

**PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT
BITTERFONTEIN BOREHOLES, PIPELINE
AND POWERLINE
WEST COAST DISTRICT MUNICIPALITY**

Report prepared for

ENVIROAFRICA

By

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Executive summary

A Phase 1 Archaeological Impact Assessment of the proposed Bitterfontein boreholes, pipeline and powerline project in the Western Cape Province has identified no significant impacts to pre-colonial archaeological that will need to be mitigated prior to development activities.

A few Stone Age tools were located during the baseline study, but these are spread very thinly over the surrounding landscape.

The archaeological remains have been graded low local significance.

A 'Notification to Heritage Western Cape of Intent to Develop' form has been completed by the archaeologist and submitted to Heritage Western Cape Built Environment and Landscape Committee (BELCOM) for comment.

A copy of the Phase 1 Archaeological Impact Assessment report has been included with this submission.

1. INTRODUCTION

1.1 Background and brief

EnviroAfrica requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment of the proposed Bitterfontein boreholes, pipeline and powerline project, in the Western Cape Province.

The proposed activity involves the installation of pipelines and power lines from six existing boreholes to the Bitterfontein-Kliprand Road, from where it will follow this road to the N7, and from the western side of the N7 to the Bitterfontein desalination plant and reservoir. The proposed project is designed to meet the increasing bulk water requirements of the town of Bitterfontein.

The proposed pipeline is 8 km long, and the proposed powerline 6 km long.

The extent of the proposed development (a linear development exceeding more than 300m in length) falls within the requirements for an archaeological impact assessment as required by Section 38 of the South African Heritage Resources Act (No. 25 of 1999).

The aim of the study is to locate and map archaeological heritage remains that may be negatively impacted by the planning, construction and implementation of the proposed project, to assess the significance of the potential impacts and to propose measures to mitigate against the impacts.

A 'Notification to Heritage Western Cape of Intent to Develop' form has been completed by the archaeologist and submitted to Heritage Western Cape Built Environment and Landscape Committee (BELCOM) for comment. A copy of the Phase 1 Archaeological Impact Assessment report has been included with this submission.

2. TERMS OF REFERENCE

The terms of reference for the study were:

1. to determine whether there are likely to be any archaeological sites of significance within the proposed pipeline and powerline route;
2. to identify and map any sites of archaeological significance within the proposed routes;
3. to indicate the sensitivity and conservation significance of archaeological sites potentially affected by the proposed development;
4. to assess the status and significance of any impacts resulting from the proposed development; and
5. to identify mitigatory measures to protect and maintain any valuable archaeological sites that may exist within the proposed routes.

3. THE STUDY SITE

A locality map and layout of the proposed activities is illustrated in Figure 1.

Bitterfontein is located alongside the N7, and is about 350 kms north of Cape Town.

The affected properties outside of the existing road reserves is currently zoned Agriculture Zone 1 (livestock farming)

3.1 Pipeline and powerline route

More than 95% of the proposed pipeline and powerline route is located in the existing road reserve, alongside farm fence lines and farm access roads (refer to Figure 1).

From Bitterfontein, to the Kliprand intersection, the route is located within the old gravel road alongside the N7 (Figure 2). At the Kliprand intersection, the route cross some old agricultural lands (Figure 3) and then follows a route within the existing road reserve until the Kwanous intersection (Figures 4 & 5). At the Kliprand-Kwanous intersection, the route is located within the existing road reserve (Figures 6 & 7) till the tee-off to Borehole 637211.

The proposed route connecting to boreholes 63754 & 637519 on the farm Goud Vallei No. 50 is located more or less alongside an existing farm road, occasionally crossing degraded and partially disturbed farmlands alongside the road (Figures 8-10).

There are no significant landscape features along the entire proposed pipeline and powerline route.

3.1 Borehole route

Six (existing) boreholes will supply bulk water to the town of Bitterfontein (refer to Figure 1). Each borehole will connect to a pipeline which will eventually connect with the main pipeline located in the road reserve. The power lines will be used to drive the borehole pumps.

For the most part, the proposed borehole routes cross mainly flat, rocky strewn and/or degraded environments (Figures 11-15). The proposed (relatively short) route from the Goud Vallei farm road, connecting to borehole 637519 is located on relatively steep west-facing slopes. These slopes are fairly well degraded and eroded as a result of overgrazing (refer to Figure 14).

There are no significant landscape features along the proposed borehole routes. A small outcropping of quartzite and sandstone on a kopje located behind Borehole 637519 was searched for rock paintings but none were found.

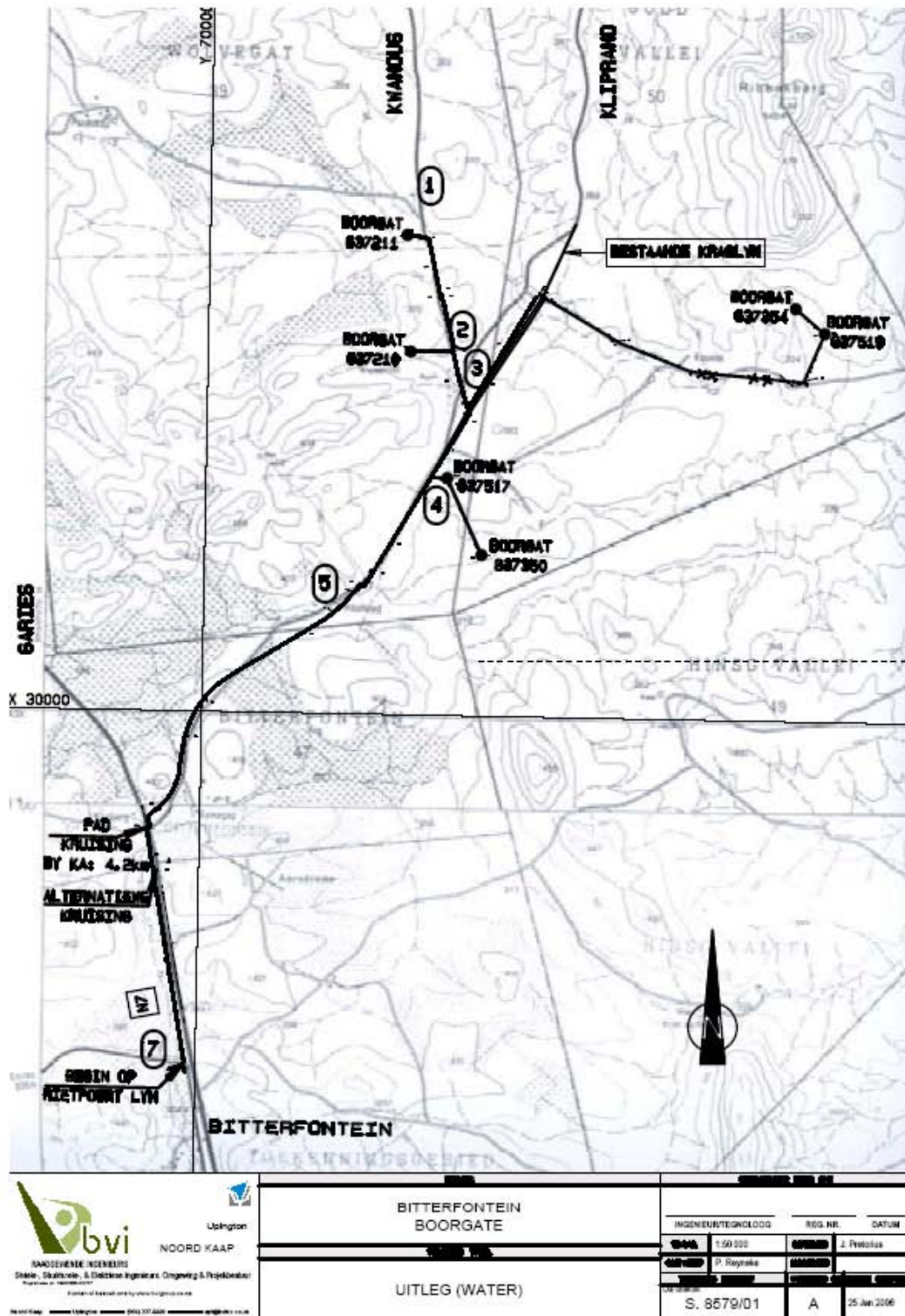


Figure 1. Site locality (1:50 000 Map Reference Nos. 3118AB Bitterfontein & 3018 CD Kwanous)



Figure 2. View of the proposed route alongside the N7.



Figure 3. View of the proposed route through old agricultural lands.



Figure 4. Proposed route (LHS) in road reserve.



Figure 5. Proposed route (LHS) in road reserve.



Figure 6. Proposed route (LHS) in road reserve



Figure 7. Proposed route (LHS) in road reserve



Figure 8. Proposed route (RHS).



Figure 9. View of proposed route



Figure 10. View of proposed route



Figure 11 View of proposed route to Borehole 637517 & 637350



Figure 12. View of proposed route to Borehole 837210



Figure 13. View of proposed route to Borehole 837211



Figure 14. View of proposed route from Borehole 637519



Figure 15. View of proposed route to Borehole 637354

4.1 Method of survey

The approach followed in the archaeological study entailed a foot and vehicle survey of the proposed pipeline and powerline route(s).

With regard to the proposed route alongside the N7, the Kliprand and Kwanous roads (refer to Figure 1), where there was some likelihood of locating archaeological remains, occasional stops were made and these areas were searched for archaeological remains.

With regard to the proposed borehole routes (refer to Figure 1), each of the proposed routes were subjected to a detailed foot survey.

The proposed pipeline/powerline and borehole routes have already been marked out and flagged.

The site visit and assessment took place on the 26th January 2006.

5. LEGISLATIVE REQUIREMENTS

5.1 The National Heritage Resources Act (Act No. 25 of 1999)

...the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development exceeding 300 m in length, requires an archaeological impact assessment in terms of Section 38 of the National Heritage Resources Act (No. 25 of 1999).

5.1.1 Structures (Section 34 (1))

No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the South African Heritage Resources Agency (SAHRA), or Heritage Western Cape.

5.1.2 Archaeology (Section 35 (4))

No person may, without a permit issued by the SAHRA or Heritage Western Cape, destroy, damage, excavate, alter or remove from its original position, or collect, any archaeological material or object.

5.1.3 Burial grounds and graves (Section 36 (3))

No person may, without a permit issued by SAHRA or Heritage Western Cape, destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years, which is situated outside a formal cemetery administered by a local authority.

6. IDENTIFICATION OF POTENTIAL RISKS

There are no potential archaeological risks associated with the proposed project.

7. CONSTRAINTS AND LIMITATIONS

There were no constraints or limitations associated with the proposed study.

8. FINDINGS

Four Stone Age tools were located during the baseline study.

No tools were located in the proposed route in the existing road reserve(s) and farm roads (refer to Figure 1).

One rough quartzite MSA flake and one (probably MSA) indurated shale core-reduced flake was found in the proposed route between boreholes 637517 and 637350.

No tools were located within the proposed routes from boreholes 637210 and 637211.

Two large MSA flakes/blade tools were found on the relatively steep (but eroded) west facing gravel slopes between the Goud Vallei farm road and Borehole 637519.

The archaeological remains have been graded low local significance.

9. IMPACT STATEMENT

The impact of the proposed project on archaeological heritage remains is likely to be low.

The probability of locating significant archaeological remains during implementation of the project is likely to be improbable.

10. CONCLUSION

The Phase 1 Archaeological Impact Assessment of the proposed Bitterfontein boreholes, pipeline and powerline has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated prior to proposed development activities.

The receiving environment is not considered to be archaeologically sensitive, vulnerable or threatened.