

Phase 1 Heritage Impact Assessment of proposed
installation of new irrigation pivots and associated
infrastructure on the farm Lorraine 100 near Douglas,
Northern Cape Province.

Report prepared by
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Summary

A Phase 1 Heritage Impact Assessment was carried out for the proposed installation of new irrigation pivots and associated infrastructure on the farm Lorraine 100, located about 52 km east of Douglas in the Northern Cape Province. The terrain as a whole is capped by a thick mantle of aeolian sand that appears to be superficially sterile in terms of Stone Age cultural remains. There are no indications of prehistoric structures or rock art within the footprint area. There is also no aboveground evidence of informal graves or historically significant structures older than 60 years within the confines of the footprint. The study area is located within a historically as well as prehistorically significant landscape. However, the field assessment indicates that the proposed pivot development will primarily affect geologically recent soils in the form of well-developed wind-blown sand. The base of the aeolian Kalahari Group sands, which cover vast areas in the region, have previously produced localized densities of Early and Middle Stone Age artifacts, but given that pivot farming largely effect the uppermost soil layer, impact on potentially intact Stone Age archaeological remains within the footprint is considered unlikely. Given the nature of the proposed development (installation of aboveground pivots), the terrain is not considered archaeologically vulnerable and is assigned a site rating of Generally Protected C.

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Introduction

A Phase 1 Heritage Impact Assessment was carried out for the proposed installation of new irrigation pivots and associated infrastructure on the farm Lorraine 100, located about 52 km east of Douglas in the Northern Cape Province (**Fig. 1**). The extent of the proposed development (over 5000 m²) falls within the requirements for a Heritage Impact Assessment (HIA) as required by Section 38 (Heritage Resources Management) of the South African National Heritage Resources Act (Act No. 25 of 1999). The site visit and subsequent assessment took place in November 2013. The task involved identification of possible archaeological and paleontological sites or occurrences in the proposed zone, an assessment of their significance, possible impact by the proposed development and recommendations for mitigation where relevant.

Methodology

The archaeological significance of the affected area was evaluated through a desktop study and carried out on the basis of existing field data, database information, published literature and maps. This was followed up with a field assessment by means of a pedestrian survey and investigation of all exposed sections within the footprint. A Garmin Etrex Vista GPS hand model (set to the WGS 84 map datum) and a digital camera were used for recording purposes.

Site significance classification standards prescribed by SAHRA (2005) were used to indicate overall significance and mitigation procedures where relevant (**Table 1**).

Description of the Affected Area

Maps: 1:50 000 topographical map 2824 CD Koedoebergsdrif

General Site Coordinates: 29° 0'14.65"S 24° 19'28.34"E

The site covers about 1500 ha of partially worked (agricultural) land located south of the R352 provincial road, about 9 km east of Plooyburg (**Fig. 2 & 3**).

Background

The Stone Age archaeological footprint in the region is represented by Early, Middle and Later Stone Age sites associated with pans and alluvial contexts, while away from rivers, the landscape in general is characterized by low density surface scatters (Beaumont 1995; Kiberd 2006). The base and lower levels of Kalahari Group sands which cover vast areas in the region, have produced localized densities of Middle

Stone Age artefacts, especially around the lower Vaal basin (Beaumont and Morris 1990). The incidence of Early as well as Later Stone Age surface scatters are also common along the lower Vaal and middle Orange River basins, which highlights the antiquity and continuity of human occupation on the landscape (**Fig. 4**).

Rock engravings in the region are consistently found on Ventersdorp andesites. Engraving sites are known from Wonderdraai and Omdraaisvlei near Prieska and De Kalk, Kentani, Mazelsdontein and Readsdrift near Douglas as well as Driekopseiland on the Riet River near Plooyburg. Engraving sites have also been recorded on a number of farms in the Hopetown district, including Beeshoek, Brandfontein Disselfontein, Doornbult Karee Kloof Lemietoskop and Rooikop. Multiple rock engraving sites are found on the dolerite hills flanking the Riet River west of Plooyburg.

Archaeological records and historical eyewitness accounts show evidence of Bushman hunter-gatherer and Khoi herder occupation in the region prior to European settlement (Sampson 1972; Elphick 1977) while early travelers frequently encountered Koranna, Griqua and Bushmen groups in the region (Burchell 1824; Skead 2009) (**Fig. 5**). Iron Age occupation is absent from the region as the most southerly distribution of Iron Age settlement in the northern Cape was limited to north of the Orange River by the end of 18th century (Maggs 1974; Humphreys 1976). The Orange River area between Douglas and Hopetown also lies within the confines of the historical Albania Settlement of Griqualand West that lasted from 1866 to its demise in 1878 (Kurtz 1988) (**Fig. 6**).

Further away, stone pipes and LSA artefacts have been recorded on the farm Doornkuil near Britstown, while graves and clay pottery have been recorded along the Orange River at St. Clair in the vicinity of Douglas (Humphreys 1982).

Field Assessment

The field assessment indicates that the study area has already been partially disturbed by the previous agricultural activities (installation of pivots, cattle farming) (**Fig. 7**). The terrain as a whole is capped by a thick mantle of aeolian sand that appears to be superficially sterile in terms of Stone Age cultural remains (**Fig. 8**). There are no indications of prehistoric structures or rock art within the footprint area. There is also no aboveground evidence of informal graves or historically significant structures older than 60 years within the confines of the footprint.

Impact Statement and Recommendation

The study area is located within a historically as well as prehistorically significant landscape. However, the field assessment indicates that the proposed pivot development will primarily affect geologically recent soils in the form of well-developed wind-blown sand. The base of aeolian Kalahari Group sands, which cover vast areas in the region, have previously produced localized densities of Early and Middle Stone Age artifacts, but given that pivot farming largely effect the uppermost soil layer, impact on potentially intact Stone Age archaeological remains within the footprint is considered unlikely. Given the nature of the proposed development (installation of aboveground pivots), the terrain is not considered archaeologically vulnerable and is assigned a site rating of Generally Protected C (**Table 1**).

References

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DECLARATION OF INDEPENDENCE

I, Lloyd Rossouw, declare that I act as an independent specialist consultant. I do not have or will not have any financial interest in the undertaking of the activity other than remuneration for work as stipulated in the terms of reference. I have no interest in secondary or downstream developments as a result of the authorization of this project.

A handwritten signature in black ink, appearing to read 'L Rossouw', with a large, stylized initial 'L'.

17 / 11 / 2017

Tables & Figures

Table 2. Field rating categories as prescribed by SAHRA.

Field Rating	Grade	Significance	Mitigation
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction



Figure 1. Location of the study area in relation to the position of Douglas.

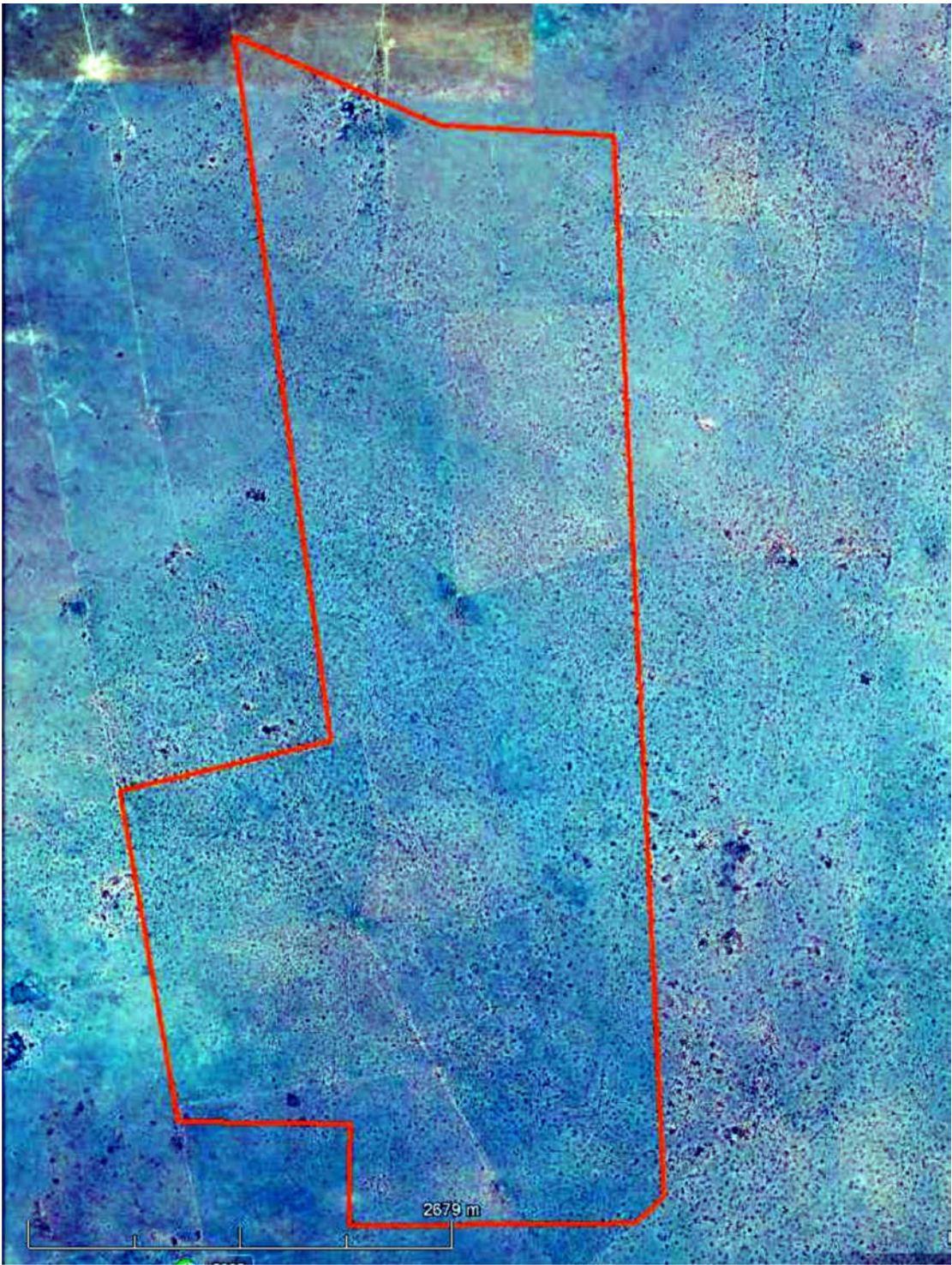
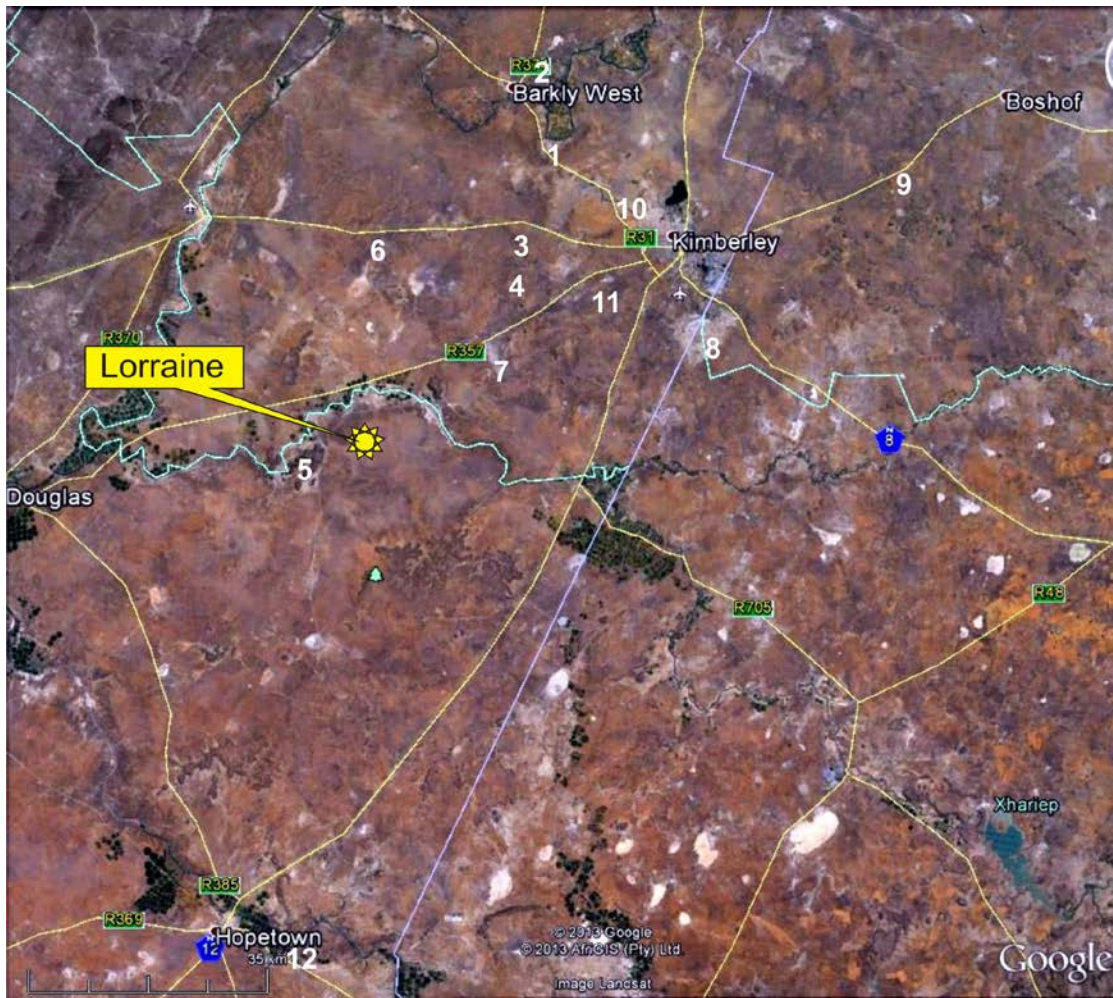


Figure 2. Aerial view of the proposed development footprint.



Figure 3. General view of the study area, looking north (top) and west (below).



1. Pniel, Nooitgedacht & Powers Site - ESA, MSA and LSA
2. Canteen Koppie - ESA
3. Rooidam - ESA
4. Biesiesput - MSA
5. Driekopseiland - Glacial straitions, Rock engravings
6. Doornlaagte - ESA
7. Kareevloer - ESA, MSA
8. Alexandersfontein - 'palaeo-lake'
9. Liebensraum - ESA
10. Wildebeestkuil - Rock engravings
11. Witpan - Rock engravings
12. Orange River Station, Blockhouse & Concentration Camp

Figure 4. The Stone Age archaeological footprint is well-represented north of Hopetown and around Kimberley by Early and Middle Stone Age localities from lacustrine and alluvial contexts as well as rock engravings on andesite and dolerite outcrop.

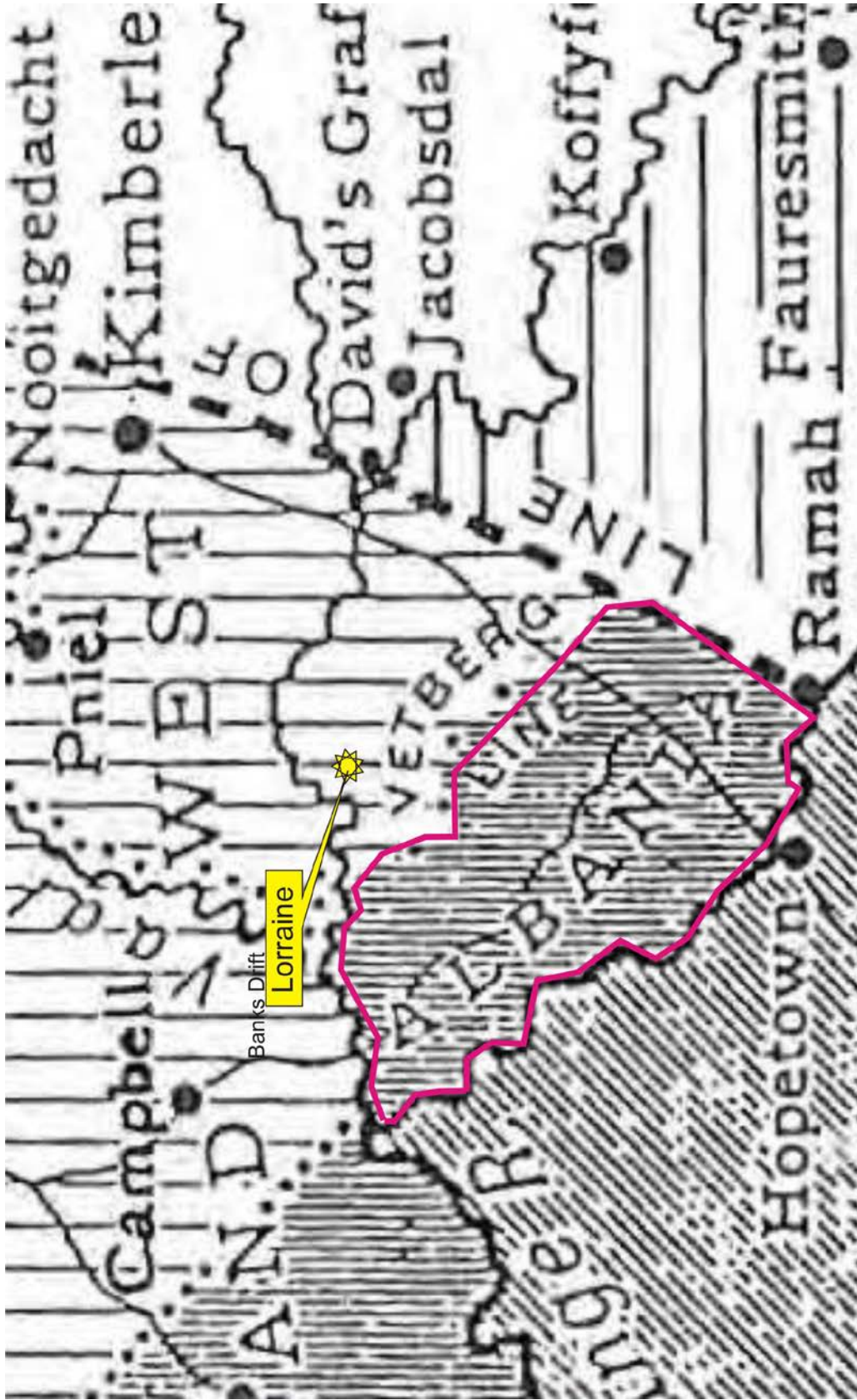


Figure 6. The historical Albanian Settlement of Griqualand West occupied the area east of the Orange River between Douglas and Hopetown. It lasted from 1866 to 1878.



Figure 7. Evidence of current agricultural activities.



Figure 8. The terrain as a whole is capped by a thick mantle of aeolian sand that appears to be superficially sterile in terms of Stone Age cultural remains.
Scale 1 = 10 cm.