

HERITAGE IMPACT ASSESSMENT REPORT:

Prospecting Right Application without Bulk Sampling on the
Remaining Extent of Lehating 741, near Hotazel in the
Northern Cape Province

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Date: 15 April 2023

I, **Alexander Antonites**, declare that:

- I am conducting all work and activities relating to the prospecting rights application for mine rights on portions of Lehating 741 R/E, Northern Cape Province in an objective manner, even if this results in views and findings that are not favourable to the client.
- I declare that there are no circumstances that may compromise my objectivity in performing such work.
- I have the required expertise in conducting the specialist report and I will comply with legislation, including the relevant Heritage Legislation (National Heritage Resources Act no. 25 of 1999, Human Tissue Act 65 of 1983 as amended, Removal of Graves and Dead Bodies Ordinance no. 7 of 1925, Excavations Ordinance no. 12 of 1980), the Minimum Standards: Archaeological and Palaeontological Components of Impact Assessment (SAHRA and the CRM section of ASAPA), regulations and any guidelines that have relevance to the proposed activity;
- I have not, 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 declaration are true and correct.



Signature of specialist

April 2023

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EXECUTIVE SUMMARY

Project Title	Application prospecting rights on R/E on Leathing 741, Northern Cape Province
Project Location:	-27.03390° 22.88590°
1:50 000 Map Sheet	2722 BB Hotazel
Farm Portion / Parcel	Leathing 741 R/E
Magisterial District / Municipal Area	John Taolo Gaetsewe District Municipality, Joe Morolong Local Municipality
Province	Northern Cape

This report is the result of a Heritage Impact Assessment (HIA) conducted by Dr Xander Antonites, on 15 April 2023 on portions the farm Leathing 741 R/E in the Kuruman Municipal area of the Northern Cape Province. The project is an application for prospecting rights over the above-mentioned properties for Manganese and Iron Ore.

The HIA concentrated on the footprint of the prospecting application. Prospecting will be limited to:

- 40 boreholes with a diameter of 64mm to a depth of 150m (Phase 2 of Project)
- A further 40 depending on the results of the previous phase

The HIA identified the following:

- No areas of significant cultural and heritage remains were identified that will be affected by the proposed prospecting.
- No archaeological artefacts or features were identified.

Should any subsurface palaeontological, archaeological or historical material, or burials be exposed during prospecting activities, all activities should be suspended, and the archaeological specialist should be notified immediately.

Prospecting Rights on Remaining Portion of Lehating 741 R/E, Kuruman District, Northern Cape Province

1. INTRODUCTION

Amber Earth Pty Ltd. appointed Xander Antonites to undertake a heritage assessment remaining extent of the farm LEATHING 741 R/E as part of the application for prospecting rights by the applicant Alpha Energy Ventures Pty Ltd, for manganese and iron ore.

The project area is located 12km north of the town Hotazel in the Northern Cape Province, and 5km west of the R380 regional road running north from Hotazel, and 5km east of the dirt road connecting the between the R380 and Madibeng. It is 5km southeast of Wayland's Pan.

The proposed prospecting project will entail the construction of forty (40) boreholes placed in a grid pattern which will be drilled during Phase 2 and forty (40) boreholes during Phase 3. No bulk sampling will be conducted. The boreholes will be 64mm in diameter.

1.1 SCOPE OF STUDY

The HIA for the prospection rights application included 1.) a desktop study of the surrounding area to identify any potential heritage resources and 2) a field survey of the project area on 15 April 2023.

1.2 ASSUMPTIONS AND LIMITATIONS

The heritage study has inherent limitation on it due to the typically buried nature of the archaeological record, visibility during fieldwork and general post depositional activities. If any unrecorded sites, features and objects are observed, activities must cease, and a heritage specialist must be contacted.

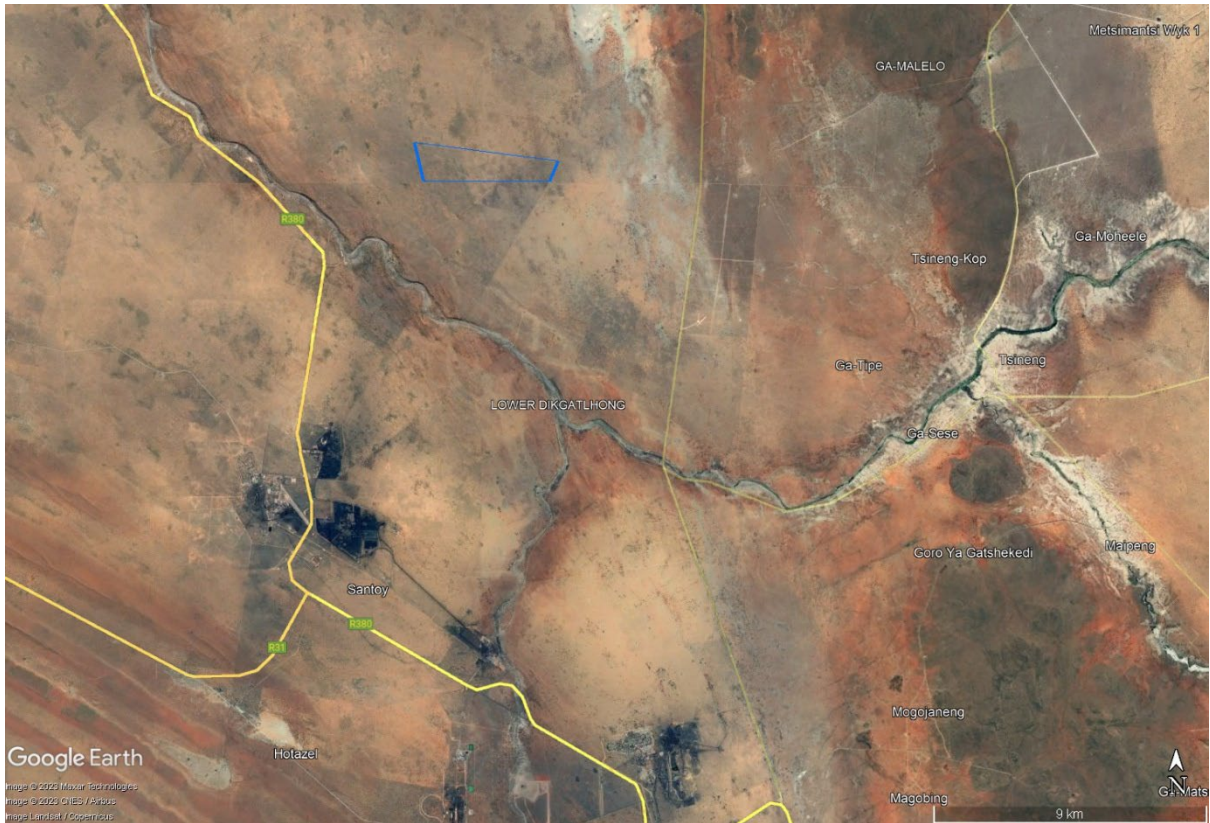


Figure 1: Project alignments on Google Earth imagery dated to 2023.

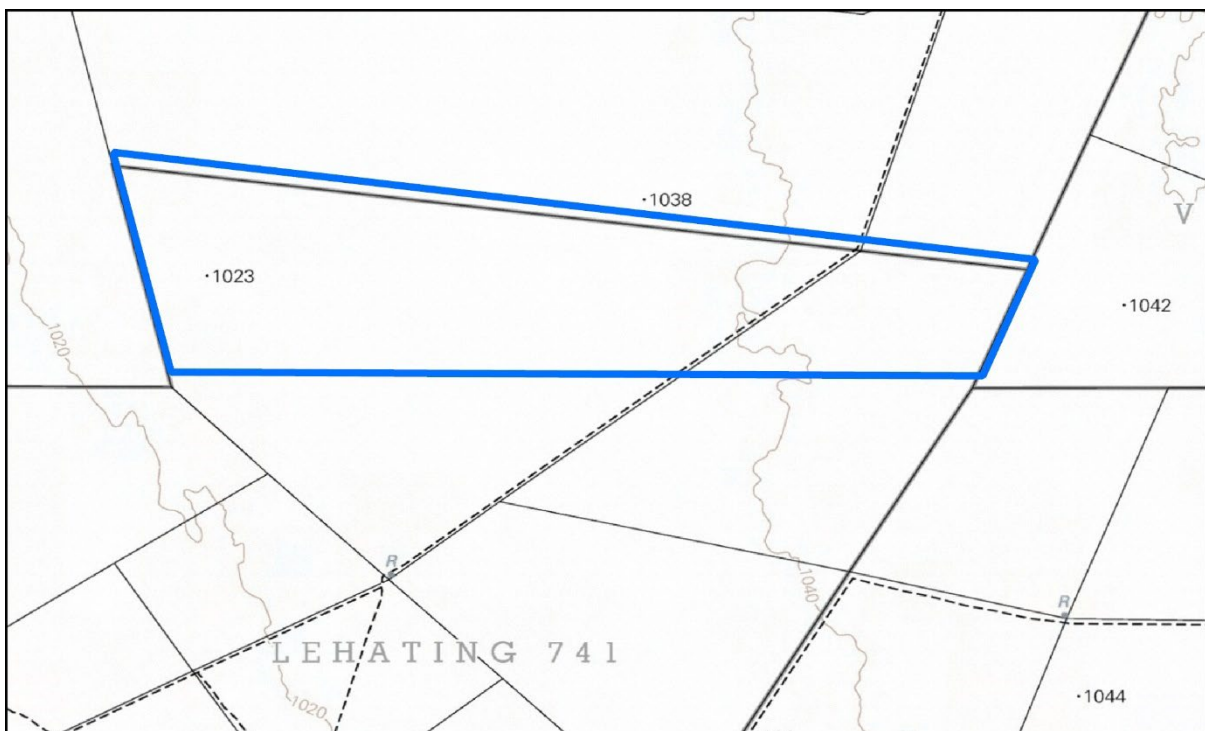


Figure 2: Project alignment indicated on 1:50 000 mapsheet 2722 BB Hotazel.

2. TERMS OF REFERENCE

The heritage component of the EIA is set out in the National Environmental Management Act (Act 107 of 1998) and section 38 of the National Heritage Resources Act (NHRA; Act 25 of 1999). The NHRA protects all structures and features older than 60 years, archaeological sites and material and graves as well as burial sites. This legislation ensures that developers implement measures to limit the potentially negative effects that the development could have on heritage resources.

Legislation defines the terms of reference for heritage specialists as the following:

- To provide a detailed description of all archaeological artefacts, structures (including graves) and settlements that may be affected (if any).
- Assess the nature and degree of significance of such resources within the area.
- Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance.
- Assess and rate any possible impact on the archaeological and historical remains within the area, which may emanate from the proposed development activities.
- Propose possible heritage management measures if such action is necessitated by the development.
- Liaise and consult with the South African Heritage Resources Agency (SAHRA and/or PHRA).

2.1 HERITAGE LEGISLATION, CONSERVATION AND MANAGEMENT

Heritage Resources are any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities, and history. It includes sites, structures, places, natural features, and material of palaeontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic, or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

2.1.1 *Heritage Bodies*

The South African Heritage Resources Agency (SAHRA) is an agency within the Department of Sport, Arts and Culture tasked with an overall legislative mandate to identify, assess, manage, protect, and promote heritage resources in South Africa. SAHRA is mandated to coordinate the identification and management of the national estate. The aims are to introduce an integrated system for the identification, assessment, and management of the heritage resources and to enable provincial and local authorities to adopt powers to protect and manage them.

2.1.2 *Legislation regarding archaeology and heritage sites*

The following Acts has direct bearing on Heritage resource protection and management process:

National Heritage Resources Act No 25 of 1999, section 35

The National Heritage Resources Act No 25 of 1999 (section 35) defines protected cultural heritage resources as:

- Archaeological artifacts, structures and sites older than 100 years
- Ethnographic art objects (e.g., prehistoric rock art) and ethnography
- Objects of decorative and visual arts
- Military objects, structures and sites older than 75 years
- Historical objects, structures and sites older than 60 years
- Proclaimed heritage sites
- Graveyards and graves older than 60 years
- Meteorites and fossils

- Objects, structures and sites of scientific or technological value.

The national estate includes the following:

- Places, buildings, structures and equipment of cultural significance
- Places to which oral traditions are attached or which are associated with living heritage
- Historical settlements and townscapes
- Landscapes and features of cultural significance
- Geological sites of scientific or cultural importance
- Archaeological and paleontological importance
- Graves and burial grounds
- Sites of significance relating to the history of slavery
- Movable objects (e.g., archaeological, paleontological, meteorites, geological specimens, military, ethnographic, books etc.)

In terms of activities carried out on archaeological and heritage sites the Act states that:

“No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit by the relevant provincial heritage resources authority.”

(NHRA 1999:58)

No person may, without a permit issued by the responsible heritage resources authority:

- a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite.
- b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite.
- c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects or use such equipment for the recovery of meteorites. (35. [4] 1999:58).”

No person may, without a permit issued by SAHRA or a provincial heritage resources agency:

- a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves.
- b) destroy, damage, alter, exhume, 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.
- c) bring onto or use at a burial ground or grave referred to in paragraph (left) or (right) and excavation equipment, or any equipment which assists in the detection or recovery of metals (36. [3] 1999:60).”

Human Tissue Act of 1983 and Ordinance on the Removal of Graves and Dead Bodies of 1925

Graves and burial grounds are commonly divided into the following subsets:

- a) ancestral graves
- b) royal graves and graves of traditional leaders
- c) graves of victims of conflict d. graves designated by the Minister
- d) historical graves and cemeteries
- e) human remains

Graves 60 years or older are heritage resources and fall under the jurisdiction of both the National Heritage Resources Act and the Human Tissues Act of 1983. However, graves younger than 60 years are specifically protected by the Human Tissues Act (Act 65 of 1983) and Ordinance on Excavations (Ordinance no. 12 of 1980) as well as any local and regional provisions, laws and by-laws. Such burial places also fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial MEC as well as the relevant local authorities.

National Environmental Management Act No 107 of 1998

This Act (Act 107 of 1998) states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made. Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible, the disturbance should be minimized and remedied.

3. RATING OF SIGNIFICANCE

The National Heritage Resources Act (Act 25 of 1999) also stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance.
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region.
- **Grade III:** Other heritage resources worthy of conservation, and which prescribes heritage resources assessment criteria, as set out in Section 3(3) of the act.

Significance is influenced by the context and state of the archaeological site. Six criteria were considered following Kruger (2019):

- Site integrity
- Amount of deposit, range of features (e.g., stonewalling, stone tools and enclosures)
- Density of scatter (dispersed scatter)
- Social value
- Uniqueness
- Potential to answer current and future research questions.

The categories of significance were based on the above criteria the above and the grading system outlined in NHRA. It is summarised in Table 3.

Table 1: Field rating of significance

Significance	Rating Action
No significance: sites that do not require mitigation.	None
Low significance: sites, which may require mitigation.	2a. Recording and documentation (Phase 1) of site; no further action required 2b. Controlled sampling (shovel test pits, auguring), mapping and documentation (Phase 2 investigation); permit required for sampling and destruction
Medium significance: sites, which require mitigation.	3. Excavation of representative sample, C14 dating, mapping and documentation (Phase 2 investigation); permit required for sampling and destruction [including 2a & 2b]
High significance: sites, where disturbance should be avoided.	4a. Nomination for listing on Heritage Register (National, Provincial or Local) (Phase 2 & 3 investigation); site management plan; permit required if utilised for education or tourism
High significance: Graves and burial places	4b. Locate demonstrable descendants through social consulting; obtain permits from applicable legislation, ordinances and regional by-laws; mitigation and or exhumation and reinterment [including 2a, 2b & 3]

4. STATEMENT OF SIGNIFICANCE AND IMPACT RATING

This section outlines the potential impact of risk situations and scenarios commonly associated with heritage resources management. Refer to Appendix 1: for guideline of the rating of impacts and recommendation of management actions for areas of heritage potential within the study area.

4.1 DIRECT, INDIRECT AND CUMULATIVE EFFECTS

Beyond the initial direct or primary impact, the HIA should also consider the potential indirect and cumulative impacts. Winter and Baumann (2005) define **direct or primary impacts** as those that occur at the same time and in the same space as the proposed activity. **Indirect effects** occur at a later stage or at a different place from the causal activity or may be impacts that occur as through a “complex pathway” (Winter and Baumann 2005, 24).

Cumulative effects are a constellation of processes that are seemingly insignificant in isolation but have a significant cumulative effect on heritage resources (ibid.).

4.1.1 *Direct Impact Rating Criteria*

The criteria used for assessment of impacts is based on the guidelines set out by Winter and Baumann (2005) and Department of Environmental Affairs and Tourism (1998):

Extent

Local	extend only as far as the footprint of the proposed activity/development
Site	Impact extends beyond the project footprint to immediate surrounds
Regional	within which development takes place, i.e., farm, suburb, town, community
National	Impact is on a national level

Duration

Short term	The impact will disappear with through mitigation or through natural processes
Medium term	The impact will last up to the end of the phases, where after it will be negated
Long term	impact will persist indefinitely, possibly beyond the operational life of the activity, either because of natural processes or by human intervention
Permanent	Permanent where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient

Magnitude severity

Low	where the impact affects the resource in such a way that its heritage value is not affected
Medium	where the affected resource is altered but its heritage value continues to exist albeit in a modified way
High	where heritage value is altered to the extent that it will temporarily or permanently be damaged or destroyed

Probability

Improbable	where the possibility of the impact to materialize is very low either because of design or historic experience;
Probable	where there is a distinct possibility that the impact will occur
Highly	probable, where it is most likely that the impact will occur; or
Definite	where the impact will definitely occur regardless of any mitigation measures.

Impact Significance

Low	negligible effect on heritage – no effect on decision
Medium	where it would have a moderate effect on heritage and – influences the decision
High	high risk of, a big effect on heritage. Impacts of high significance should have a major influence on the decision
Very high	high risk of, an irreversible and possibly irreplaceable impact on heritage – central factor in decision-making

4.1.2 *Direct Impact Weighting Matrix*

Aspect	Description	Weight
Extent		
	Local	1
	Site	2
	Regional	3
Duration		
	Short term	1
	Medium term	3
	Long term	4
	Permanent	5
Magnitude/Severity		
	Low	2
	Medium	6
	High	8
Probability		
	Improbable	1
	Probable	3
	Highly Probable	4
	Definite	5
Impact Rating	Sum (Duration, Scale, Magnitude) x Probability	
Negligible	<10	
Low	<40	
Moderate	<60	
High	>60	

5. RESULTS: DESKTOP ASSESMENT

5.1 DESKTOP SOURCES OF INFORMATION

The desktop study focussed on the previous research conducted in the area contained in reports, published material, aerial photographs, remote sensing data.

5.1.1 *Heritage Reports*

Heritage reports on the SAHRIS database was consulted for other archaeological finds. Previous impact assessments conducted in the approximated 10km radius vicinity of the project area.

Thirty reports were consulted which bear direct relevance to this study. Full biographic details are provided under the References section. The reports are:

- Coetzee, 2021
- De Jong, 2010
- Fourie, 2010, 2013a, 2013b, 2015, 2018, 2020a, 2020b, 2020c, 2021
- Fourie & Van der Walt, 2005
- Kruger, 2015, 2019
- Kusel et al., 2009
- Matenga, 2022
- Mlilo, 2019
- Morris, 2005
- Naude, 2022
- Paleo Field Services, 2023
- Pelser, 2019a, 2019b
- Pelser & Van Vollenhoven, 2011
- Pistorius, 2008
- Van Ryneveld, 2010
- Van Schalkwyk, 2015
- C. Van Vollenhoven, 2012, 2022
- C. Van Vollenhoven et al., 2022
- C. Van Vollenhoven & Smit, 2019, 2021
- Van Vollenhoven & Smit, 2019
- Van Vollenhoven, A.C., 2022
- Webley & Tusenius, 2021.

5.1.2 *Map data*

Historical and current topographical maps were consulted as sources of information on potential areas of significance. These were georeferenced in ArcGIS and Google earth with the project area superimposed.

5.1.3 *Remote Sensing Data*

Historical and modern aerial and satellite imagery of the project area was studied to identify any heritage sites. Historical aerial imagery from the National Geo-spatial Information database from 1959 and recent Google Earth imagery between 2003 and 2023 were inspected.

5.1.4 *Published Research*

Publication repositories and archives were consulted for any published research that pertains to the project.

5.1.5 *Archival data*

The database of the National Archives of South African was searched any relevant data that pertains to the project area.

5.2 DESKTOP ASSESMENT RESULTS

The larger area around Hotazel has been the subject of several HIA studies as mining operations and prospecting have intensified in the area. These include studies on the bordering properties Lehating 741 Portion 1 (Fourie 2013) and Wessels 228 (Fourie and Van der Walt 2005).

5.2.1 *Stone Age*

Stone Age remains are the most abundant in the study area and several reports have recorded this layer on the culture-historical landscape. These are however all recorded as small artefact scatters (e.g. De Jong 2010; Fourie and Van der Walt 2005; Fourie 2010; 2013; 2013; 2015; 2018; Morris 2005; Van Schalkwyk 2015). In all cases, the recorded artefacts are dated to the Middle Stone Age or Later Stone Age periods. Earlier Stone Age sites and tools have are much rarer in the Hotazel study area though isolated cases have been recorded of isolated finds (e.g. Pelsler 2019b). Important Earlier Stone Age sites are recorded in the larger Kuruman region at sites such as Kathu Pan and Wonderwerk Cave.

Stone Age remains in the area tend to be recorded along river banks, pan edges and where surface rocks used as raw material for tools are available.

5.2.2 *Iron Age*

None of the HIA reports consulted in this study recorded any Iron Age remains of significance. Finds include isolated ceramic sherds (e.g. Fourie 2020; Pelsler 2019a). Despite the sparsity of finds, an Iron Age presence does exist on the larger landscape, however. This particularly relate to the history of Tswana-speaking groups such as the Tlharo and Tlhaping from the 17th century onwards. For example, the town of Tsineng, located approximately 20km southeast of the project area is a historical Tlharo settlement. Settlement in the general area increase from the mid-1800's with the establishment of the Lower Kuruman Native Reserve whose western boundary was approximately 5km east of the project area (Fourie 2020).

Given the very low density of Iron Age remains recorded by heritage surveys and the relatively harsh climate, it is taken that the project area and its immediate vicinity would have been only been sparsely and/or sporadically occupied by African Iron Age farming communities.

5.2.3 *Historical period*

The Kuruman River which flows approximately 4km south of the project area has historically served as an important route for early European explorers into the interior. These include the journey by PJ Truter's and William Somerville's journey of 1801, Hinrich Lichtenstein in 1805 and Andrew Smith in 1835. Both these explorers made important historical observations about indigenous communities of the study area. Smith in particular place a community of Tswana farmers at springs around Tsineng (Fourie 2013: 32).

Research by Fourie (2013) indicates that the white farmers settlement in the area from the late 1800s. Increasing during the early parts of the twentieth century. Impact assessments of the immediate study area have located several historical farmsteads, buildings and infrastructure related to this period which are older than 60 years and therefore protected (Coetzee 2021; Naude 2022; Pelser and Van Vollenhoven 2011; Fourie 2020).

Historical aerial imagery for the area is limited with the earliest images on file dating to 1959. No historical structures or features are visible on these images.

5.2.4 *Graves*

Survey of the heritage reports indicate limited instances of graves being found in the Hotazel area (Kusel, Van der Ryst, and Kusel 2009). One was large cemetery for mine workers and a smaller isolated cemetery with three graves directly associated with the Black Rock mine close to Hotazel. Other instances are associated with historical farmsteads of the area (e.g. Van Vollenhoven 2012; Pelser 2019b).

5.3 CONCLUSIONS OF DESKTOP ASSESSMENT

Numerous impact assessments have been conducted in the immediate vicinity of the proposed project area which means that a fair degree of confidence in regional patterns of heritage remains can be identified. These studies indicate that Stone Age finds in the area are comparatively common. These are however largely limited to areas where there are raw material and close to rivers and pans. Given that the proposed prospecting area is entirely in flat sandy areas at least 5km away from the Kuruman river, there is a LOW probability of Stone Age remains of any significance existing in the project area.

Studies in the region have failed to identify any significant Iron Age remains or sites. Although there is an Iron Age presence on the landscape, settlements from this period are likely developed into present-day settlements such as Tsineng. Combined with the dearth of Iron Age remains in the immediate area, there is a LOW probability of finding Iron Age remains in the project area.

Several historical structures relating to the later 19th and early twentieth century have been identified in the region. These are typically highly visible features. Since no such features were visible on historical aerial imagery and historical maps. Therefore, there is a LOW probability of such features existing in the project area.

The absence of any nearby farmhouses, mines and other archaeological settlements suggests that there is a LOW probability of finding graves in the proposed prospecting area.

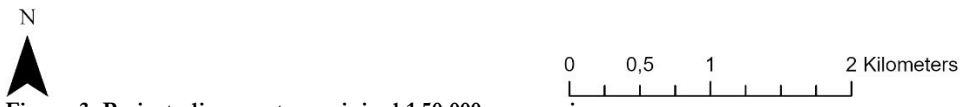
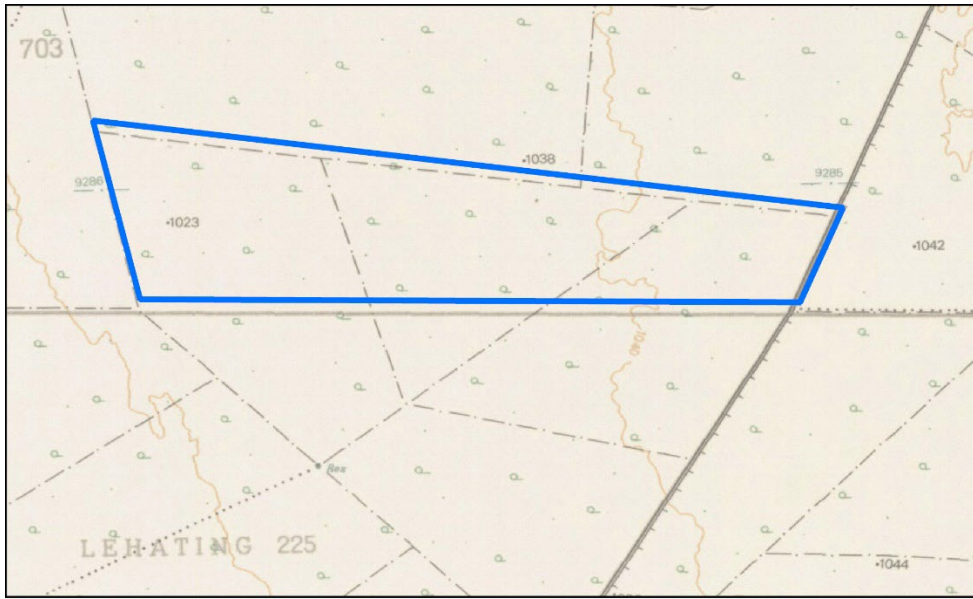


Figure 3: Project alignment on original 1:50 000 map series.

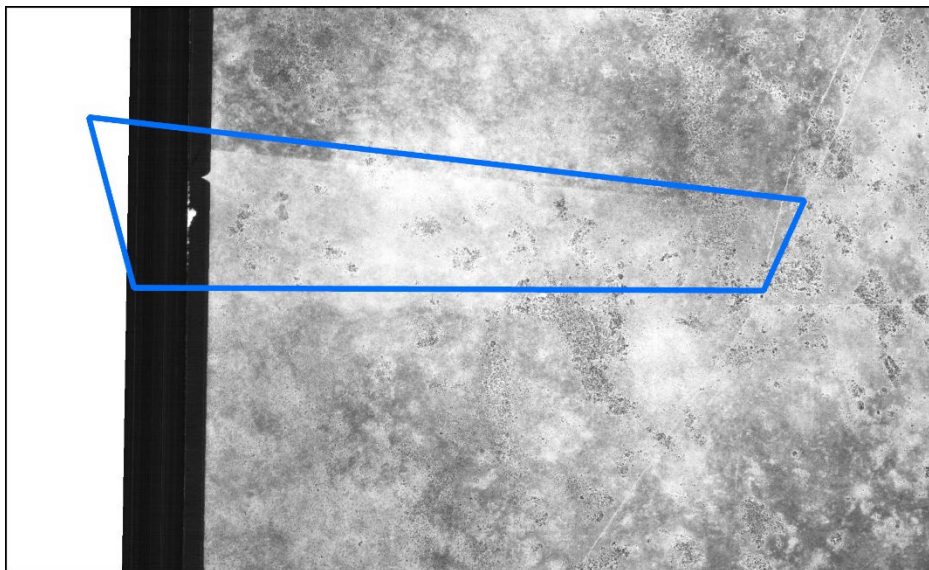


Figure 4: Project alignment on 1959 aerial photograph.

6. FIELD SURVEY

6.1 FIELD METHODS

A foot survey was conducted on 13 April 2023 following east-west transects across the prospecting area. The survey team used real time positioning in relation to the project alignment by means of a mobile GIS application.



Figure 5: Animal burrows exposing subsurface desposits.



Figure 6: Animal burrows exposing subsurface deposits.



Figure 7: Animal burrows exposing subsurface desposits.



Figure 8: Exposed surface area in southwestern area of the project alignment.



Figure 9: Farm road in central survey area.



Figure 10: Farm road and fence marking western extent project area.



Figure 11: Farm road and fence marking eastern extent of project area.



Figure 12: General view of landscape in project area.



Figure 13: View of surface cover in project area during survey.



Figure 14: General landscape view of project area with Kuruman Hills in background.



Figure 15: View of landscape in western area of project.



Figure 16: View of landscape in central area of project.



Figure 17: View of eastern edge of project area looking west.



Figure 18: View of landscape in central area of project.

6.2 FIELD SURVEY CONTEXT

6.2.1 *Access*

Entry to the property was gained via farm roads from the adjacent farm Vorstershoop 706 which borders the project area to the east.

6.2.2 *Visibility and terrain*

The project area is wholly contained on very flat-lying terrain between 1020 - 1040m masl. It is entirely wooded grassland, on Kalahari (Cenozoic) sands. Surface visibility was fair but impacted by grass cover and dense tree stands in places. Animal burrows occur throughout which allowed for inspection of subsurface deposits.

6.3 FIELD ASSESSMENT RESULTS

The field assessment did not identify any archaeological or heritage sites within the proposed prospecting area.

6.4 CONCLUSION OF FIELD SURVEY

No sites were identified during the field survey. This could be explained by the fact that the area is located a distance away from any surface water exposures or landscape features which would have attracted human activity such as surface exposures of raw material for stone tools. In general, site density is much lower away from rivers and significant landscape features.

7. CONCLUSIONS

The field survey did not find any remains of heritage significance. This is supplemented by the desktop study which indicates a relatively LOW probability of significant sites in the project area.

Numerous impact assessments have been conducted in the immediate vicinity of the proposed project area which means that a fair degree of confidence in the spatial patterning of heritage remains. While Stone Age finds do occur in the area, these are however largely limited to areas where there are raw material, and in close proximity to rivers and pans. Given that the proposed prospecting area is entirely in flat sandy areas at least 5km away from the Kuruman river, there is a LOW probability of Stone Age remains of any significance existing in the project area.

Studies in the region have failed to identify any significant Iron Age remains or sites. Although there is an Iron Age presence on the landscape, archaeological sites from this period likely developed into present-day settlements such as Tsineng. Combined with the dearth of Iron Age remains in the immediate area, there is a LOW probability of finding Iron Age remains in the project area.

Several historical structures relating to the later 19th and early twentieth century have been identified in the region. These are typically highly visible features. Since no such features were visible on historical aerial imagery, historical maps or during the survey, there is a LOW probability of such features existing in the project area.

8. MANAGEMENT ACTIONS

Desktop assessment and field of the prospecting footprint of Lehating 741 R/E did not locate any heritage resources. However, the possibility of subsurface finds cannot be excluded. It is accepted that the prospecting action will have an acceptably low risk of impacting any heritage resources if the following management actions are implemented:

- Monitoring by an ECO is recommended during the planning and prospection phases of the project. Should any subsurface palaeontological, archaeological or historical material, or burials be exposed during prospecting or ancillary activities, all activities should be suspended, and the archaeological specialist should be notified immediately.
- Existing farm roads and access routes be used as far as possible to limit the chance of exposing subsurface archaeological remains not identified in the survey.

9. RECOMMENDATION

From a heritage point of view, the proposed prospecting activities on Lehating 741 R/E will be low and can be allowed to proceed pending SAHRA comments.

REFERENCES

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APPENDIX 1: HERITAGE LEGISLATION BACKGROUND

A1.1 NATIONAL HERITAGE RESOURCES ACT NO 25 OF 1999, SECTION 35

According to the National Heritage Resources Act of 1999 a historical site is any identifiable building or part thereof, marker, milestone, gravestone, landmark or tell older than 60 years.

The Act identifies heritage objects as:

- objects recovered from the soil or waters of South Africa including archaeological and palaeontological objects, meteorites and rare geological specimens
- visual art objects
- military objects
- numismatic objects
- objects of cultural and historical significance
- objects to which oral traditions are attached and which are associated with living heritage
- objects of scientific or technological interest
- any other prescribed category

With regards to activities on archaeological and heritage sites this Act states that:

"No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit by the relevant provincial heritage resources authority." (34. [1] 1999:58)

"No person may, without a permit issued by the responsible heritage resources authority-

- a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite.
- b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite.
- c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects or use such equipment for the recovery of meteorites. (35. [4] 1999:58)."

"No person may, without a permit issued by SAHRA or a provincial heritage resources agency may -

- a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves.
- b) destroy, damage, alter, exhume, 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.
- c) bring onto or use at a burial ground or grave referred to in paragraph (left) or (right) and excavation equipment, or any equipment which assists in the detection or recovery of metals (36. [3] 1999:60).”

A1.2 HUMAN TISSUE ACT OF 1983 AND ORDINANCE ON THE REMOVAL OF GRAVES AND DEAD BODIES OF 1925

Graves 60 years or older are heritage resources and fall under the jurisdiction of both the National Heritage Resources Act and the Human Tissues Act of 1983. However, graves younger than 60 years are specifically protected by the Human Tissues Act (Act 65 of 1983) and the Ordinance on the Removal of Graves and Dead Bodies (Ordinance 7 of 1925) as well as any local and regional provisions, laws and by-laws. Such burial places also fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial MEC as well as the relevant Local Authorities.

APPENDIX 2: MANAGEMENT AND MITIGATION ACTIONS

A1.3 CATEGORIES OF SIGNIFICANCE

Rating the significance of archaeological sites, and consequently grading the potential impact on the resources is linked to the significance of the site itself. The significance of an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the National Heritage Resources Act, 1999, while other historical and cultural significant sites, places and features, are generally determined by community preferences. The guidelines as provided by the NHRA (Act No. 25 of 1999) in Section 3, with special reference to subsection 3 are used when determining the cultural significance or other special value of archaeological or historical sites. In addition, ICOMOS (the Australian Committee of the International Council on Monuments and Sites) highlights four cultural attributes, which are valuable to any given culture:

Aesthetic value:

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria include consideration of the form, scale, colour, texture and material of the fabric, the general atmosphere associated with the place and its uses and also the aesthetic values commonly assessed in the analysis of landscapes and townscape.

Historic value:

Historic value encompasses the history of aesthetics, science and society and therefore to a large extent underlies all of the attributes discussed here. Usually, a place has historical value because of association with an event, person, phase or activity.

Scientific value:

The scientific or research value of a place will depend upon the importance of the data involved, on its rarity, quality and on the degree to which the place may contribute further substantial information.

Social value

Social value includes the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment to a certain group.

It is important for heritage specialist input in the EIA process to take into account the heritage management structure set up by the NHR Act. It makes provision for a 3-tier system of management including the South Africa Heritage Resources Agency (SAHRA) at a national level, Provincial Heritage Resources Authorities (PHRAs) at a provincial and the local authority. The Act makes provision for two types or forms of protection of heritage resources, i.e., formally protected and generally protected sites:

Formally protected sites:

- Grade 1 or national heritage sites, which are managed by SAHRA
- Grade 2 or provincial heritage sites, which are managed by the provincial HRA (MP-PHRA).

- Grade 3 or local heritage sites.

Generally protected sites:

- Human burials older than 60 years.
- Archaeological and palaeontological sites.
- Shipwrecks and associated remains older than 60 years.
- Structures older than 60 years.

With reference to the evaluation of sites, the certainty of prediction is definite, unless stated otherwise and if the significance of the site is rated high, the significance of the impact will also result in a high rating. The same rule applies if the significance rating of the site is low. The significance of archaeological sites is generally ranked into the following categories.

A1.4 MITIGATION CATEGORIES

The following provides a guideline of relevant heritage resources management actions in the conservation of heritage resources:

No further action / Monitoring

Where no heritage resources have been documented, heritage resources occur well outside the impact zone of any development or the primary context of the surroundings at a development footprint has been largely destroyed or altered, no further immediate action is required. Site monitoring during development, by an ECO or the heritage specialist are often added to this recommendation in order to ensure that no undetected heritage\ remains are destroyed.

Avoidance

This is appropriate where any type of development occurs within a formally protected or significant or sensitive heritage context and is likely to have a high negative impact. Mitigation is not acceptable or not possible. This measure often includes the change / alteration of development planning and therefore impact zones in order not to impact on resources.

Mitigation

This is appropriate where development occurs in a context of heritage significance and where the impact is such that it can be mitigated to a degree of medium to low significance, e.g., the high to medium impact of a development on an archaeological site could be mitigated through sampling/excavation of the remains. Not all negative impacts can be mitigated.

Compensation

Compensation is generally not an appropriate heritage management action. The main function of management actions should be to conserve the resource for the benefit of future generations. Once lost it cannot be renewed. The circumstances around the potential public or heritage benefits would need to be exceptional to warrant this type of action, especially in the case of where the impact was high.

Rehabilitation

Rehabilitation is considered in heritage management terms as an intervention typically involving the adding of a new heritage layer to enable a new sustainable use. It is not appropriate when the process necessitates the removal of previous historical layers, i.e., restoration of a building or place to the previous state/period. It is an appropriate heritage management action in the following cases:

- The heritage resource is degraded or in the process of degradation and would benefit from rehabilitation.
- Where rehabilitation implies appropriate conservation interventions, i.e., adaptive reuse, repair and maintenance, consolidation, and minimal loss of historical fabric.
- Where the rehabilitation process will not result in a negative impact on the intrinsic value of the resource.

Enhancement

Enhancement is appropriate where the overall heritage significance and its public appreciation value are improved. It does not imply creation of a condition that might never have occurred during the evolution of a place, e.g., the tendency to sanitize the past. This management action might result from the removal of previous layers where these layers are culturally of low significance and detract from the significance of the resource. It would be appropriate in a range of heritage contexts and applicable to a range of resources. In the case of formally protected or significant resources, appropriate enhancement action should be encouraged. Care should, however, be taken to ensure that the process does not have a negative impact on the character and context of the resource. It would thus have to be carefully monitored.