Eskom's section of the on-site substation, planned to be at 132 kV, which will be transferred from the IPP to Eskom. Lightning masts of up to 21 m will be installed within the substation yard, and
- Associated electrical infrastructure at the Eskom Ferrum Substation. This will include but not limited to a new feeder bay which comprises of the extension to the existing platform and busbars of the 132 kV yard inside Eskom Ferrum Substation.

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 Compliance Statement, as stipulated in the agricultural protocol, are listed below, and the section number of this report which fulfils each stipulation is given after it in brackets.

1. The Agricultural Compliance Statement must be prepared by a soil scientist or agricultural specialist registered with the South African Council for Natural Scientific Professions (SACNASP) **(Appendix 3)**.
2. The compliance statement must:
    1. be applicable to the preferred site and proposed development footprint **(Figures 2 and**

3);

2. confirm that the site is of “low” or “medium” sensitivity for agriculture **(Section 7)**; and
3. indicate whether or not the proposed development will have an unacceptable impact on the agricultural production capability of the site **(Section 12)**.

3. The Agricultural Compliance Statement must contain, as a minimum, the following information:
    1. details and relevant experience as well as the SACNASP registration number of the soil scientist or agricultural specialist preparing the statement including a curriculum vitae **(Appendix 1)**;
    2. a signed statement of independence by the specialist **(Appendix 2)**;
    3. a map showing the proposed development footprint (including supporting infrastructure) with a 50 m buffered development envelope, overlaid on the agricultural sensitivity map generated by the screening tool **(Figure 2)**;
    4. confirmation from the specialist that all reasonable measures have been taken through micro-siting to avoid or minimize fragmentation and disturbance of agricultural activities **(Section 11.1)**;
    5. a substantiated statement from the soil scientist or agricultural specialist on the acceptability, or not, of the proposed development and a recommendation on the approval, or not of the proposed development **(Section 12)**;
    6. any conditions to which this statement is subjected **(Section 12)**;
    7. in the case of a linear activity, confirmation from the agricultural specialist or soil scientist, that in their opinion, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase **(Section 11.2)**;
    8. where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr **(Section 10)**; and
    9. a description of the assumptions made and any uncertainties or gaps in knowledge or data **(Section 5)**.

4 METHODOLOGY OF STUDY

The assessment was based on a verification of current agricultural land use on the site and was informed by existing climate, soil, and agricultural potential data for the site (see references). 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 specific assumptions, uncertainties or gaps in knowledge or data that affect the findings of this study.

6 APPLICABLE LEGISLATION AND PERMIT REQUIREMENTS

This section identifies all applicable legislation and permit requirements over and above what is required in terms of NEMA.

If the switching station is part of the facility footprint that has already obtained change of land use authorisation, then no further approval from the National Department of Agriculture, Land Reform and Rural Development (DALRRD) should be needed.

Power lines require the registration of a servitude for each farm portion crossed. In terms of the Subdivision of Agricultural Land Act (Act 70 of 1970) (SALA), the registration of a power line servitude requires written consent of the Minister unless either of the following two conditions apply:

- if the servitude width does not exceed 15 metres; and
- if Eskom is the applicant for the servitude.

If one or both conditions apply, then no agricultural consent is required. The second condition is likely to apply, even if another entity gets Environmental Authorisation for and constructs the power line, but then hands it over to Eskom for its operation. Eskom is currently exempt from agricultural consent for power line servitudes.

7 SITE SENSITIVITY VERIFICATION

A specialist agricultural assessment is required to verify 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). Agricultural sensitivity is an indication of the capability of the land for agricultural production, based only on its climate, terrain, and soil capabilities. The different categories of agricultural sensitivity indicate the priority by which land should be conserved as agricultural production land. However, the screening tool's agricultural sensitivity is often of very limited value for assessing agricultural impact. What is of importance to an agricultural assessment, rather than the site sensitivity verification, is its assessment of the cropping potential and its assessment of the impact significance, both of which are not necessarily correlated with sensitivity.

The screening tool sensitivity of a power line corridor has very little relevance to the assessment of its agricultural impact because the impact is likely to be negligible (see Section 9), regardless of the agricultural sensitivity of the land which it crosses. The agricultural sensitivity of the corridor, as classified by the screening tool, is shown in Figure 2. It is predominantly low, with limited pixels of medium. This assessment confirms the sensitivity classification by the screening tool because of the

current agricultural land use and land capability of the corridor.

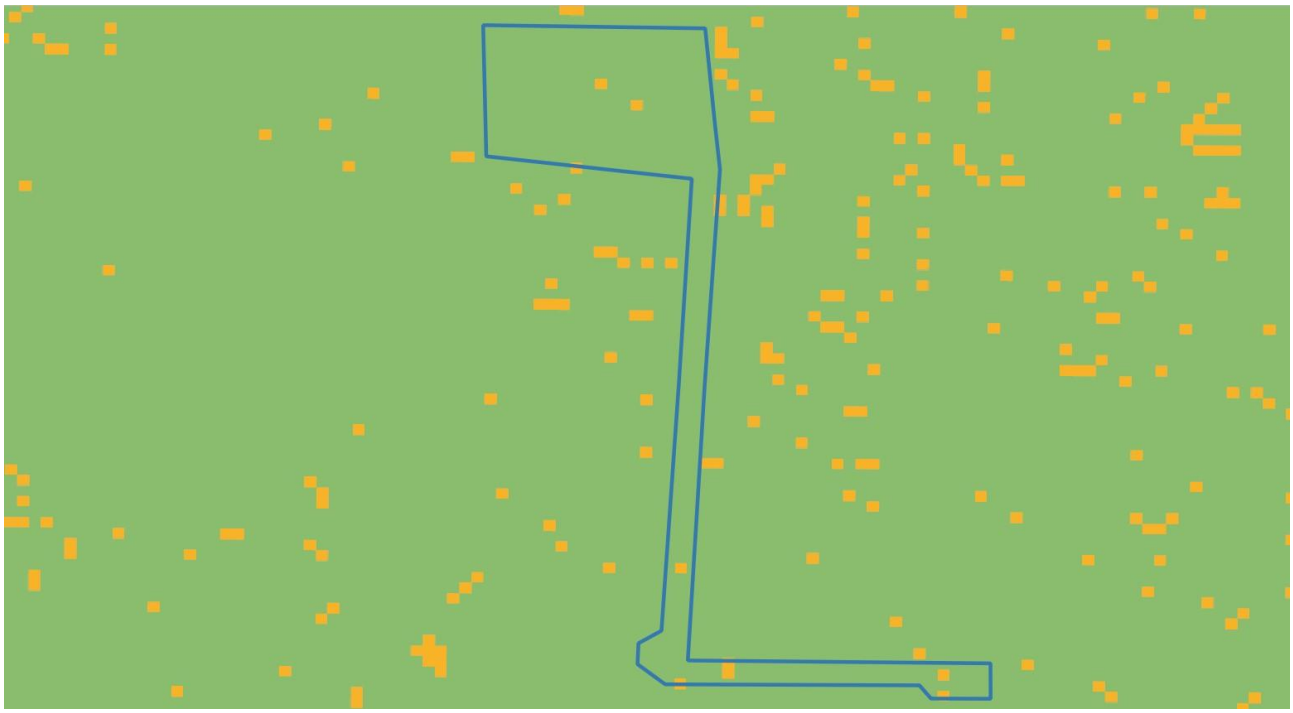

Figure 2. *The EGI assessment corridor overlaid on agricultural sensitivity, as classified by the screening tool (green = low; yellow = medium; red = high; dark red = very high). The screening tool's low sensitivity is confirmed by this assessment.*

8 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 to make an assessment of that potential. Agricultural production potential, and particularly cropping potential, is one of three factors that determines the significance of an agricultural impact, together with size of footprint and duration of impact (see Section 9). However, in the case of a power line, one of the three factors, namely total footprint of land that will be lost to agriculture, is negligible and therefore determines the significance of the impact as negligible, regardless of what the value of the other two factors might be. The agricultural production potential of the site is therefore irrelevant. In this case, the agricultural production potential of the land is limited to only being suitable as grazing land, anyway, and only used as such, which means that agricultural activity along the route is completely unaffected by the power line.

A satellite image map of the proposed development is given in Figure 3.

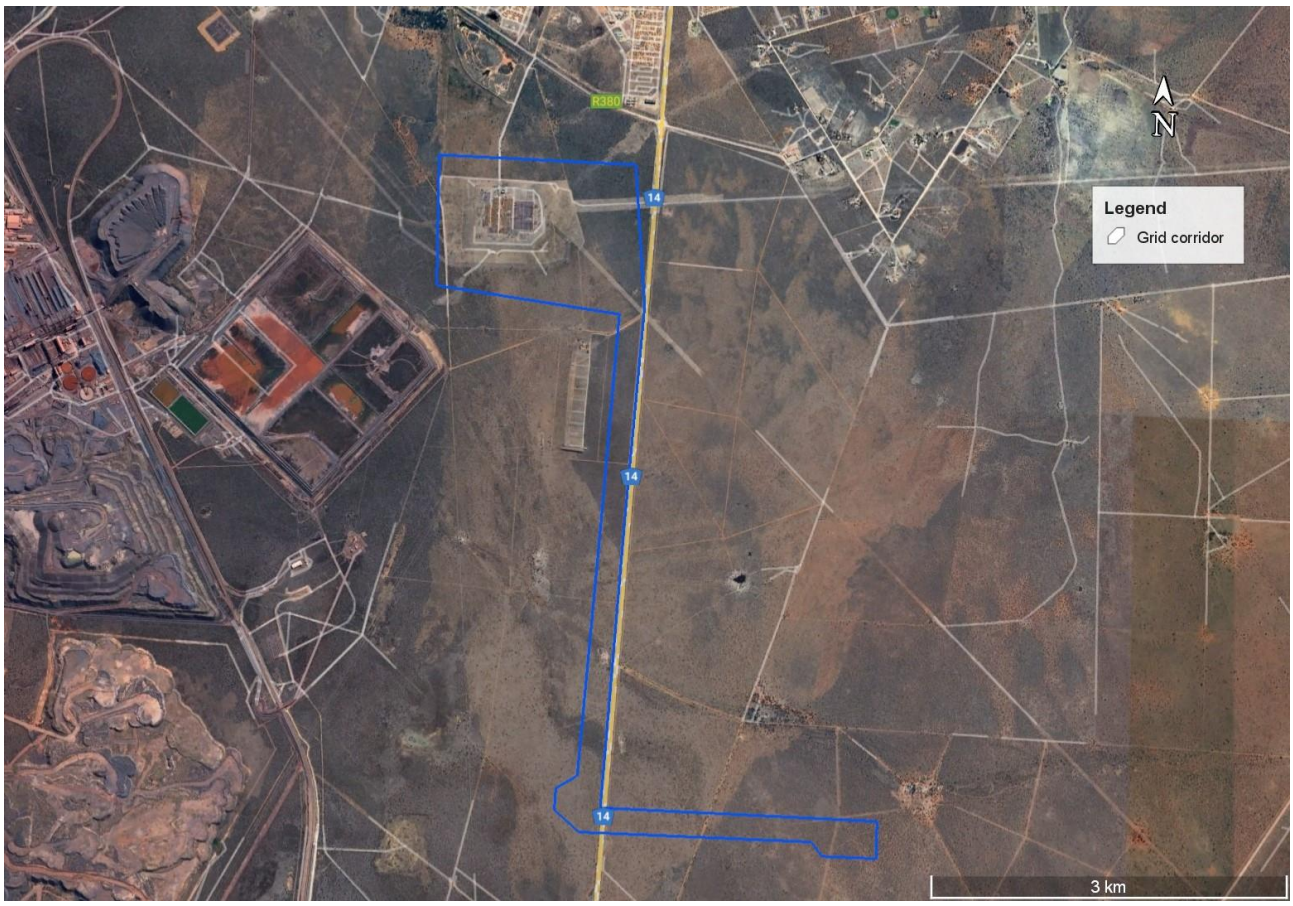

Figure 3. *Satellite image map of the proposed EGI corridor.*

9 ASSESSMENT OF AGRICULTURAL IMPACT

9.1 Impact identification and assessment

It should be noted that an Agricultural Compliance Statement is not required to formally rate agricultural impacts by way of impact assessment tables.

An agricultural impact is a change to the future agricultural production potential of land. In most developments this is primarily caused by the exclusion of agriculture from the footprint of the development. Soil erosion and degradation may also contribute to loss of agricultural production potential.

The proposed overhead power line has negligible agricultural impact, regardless of its route and design and the agricultural potential and sensitivity of the land it crosses. All possible agricultural activities can continue entirely unhindered underneath the power line. The direct, permanent, physical footprint that has any potential to interfere with agriculture (pylon bases and servitude track where it is needed (no servitude track is required in croplands), is insignificantly small. The only potential source of impact of the power line is minimal disturbance to the land (erosion and topsoil

loss) during construction (and decommissioning). This impact can be completely prevented with standard, generic mitigation measures that are all inherent in the project engineering and/or are standard, best-practice for construction sites, and are included in the EMPr. The power line development will result in negligible loss of future agricultural production potential and its agricultural impact is therefore assessed as being of very low significance.

As noted above, the Eskom switching station is entirely located within the BESS facility fence and therefore does not add in any way to the footprint and agricultural impact of that facility, as assessed in the separate assessments of that facility.

9.2 Cumulative impact assessment

Specialist assessments for environmental authorisation are required to assess cumulative impacts. The cumulative impact of a development is the impact that development will have when its impact is added to the incremental impacts of other past, present, or reasonably foreseeable future activities that will affect the same environment.

The most important concept related to a cumulative impact is that of an acceptable level of change to an environment. A cumulative impact only becomes relevant when the impact of the proposed development will lead directly to the sum of impacts of all developments causing an acceptable level of change to be exceeded in the surrounding area. If the impact of the development being assessed does not cause that level to be exceeded, then the cumulative impact associated with that development is not significant.

The potential cumulative agricultural impact of importance is a regional loss (including by degradation) of future agricultural production potential. The defining question for assessing the cumulative agricultural impact is this:

> What loss of future agricultural production potential is acceptable in the area, and will the loss associated with the proposed development, when considered in the context of all past, present or reasonably foreseeable future impacts, cause that level in the area to be exceeded?

Due to its negligible agricultural impact, the assessed power line cannot exceed acceptable levels of change in terms of agricultural land loss, no matter how many power lines exist and are proposed. Similarly due to its negligible agricultural impact, the switching station will also not contribute to the cumulative agricultural impact. It therefore makes no sense to conduct a more formal assessment of cumulative impacts as per DFFE requirements. The cumulative impact of the power line and switching station can confidently be assessed as being of very low significance and therefore as acceptable. The development will not have an unacceptable negative impact on the agricultural

production capability of the area, and it is therefore recommended, from a cumulative agricultural impact perspective, that the development be approved.

9.3 Assessment of alternatives

Specialist assessments for environmental authorisation are required to include a comparative impact assessment of alternatives, including the no-go alternative. Because of the insignificant agricultural impact of the power line, there can be no material difference between the agricultural impacts of any route alternatives within the corridor. All have insignificant agricultural impact and are considered equally acceptable in terms of agricultural impact. All design and technology alternatives will also have no bearing on the significance of agricultural impacts. All will have equal impact and are assessed as equally acceptable.

The no-go alternative considers impacts that will occur to the agricultural environment in the absence of the proposed development. There are no agricultural impacts of the no-go alternative, but this is not significantly different from the very low impact of the development, and so from an agricultural impact perspective, there is no preferred alternative between the no-go and the development.

10 MITIGATION MEASURES

There are no additional mitigation measures required, over and above what has already been included in the *Generic Environmental Management Programme (EMPr) For The Development And Expansion For Overhead Electricity Transmission And Distribution Infrastructure* and the *Generic Environmental Management Programme (EMPr) For Substation Infrastructure For The Transmission And Distribution Of Electricity,* as per Government Notice 435, which was published in Government Gazette 42323 on 22 March 2019.

11 ADDITIONAL ASPECTS REQUIRED IN AN AGRICULTURAL ASSESSMENT

11.1 Micro-siting

The agricultural protocol requires confirmation that all reasonable measures have been taken through micro-siting to minimize fragmentation and disturbance of agricultural activities. The micro-siting of the power line within the corridor will make no material difference to agricultural impacts and disturbance.

11.2 Confirmation of linear activity impact

The agricultural protocol requires confirmation, in the case of a linear activity, that the land can be returned to the current state within two years of completion of the construction phase. It is hereby confirmed that the land under the overhead power line, where it is not occupied by other facility infrastructure, can be returned to the current state of agricultural production potential within two years of construction, with the obvious disclaimer that the pylons will continue to be present for the duration of the operational lifetime of the power line.

12 CONCLUSIONS

The overall conclusion of this assessment is that the proposed power line and switching station have negligible agricultural impact, regardless of the power line route and design and the agricultural potential and sensitivity of the land it crosses. The agricultural impact of a power line is negligible in almost all environments but is even more so where agricultural land use is predominantly grazing, which it is in the environment that is the subject of this assessment. All possible agricultural activities can continue entirely unhindered underneath the power line. The direct, permanent, physical footprint that has any potential to interfere with agriculture (pylon bases and servitude track, where it is needed), is insignificantly small. Soil degradation can be completely prevented by mitigation. The switching station is entirely located within the BESS facility fence and therefore does not add in any way to the footprint and agricultural impact of that facility, as assessed in the separate assessment for that facility. The power line development will result in negligible loss of future agricultural production potential and its agricultural impact is therefore assessed as being of very low significance and acceptable. From an agricultural impact point of view, it is recommended that the proposed development be approved. The conclusion of this assessment on the acceptability of the proposed development and the recommendation for its approval is not subject to any conditions.

13 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.

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 past 5 years of running my soil and agricultural consulting business, I have completed more than 170 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 nation-wide SEAs for wind and solar PV developments, electrical grid infrastructure, and gas pipelines. My regular clients include: Zutari; CSIR; SiVEST; SLR; WSP; Arcus; SRK; Environamics; Royal Haskoning DHV; ABO; Enertrag; WKN-Windcurrent; JG Afrika; Mainstream; Redcap; G7; Mulilo; and Tiptrans. Recent 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*.

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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: THE GRID CONNECTION CORRIDOR OF THE MOGOBE BESS PROJECT NEAR KATHU, NORTHERN CAPE PROVINCE

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:	1a Wolfe Street, Wynberg, Cape Town, 7800
Postal address:	1a Wolfe Street, Wynberg, Cape Town, 7800
Telephone	Not applicable
Cell phone	+27 82 927 9018
E-mail	johann@soilza.co.za

2. DECLARATION BY THE SPECIALIST

I, **Johann Lanz** 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:

16 April 2024

Date

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

16 April 2024

Date

Signature of the Commissioner of Oaths

2024/04/16

Date

SUID-AFRIKAANSE POLISIEDIENS
HOUT BAY
16 APR 2024
COMMUNITY SERVICE
SOUTH AFRICAN POLICE SERVICE

APPENDIX 3: SACNASP REGISTRATION CERTIFICATE

SACNASP

South African Council for Natural Scientific Professions

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 2025**

Chairperson

Chief Executive Officer

To verify this certificate scan this code