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SITE SENSITIVITY VERIFICATION AND AGRICULTURAL COMPLIANCE STATEMENT FOR ADDITIONS TO THE EXISTING TOURISM OPERATION ON FARM NUMBERS 824, 826 AND 887 NEAR VILLIERSDORP, WESTERN CAPE PROVINCE

Report by
Johann Lanz

4 December 2023

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EXECUTINVE SUMMARY

The overall conclusion of this assessment is that the proposed development is acceptable because it leads to negligible loss of future agricultural production potential.

The site is classified as low to medium agricultural sensitivity by the screening tool. This has been confirmed by this assessment, because of the agricultural production potential and current agricultural land use.

The climate is suitable for a range of fruit crops that are grown in the area. However, the site is limited by steep slopes and predominantly shallow, rocky soils on mountainous land. A relatively small and isolated area of less steep land in the vicinity of the farmstead has been cultivated in the past, but not for many years. This land theoretically has sufficient land capability to be cultivated but is highly unlikely to ever be utilised as viable, productive farmland in future, predominantly because it is a small, isolated area within mountainous land.

An agricultural impact is a change to the future agricultural production potential of land. This is primarily caused by the exclusion of agriculture from the footprint of a development. The impact of this development is predominantly limited by its very small footprint size. It is also limited by the fact that the land is highly unlikely to ever be utilised as viable, productive farmland in future because of various limitations. The use of this land for non-agricultural purposes will cause insignificant loss of agricultural production potential in terms of national food security. The overall negative agricultural impact of the development (loss of future agricultural production potential) is assessed here as being of very low significance and as acceptable.

From an agricultural impact point of view, it is recommended that the development be approved.

1 INTRODUCTION

Environmental and change of land use authorisation is being sought for proposed additions to the existing tourism operation at Rusty Gate Mountain Retreat in the Western Cape (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, based on the verified low to medium agricultural sensitivity of the site (see Section 7), the level of agricultural assessment required by the agricultural protocol is an Agricultural Compliance Statement.

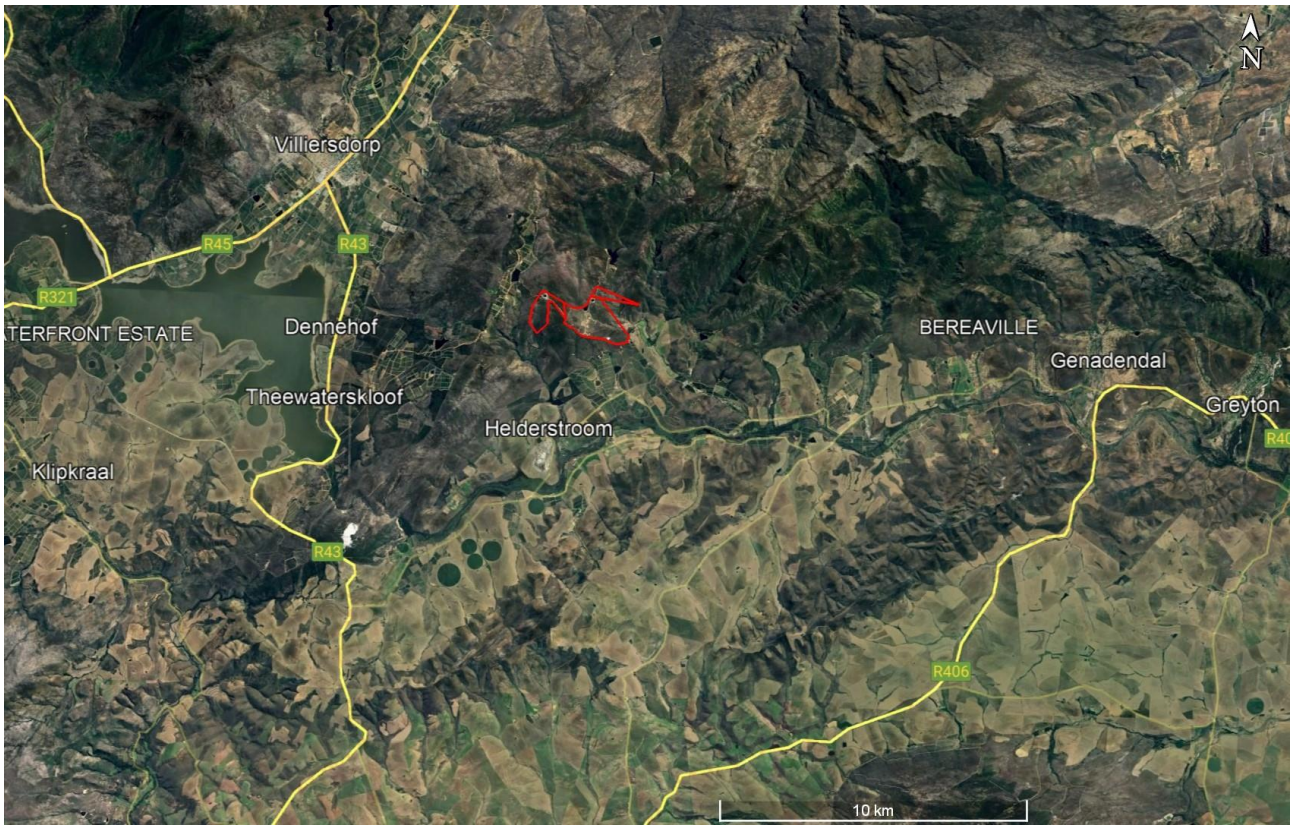

Figure 1. *Locality map of the farm portions (red outlines), southeast of the town of Villiersdorp.*

The purpose of an agricultural assessment is to answer the 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 will cause minimal reduction in agricultural production potential.

2 PROJECT DESCRIPTION

The project involves additions to the existing tourism operation known as Rusty Gate Mountain Retreat. It comprises the following infrastructure and surface area. A layout map of the development is shown in Figure 3.

Camp site	54 m^2
Eco cabins x 10	945 m^2
Eco pods x 5	212 m^2
Farm manager house	116 m^2
Conference facility	150 m^2
Sundowner boma	50 m^2
Total	**1527 m^2**

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. The project will require agricultural approval (or at least comment from Department of Agriculture) as part of the required approval in terms of applicable municipal land use legislation, as well as in terms of the Subdivision of Agricultural Land Act (Act 70 of 1970 - SALA), because it is on land currently zoned for agriculture.

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 a direct function 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.

The screening tool classifies agricultural sensitivity according to two independent criteria, from two independent data sets, both of which may be indicators of the land's agricultural production potential but are limited in that the first is outdated and the second relies on fairly course data. The two criteria are:

1. whether the land is classified as cropland or not on the field crop boundary data set, and
2. its land capability rating on the land capability data set

All classified cropland is, by definition, either high or very high sensitivity. Land capability is defined as the combination of soil, climate, and terrain suitability factors for supporting rain-fed agricultural production. It is rated by the Department of Agriculture's updated and refined, country-wide land capability mapping (DAFF, 2017). The higher land capability values (≥8 to 15) are likely to indicate suitability as arable land for crop production, while lower values (<8) are only likely to be suitable as non-arable grazing land. The direct relationship between land capability rating and the screening tool's agricultural sensitivity is shown in Table 1.

Table 1: Relationship between land capability and agricultural sensitivity as given by the screening tool.

Land capability value	Agricultural sensitivity
1 - 5	low
6 - 8	medium
9 - 10	high
11 - 15	very high

The agricultural sensitivity of the site, as classified by the screening tool, is shown in Figure 2.

Figure 2. *The proposed development 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 to medium sensitivity is confirmed by this assessment.*

The screening tool classifies the assessed area as ranging from low to medium agricultural sensitivity. None of the land is classified as cropland and the rating of agricultural sensitivity is therefore purely a function of classified land capability as per Table 1 above. The classified land capability of the site ranges from 2 to 6 with single pixels of 7 and 8. This assessment verifies that the site is not within crop boundaries and verifies the classified land capability, based on the assessment of the cropping potential of the site in this report (see following section). This assessment therefore confirms the low to medium sensitivity rating by the screening tool.

8 BASELINE DESCRIPTION OF THE AGRO-ECOSYSTEM

The purpose of this section of an agricultural assessment report is to present the baseline information that controls the agricultural production potential of the site so that an assessment of that potential can be made. 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).

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

The climate is suitable for a range of fruit crops that are grown in the area. However, the site is limited by steep slopes and predominantly shallow, rocky soils on mountainous land. A relatively small and isolated area of less steep land in the vicinity of the farmstead has been cultivated in the past, but not for many years. This land theoretically has sufficient land capability to be cultivated but is highly unlikely to ever be utilised as viable, productive farmland in future, predominantly because it is a small, isolated area within mountainous land.

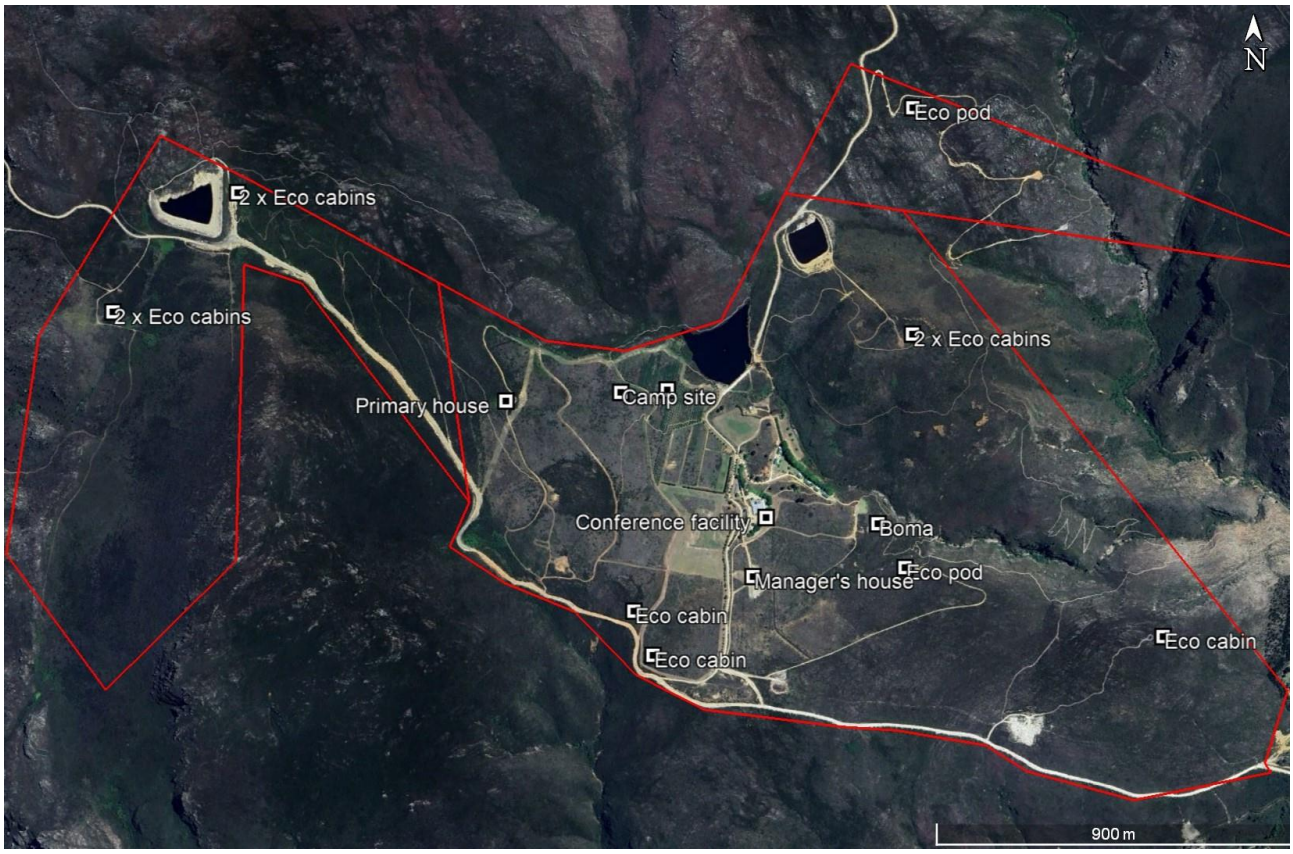

Figure 3. *Satellite image map of the site.*

9 ASSESSMENT OF THE 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, including the one being assessed here, this is primarily caused by the exclusion of agriculture from the footprint of the development. The significance of an agricultural impact is a direct function of the following three factors:

1. the size of the footprint of land from which agriculture will be excluded (or the footprint that will have its potential decreased)
2. the baseline production potential (particularly cropping potential) of that land
3. the length of time for which agriculture will be excluded (or for which potential will be decreased).

The impact of this development is predominantly limited by its very small footprint size. It is also limited by the fact that the land is highly unlikely to ever be utilised as viable, productive farmland in future because of various limitations. The use of this land for non-agricultural purposes will cause insignificant loss of agricultural production potential in terms of national food security. The overall negative agricultural impact of the development (loss of future agricultural production potential) is assessed here as being of very low significance and as acceptable.

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.

Due to its very low agricultural impact, the assessed development will not contribute to the cumulative impact. The cumulative agricultural impact of the proposed development is therefore assessed here as being of very low significance and therefore as acceptable.

9.3 Assessment of alternatives

Specialist assessments for environmental authorisation are required to assess the impacts of alternatives including the no-go alternative. 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 impacts of the development and there is therefore no preferred alternative between the development and the no-go, if assessed purely from an agricultural impact perspective.

10 MITIGATION MEASURES

No specific mitigation measures are required for the protection of agricultural production potential

on the site although erosion risk should always be managed by standard erosion control measures where necessary.

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. Due to the very low agricultural impact of the proposed development, and the lack of agricultural production on the site, micro-siting will have absolutely no effect on agricultural impact.

11.2 Confirmation of linear activity

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. This is not relevant in this case because the proposed development is not a linear one.

12 CONCLUSION: AGRICULTURAL COMPLIANCE STATEMENT

The overall conclusion of this assessment is that the proposed development is acceptable because it leads to negligible loss of future agricultural production potential.

The site is classified as low to medium agricultural sensitivity by the screening tool. This has been confirmed by this assessment, because of the agricultural production potential and current agricultural land use.

The climate is suitable for a range of fruit crops that are grown in the area. However, the site is limited by steep slopes and predominantly shallow, rocky soils on mountainous land. A relatively small and isolated area of less steep land in the vicinity of the farmstead has been cultivated in the past, but not for many years. This land theoretically has sufficient land capability to be cultivated but is highly unlikely to ever be utilised as viable, productive farmland in future, predominantly because it is a small, isolated area within mountainous land.

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agricultural impact of the development (loss of future agricultural production potential) is assessed here as being of very low significance and as acceptable.

From an agricultural impact point of view, it is recommended that the 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

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.

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*.

APPENDIX 2: DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I, **Johann Lanz**, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- in terms of the general requirement to be independent:
  - other than fair remuneration for work performed/to be performed in terms of this application, have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity; or
  - ~~am not independent, but another specialist that meets the general requirements set out in Regulation 13 have been appointed to review my work (Note: a declaration by the review specialist must be submitted);~~
- in terms of the remainder of the general requirements for a specialist, am fully aware of and meet all of the requirements and that failure to comply with any the requirements may result in disqualification;
- have disclosed/will disclose, to the applicant, the Department and interested and affected parties, all material information that have or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of regulation 48 of the 2014 NEMA EIA Regulations.

Signature of the specialist: 

Date: **4 December 2023**

Name of company: **Johann Lanz – soil scientist (sole proprietor)**

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 fields(s) of practice (Schedule 1 of the Act)

Soil Science (Professional Natural Scientist)

Effective **15 August 2012** Expires **31 March 2024**

Chairperson

Chief Executive Officer

To verify this certificate scan this code

APPENDIX 4: SOIL DATA

Table 2: Table of land type soil data

Land type	Soil series (forms)	Depth (mm)	Clay % A horizon	Clay % B horizon	Depth limiting layer	% of land type
Ib102	Rock					59.0
Ib102	Fw	400 - 800	0 - 6		sr	11.3
Ib102	Gs	250 - 400	5 - 35	10 - 40	so,R	10.5
Ib102	Ms Cf	100 - 300	0 - 25		R	9.0
Ib102	Cf	200 - 300	0 - 6		R	4.6
Ib102	Ms	100 - 250	0 - 25		R	4.5
Ib102	Du	> 1200	0 - 6			0.5
Ib102	Ss	300 - 600	5 - 15	25 - 40	pr	0.5
Ib102	Es	300 - 700	5 - 15	20 - 40	pr	0.2