

PHASE 1 HERITAGE IMPACT ASSESSMENT REPORT

HERITAGE IMPACT ASSESSMENT SCOPING REPORT
FOR THE PROSPECTING RIGHTS APPLICATION CORE
AND PERCUSSION BOREHOLES: KEIKAMSPOORT 7 1
NEAR PRIESKA IN THE NORTHERN CAPE PROVINCE.

PREPARED BY:



PREPARED FOR:

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Disclaimer; Although all possible care is taken to identify all sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. G&A Heritage and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.

Statement of Independence

As the duly appointed representative of G&A Heritage, I Stephan Gaigher, hereby confirm my independence as a specialist and declare that neither I nor G&A Heritage have any interests, be it business or otherwise, in any proposed activity, application or appeal in respect of which the Environmental Consultant was appointed as Environmental Assessment Practitioner, other than fair remuneration for work performed on this project.

SIGNED OFF BY: STEPHAN GAIGHER



MANAGEMENT SUMMARY

Site name and location: Heritage Impact Assessment Scoping Report for the Prospecting Rights Application Core and Percussion Boreholes: on the Farm Keikamspoor 71 near Prieska in the Prieska District of the Northern Cape Province.

Municipal Area: Siyathemba District Municipality

Developer: Wingimix Pty. (Ltd.)

Consultant: G&A Heritage, P.O. Box 522, Louis Trichardt, 0920, South Africa.
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Date of Report: 25 June 2018

The purpose of the management summary is to distil the information contained in the report into a format that can be used to give specific results quickly and facilitate management decisions. It is not the purpose of the management summary to repeat in shortened format all the information contained in the report, but rather to give a statement of results for decision making purposes.

This study focuses on the Prospecting Rights Application Core and Percussion Boreholes: on the Farm Keikamspoor 71 near Prieska in the Prieska District of the Northern Cape Province.

This study encompasses the heritage impact investigation. A preliminary layout has been supplied to lead this phase of this study.

The study focusses exclusively on the borehole footprints which are expected to not exceed 5m x 5m and will mostly be located next to existing roads.

SCOPE OF WORK

A Heritage Impact Assessment (including Archaeological, Cultural heritage, Built Heritage and Palaeontological Assessment) to determine the impacts on heritage resources within the study area.

The following are the required to perform the assessment:

- A desk-top investigation of the area;
- A site visit to the proposed development site;
- Identify possible archaeological, cultural, historic, built and palaeontological sites within the proposed development area;
- Evaluate the potential impacts of construction and operation of the proposed development on archaeological, cultural, historical resources; built and palaeontological resources; and
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural, historical, built and palaeontological importance.

The purpose of this study is to determine the possible occurrence of sites with cultural heritage significance within the study area (borehole and trench footprints). The study is based on archival and document studies combined with fieldwork investigations.

PALAEONTOLOGY

Paleontology is discussed in the stand-alone report attached to this.

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FINDINGS

The areas surveyed (borehole footprints) showed different heritage significance. The sites at Keikamspoot contained some Stone Age artifacts. No deposit or manufacturing sites were evident in the areas surveyed.

RECOMMENDATIONS

Provided the activities stays with prospecting boreholes, there is no need for any further work. Should mining activities be considered, the areas should be submitted to a full Heritage Impact Assessment.

FATAL FLAWS

No fatal flaws were identified.

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LIST OF ABBREVIATIONS

Bp.....	Before Present
EIA	Early Iron Age
ESA.....	Early Stone Age
Fm.....	Femtometre (10 ⁻¹⁵ m)
GPS	Geographic Positioning System
HIA	Heritage Impact Assessment
I&AP	Interested and Affected Parties
LIA.....	Late Iron Age
LSA	Late Stone Age
MYA	Million Years Ago
MSA	Middle Stone Age
NHRA.....	National Heritage Resources Act no 22 of 1999
SAHRA.....	South African Heritage Resource Agency
S&EIR	Scoping & Environmental Impact Reporting
Um	Micrometre (10 ⁻⁶ m)
WGS 84	World Geodetic System for 1984

HERITAGE IMPACT REPORT

HERITAGE IMPACT ASSESSMENT SCOPING REPORT FOR THE PROSPECTING RIGHTS APPLICATION FOR THE CORE AND PERCUSSION BOREHOLES ON THE FARM KEIKAMSPOORT 71 NEAR PRIESKA IN THE NORTHERN CAPE PROVINCE.

1. INTRODUCTION

1.1 LEGISLATION AND METHODOLOGY

G&A Heritage was appointed by *Wingimix (Pty) Ltd.* to undertake a heritage scoping assessment for the Prospecting Rights Application for Core and Percussion Boreholes on the Farm Keikamspoor 71 near Prieska in the Prieska District of the Northern Cape Province.

Section 38(1) of the South African Heritage Resources Act (25 of 1999) requires that a heritage study is undertaken for:

- (a) Construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;
- (b) Construction of a bridge or similar structure exceeding 50 m in length; and
- (c) Any development, or other activity which will change the character of an area of land, or water –
 - (1) Exceeding 10 000 m² in extent;
 - (2) Involving three or more existing erven or subdivisions thereof; or
 - (3) Involving three or more erven, or subdivisions thereof, which have been consolidated within the past five years; or
- (d) The costs of which will exceed a sum set in terms of regulations; or
- (e) Any other category of development provided for in regulations.

While the above describes the parameters of developments that fall under this Act., Section 38 (8) of the NHRA is applicable to this development. This section states that;

- (8) The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the Environment Conservation Act, 1989 (Act 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environment Affairs and Tourism, or the Minerals Act, 1991 (Act 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent.

In regards to a development such as this that falls under Section 38 (8) of the NHRA, the requirements of Section 38 (3) applies to the subsequent reporting, stating that;

- (3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2) (a): Provided that the following must be included:
 - (a) The identification and mapping of all heritage resources in the area affected;

- (b) An assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6 (2) or prescribed under section 7;
- (c) An assessment of the impact of the development on such heritage resources;
- (d) An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
- (e) The results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
- (f) If heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
- (g) Plans for mitigation of any adverse effects during and after the completion of the proposed development.
 - (1) Ancestral graves,
 - (2) Royal graves and graves of traditional leaders,
 - (3) Graves of victims of conflict (iv) graves of important individuals,
 - (4) Historical graves and cemeteries older than 60 years, and
 - (5) Other human remains which are not covered under the Human Tissues Act, 1983 (Act No.65 of 1983 as amended);
- (h) Movable objects, including ;
 - (1) Objects recovered from the soil or waters of South Africa including archaeological and paleontological objects and material, meteorites and rare geological specimens;
 - (2) Ethnographic art and objects;
 - (3) Military objects;
 - (4) Objects of decorative art;
 - (5) Objects of fine art;
 - (6) Objects of scientific or technological interest;
 - (7) Books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings; and
 - (8) Any other prescribed categories, but excluding any object made by a living person;
- (i) Battlefields;
- (j) Traditional building techniques.

A **'place'** is defined as:

- (a) A site, area or region;
- (b) A building or other structure (which may include equipment, furniture, fittings and articles associated with or connected with such building or other structure);
- (c) A group of buildings or other structures (which may include equipment, furniture, fittings and articles associated with or connected with such group of buildings or other structures); and (d) an open space, including a public square, street or park; and in relation to the management of a place, includes the immediate surroundings of a place.

'Structures' means any building, works, device, or other facility made by people and which is fixed to land and any fixtures, fittings and equipment associated therewith older than 60 years.

'Archaeological' means:

- (a) Material remains resulting from human activity which are in a state of disuse and are in or on land and are older than 100 years, including artefacts, human and hominid remains and artificial features and structures;
- (b) Rock art, being a form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and is older than 100 years including any area within 10 m of such representation; and
- (c) Wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land or in the maritime cultural zone referred to in section 5 of the Maritime Zones Act 1994 (Act 15 of 1994), and any cargo, debris or artefacts found or associated therewith, which are older than 60 years or which in terms of national legislation are considered to be worthy of conservation;

(d) Features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found.

'Paleontological' means any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.

'Grave' means a place of interment and includes the contents, headstone or other marker of and any other structures on or associated with such place. The South African Heritage Resources Agency (SAHRA) will only issue a permit for the alteration of a grave if it is satisfied that every reasonable effort has been made to contact and obtain permission from the families concerned.

The removal of graves is subject to the following procedures as outlined by the SAHRA:

- Notification of the impending removals (using English, Afrikaans and local language media and notices at the grave site);
- Consultation with individuals or communities related or known to the deceased;
- Satisfactory arrangements for the curation of human remains and / or headstones in a museum, where applicable;
- Procurement of a permit from the SAHRA;
- Appropriate arrangements for the exhumation (preferably by a suitably trained archaeologist) and re-interment (sometimes by a registered undertaker, in a formally proclaimed cemetery);
- Observation of rituals or ceremonies required by the families.

The limitations and assumptions associated with this heritage impact assessment are as follows;

- Field investigations were performed on foot and by vehicle where access was readily available.
- Sites were evaluated by means of description of the cultural landscape, direct observations and analysis of written sources and available databases.
- It was assumed that the site layout as provided by *Wingimix (Pty) Ltd.* is accurate.
- We assumed that the public participation process performed as part of the Basic Assessment process was sufficiently encompassing not to be repeated in the Heritage Assessment Phase.

Table 1. Impacts on the NHRA Sections

Act	Section	Description	Possible Impact	Action
National Heritage Resources Act (NHRA)	34	Preservation of buildings older than 60 years	No impact	None
	35	Archaeological, paleontological and meteor sites	Yes	Mitigation and chance finds protocol
	36	Graves and burial sites	No Impact	None
	37	Protection of public monuments	No impact	None
	38	Does activity trigger a HIA?	Yes	HIA

Table 2. NHRA Triggers

Action Trigger	Yes/No	Description
Construction of a road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length.	No	N/A
Construction of a bridge or similar structure exceeding 50m in length.	No	N/A
Development exceeding 5000 m ²	Yes	Prospecting Rights Application: Keikamspoor 71
Development involving more than 3 erven or sub divisions	No	N/A
Development involving more than 3 erven or sub divisions that have been consolidated in the past 5 years	No	N/A

Re-zoning of site exceeding 10 000 m ²	Yes	Prospecting Rights Application: Keikamspoor 71
Any other development category, public open space, squares, parks or recreational grounds	No	N/A

2. BACKGROUND INFORMATION

2.1 PROSPECTING RIGHTS APPLICATION

2.1.1 PROJECT DESCRIPTION

Wingimix (Pty) Ltd has applied for a Prospecting Right for Copper, Zinc, Lead, Gold, Silver, Diamonds, Sulphur, Pyrite, Molybdenum, Iron, Niobium, Phosphate, Salt, Rare Earths and Zirconium on the Farm Keikamspoor 71, near Prieska in the Prieska District of the Northern Cape Province which application was accepted by the Department of Mineral Resources.

Prospecting activities are planned to be conducted in phases over a period of four years.

Description of planned non-invasive activities:

(These activities do not disturb the land where prospecting will take place e.g. aerial photography, desktop studies, aeromagnetic surveys, etc.)

Phase 1:

In order to direct the exploration programme in an efficient manner, there will be a review of all available information and data gathered by previous exploration on the farm. A desktop study will be undertaken of the base metal potential of the area. A site investigation of the target areas will be undertaken to identify infrastructure and determine any potential problems that may need to be addressed.

Phase 2:

Any anomalous features identified will be mapped in detail. The various rock types and their contacts will also be mapped.

Phase 3:

A 3 line kilometer magnetic survey (or any other suitable geophysical method) will be undertaken using a proton 5 magnetometer over selected areas as identified during the desktop study. This study will result in identifying potential base metal / sulphide mineralization.

Phases 5, 7 & 9:

Drill samples will be collected in one meter intervals and logging will be done by a qualified geologist who will record the lithology, mineralogy, degree of mineralization and structural features. Mineralized samples will be analyzed at an internationally recognized (ISO certified) laboratory.

Phase 10:

A detailed feasibility report, containing resource calculations, will be compiled after drilling operations have been completed to evaluate the economic viability of the project.

Description of Planned Invasive Activities:

(These activities result in land disturbances e.g. sampling, drilling, bulk sampling, etc.)

Phase 4: Percussion drilling

Percussion drilling will be used initially to identify the position of a suspected base metal deposit. The position of the boreholes is dependent on the results of the review of historical activities, geological mapping, desktop study and geophysical survey.

Forty boreholes, on average 50m deep each, are planned. The collar position of all boreholes will be surveyed. All drilling will be short term and undertaken by a contractor using truck-mounted equipment.

Angled percussion holes are planned to locate and intersect the mineralization. A traverse line or grid drilling is used to identify and define the extent of any mineralization. The sizes of the boreholes drilled will be determined by such factors as cost, proposed sampling, availability of drilling machines and the volume of sample required, among others.

Each drill site will be rehabilitated. The boreholes will be filled with drill chips and covered with topsoil.

Phases 6: Core drilling

Depending on the results from the non-invasive prospecting activities as well as the percussion drilling phase, further confirmation and exploratory drilling may be required. Core drilling will only be used if mineralization has been found. The position of the boreholes is dependent on the results of the non-invasive activities.

Ten boreholes, on average 75m deep, are planned for phase 6, but depending on results this could be more. The collar position of all boreholes will be surveyed.

Each drill site will be rehabilitated before a new site is established. The boreholes will be covered with a metal plate and 0.2m previously stored topsoil.

2.1.2 SITE DESCRIPTION

A temporary site shall be established at each drill site consisting of the following:

- Drill rig.
- Water tank for domestic use.
- Chemical toilets.

Each drill site shall be rehabilitated before a new site is established and the borehole drilled.

2.1.3 PUBLIC PARTICIPATION

The surface owners and other interested and affected parties of the proposed prospecting activities to be undertaken by Wingimix will be informed to ensure that the rights and needs of all parties are taken into account.

Registering as an I&AP will ensure that you are placed on a database of persons to be informed of any progress regarding the proposed activity. Copies of all relevant documentation will be made available to registered I&AP's.

2.1.4 SITE LOCATION

The Application Areas are situated approximately 20km south of the small town of Prieska in the Northern Cape Province.



Figure 1. Locality of the of the Farm Keikamspoor Relation to Prieska

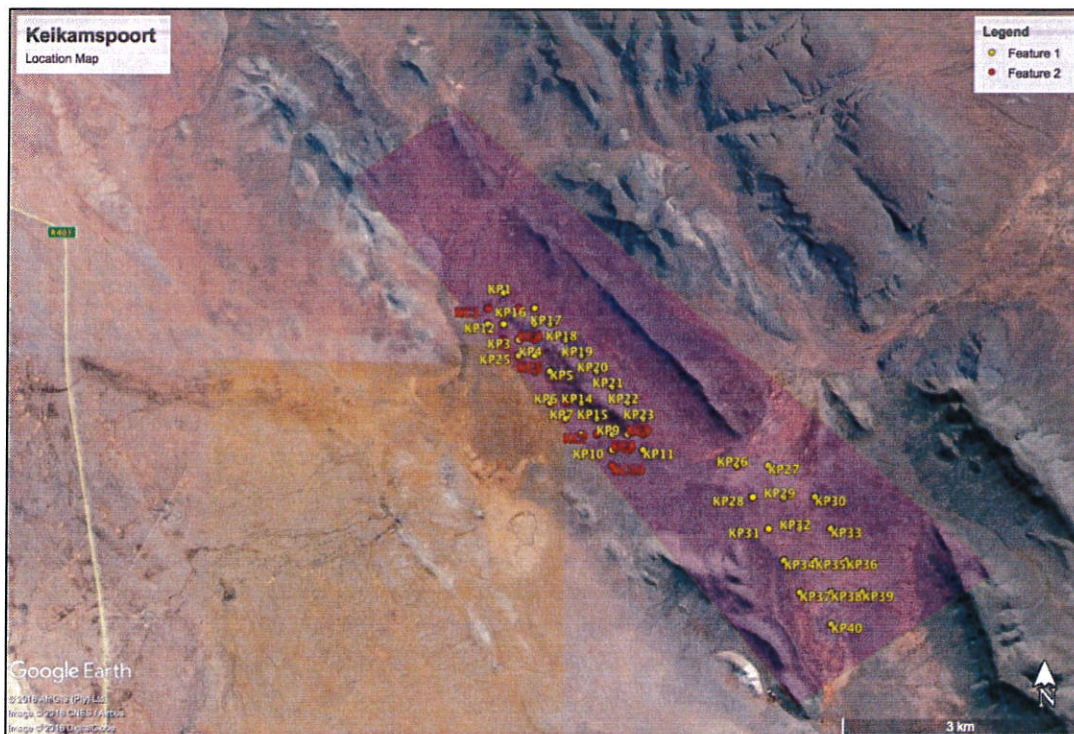


Figure 2. Location Map, Keikamspoor indicating Core and Percussion Boreholes

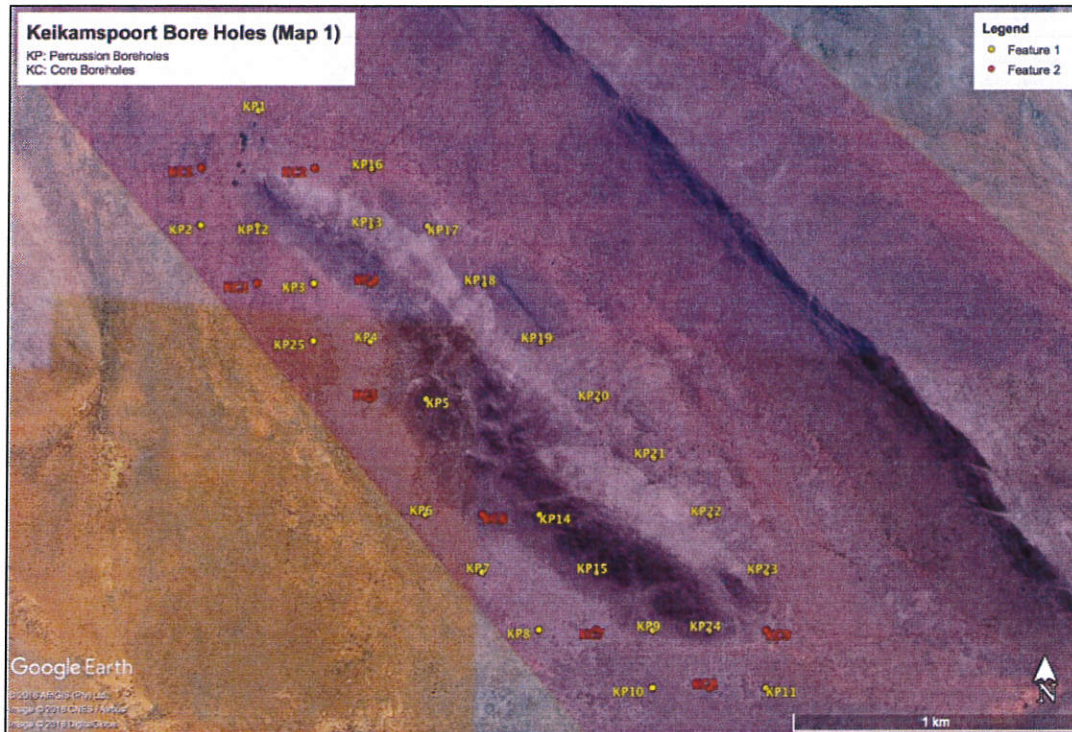


Figure 3. Location Map, Keikamspoor indicating Core and Percussion Boreholes

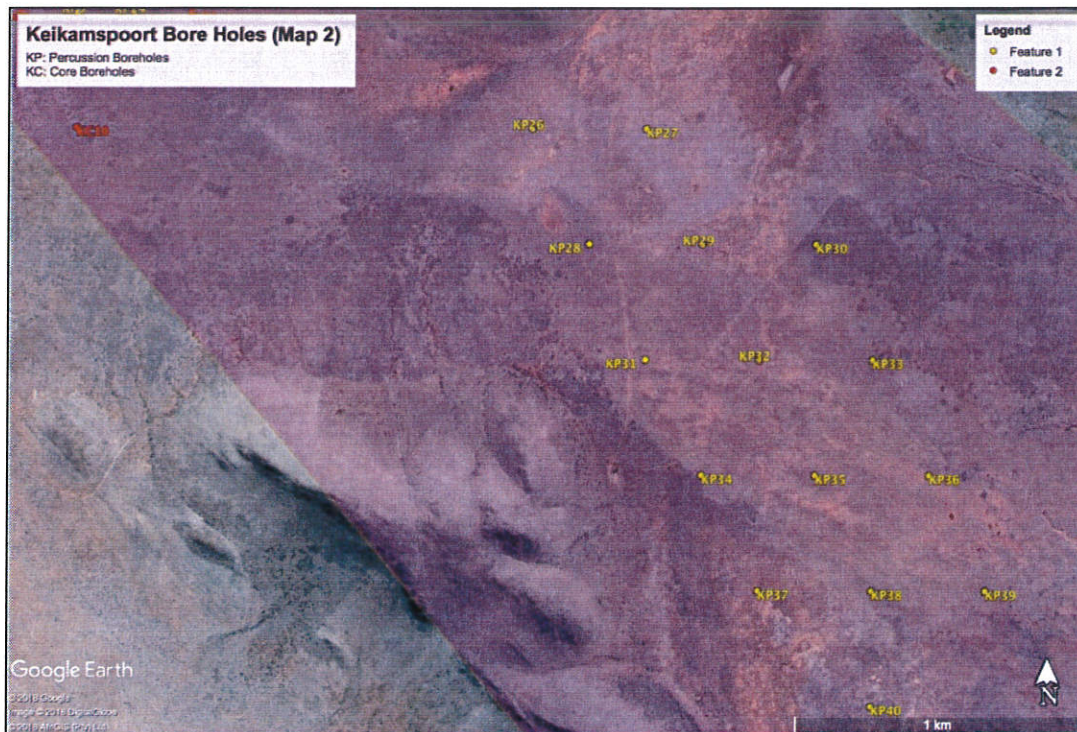


Figure 4. Location Map, Keikamspoor indicating Core and Percussion Boreholes

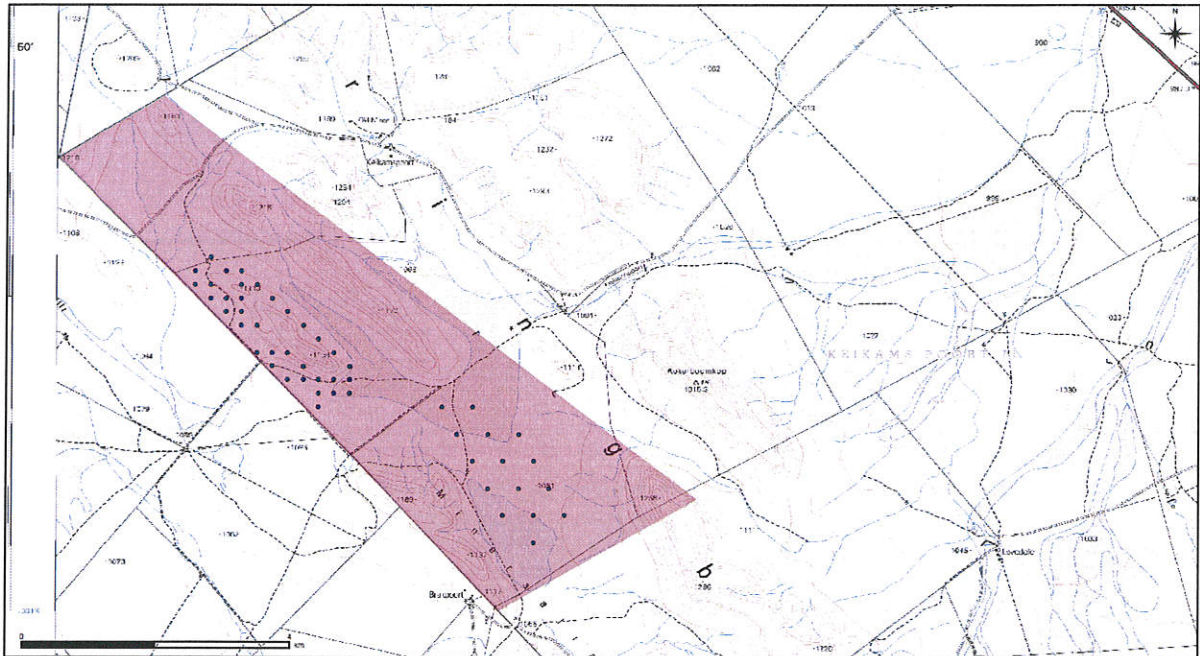


Figure 5. Keikamspoor Location: Topographical Map 2922 DD 2005

2.1.5 ALTERNATIVES CONSIDERED

None

2.1.6 GPS TRACK PATHS

The indicated drill sites correspond to the investigation site and as such GPS track paths will be superfluous.

HERITAGE INDICATORS WITHIN THE RECEIVING ENVIRONMENT

3. REGIONAL CULTURAL CONTEXT

3.1 PALAEOONTOLOGY

TABLE 1: FOSSIL HERITAGE IN THE COPPERTON AREA				
GEOLOGICAL UNIT	ROCK TYPES & AGE	FOSSIL HERITAGE	PALAEONTOLOGICAL SENSITIVITY	RECOMMENDED MITIGATION
Gordonia Formation KALAHARI GROUP	mainly aeolian sands <i>plus</i> minor fluvial gravels, freshwater pan deposits PLEISTOCENE	calcretised rhizoliths & termitaria, ostrich egg shells, land snail shells, rare mammalian and reptile (e.g. tortoise) bones, teeth freshwater units associated with diatoms, molluscs, stromatolites etc	LOW	none recommended any substantial fossil finds to be reported by ECO to SAHRA
Mbizane Formation DWYKA GROUP	tillites, interglacial mudrocks, deltaic & turbiditic sandstones, minor thin limestones LATE CARBONIFEROUS – EARLY PERMIAN	sparse petrified wood & other plant remains, palynomorphs, trace fossils (e.g. arthropod trackways, fish trails, U-burrows) possible stromatolites in limestones	LOW	none recommended any substantial fossil finds to be reported by ECO to SAHRA
Vogelstruis-bult Formation JACOBSMYN PAN GROUP	high grade metamorphic rocks (e.g. banded gneisses, migmatites) MID PROTEROZOIC = LATE PRECAMBRIAN	none	ZERO	none recommended
Spioenkop Formation MARYDALE GROUP	metamorphic rocks (e.g. quartzites, schists, amphibolites) ARCHEAN = EARLY PRECAMBRIAN	none	ZERO	none recommended

Figure 6. Stone formation table

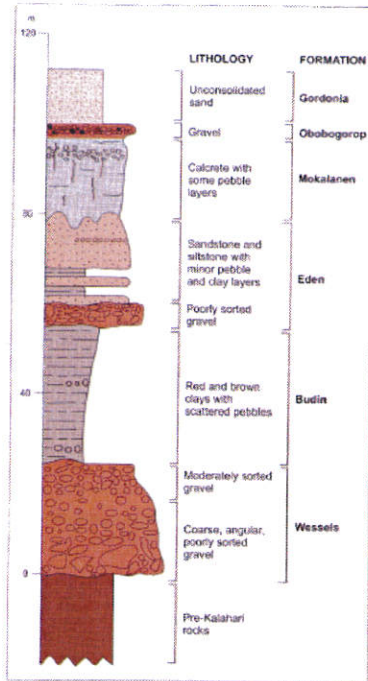


Figure 7. Stratigraphy of the Kalahari Group (from Partridge, 2006)

The Palaeontology Sensitivity Map published by SAHRA on the South African Heritage Resources Information System (SAHRIS) gives guidelines for the management of paleontological sensitive areas.

The study area falls within the green and red zones.

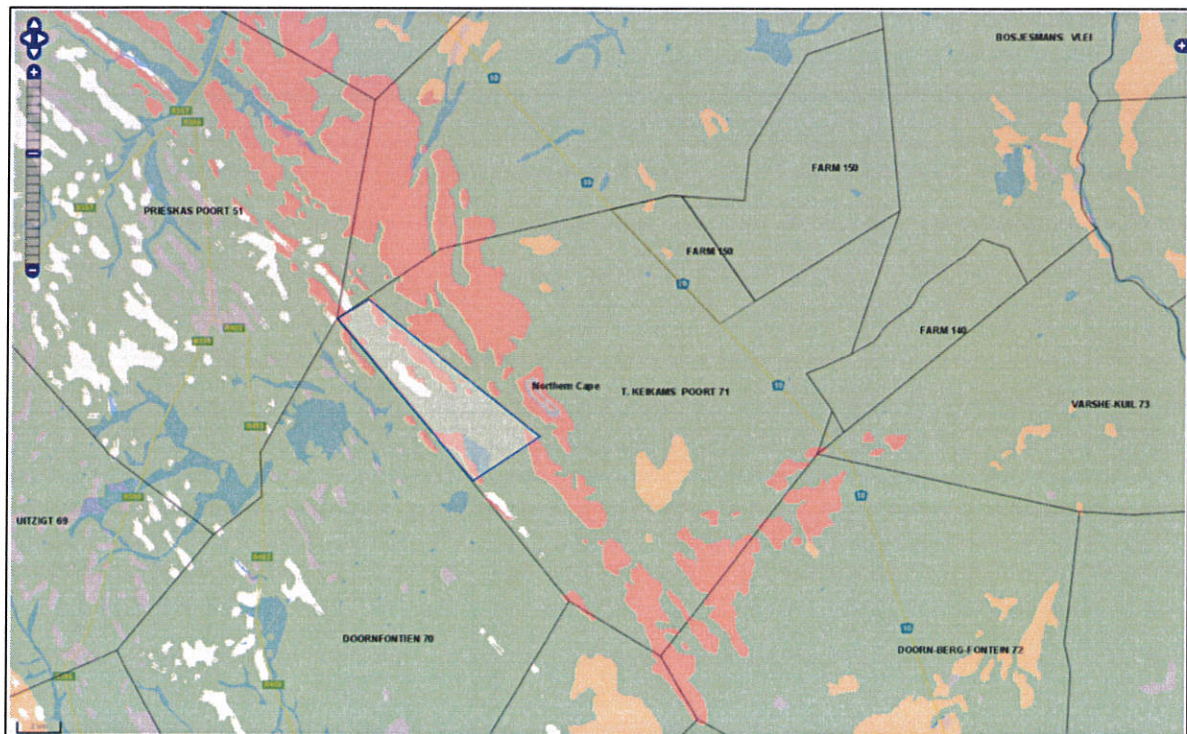


Figure 8. PalaeoSensitivity Map