
Phase 1 Archaeological Impact Assessment -

**PORTION OF THE FARM BOKSPUTS 118,
GROBLERSHOOP DISTRICT, NORTHERN CAPE,
SOUTH AFRICA**

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REPORT TO -

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1) PROJECT BRIEF

ArchaeoMaps was contracted to conduct a Phase 1 Archaeological Impact Assessment (AIA) for the proposed copper prospecting and mining development to be situated on a portion of the farm Bokspuits 118, Groblershoop district, Northern Cape. The assessment was requested in compliance with the Mineral and Petroleum Resources Development Act, No 28 of 2002, represented by the Department of Minerals and Energy (DME), in accordance with referenced natural and cultural environmental requirements as prescribed in the National Environmental Management Act, No 107 of 1998, represented by the Department of Environmental Affairs and Tourism (DEAT) and the National Heritage Resources Act, No 25 of 1999, represented by the South African Heritage Resources Agency (SAHRA).

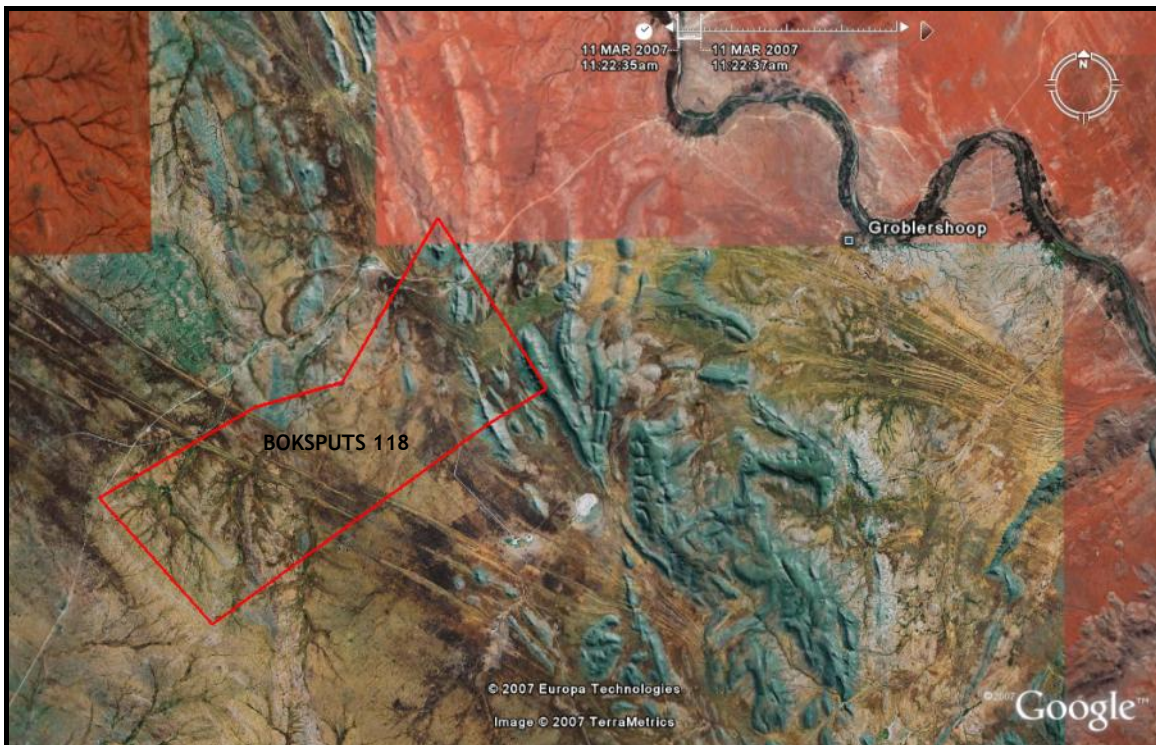
This document reports on the findings of the Phase 1 AIA.

1.1) PROPERTY DESCRIPTION



The proposed prospecting and mining development will be situated on an approximate 300ha portion of the 22,000ha farm Bokspuits 118, Groblershoop district, Northern Cape. Bokspuits 118 is situated approximately 30 - 40km west-south-west of Groblershoop (1:50,000 map reference 2821DC, 2821DD and 2921BA).

MAP 1: Bokspuits 118 (Groblershoop district), Northern Cape



MAP 2: Close-up of the locality of Bokspuits 118 in relation to Groblershoop

1.2) DEVELOPMENT IMPACT

Proposed copper prospecting and mining will be restricted to an approximate 300ha portion of the 22,000ha Bokspuits 118 property. Core prospecting will result in limited impact to existing cultural heritage resources. Mining will negatively impact on cultural heritage resources and will result in the total loss thereof.

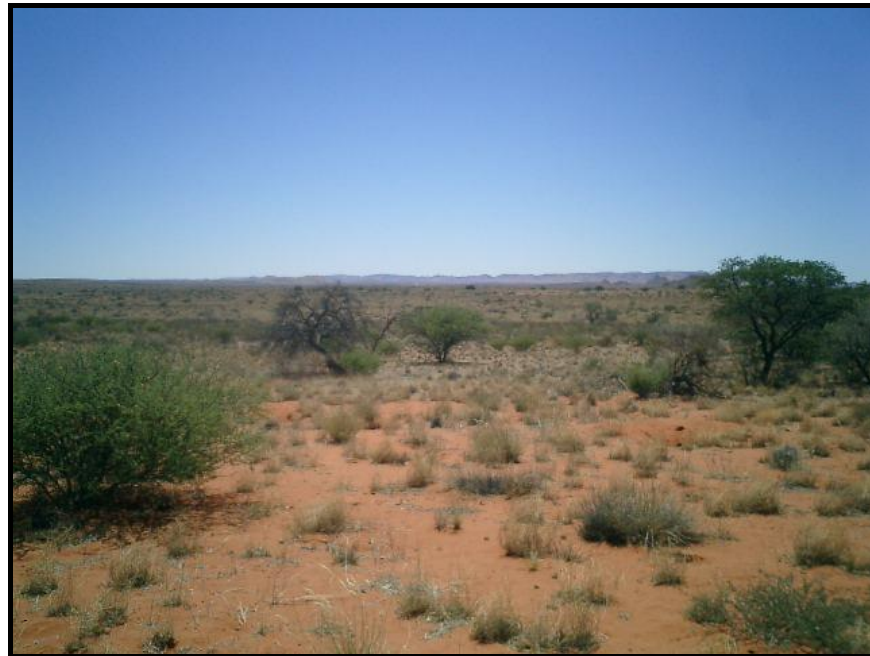


IMAGE 1-3: General view of the approximate 300ha proposed prospecting and mining area, Bokspuits 118

2) THE PHASE 1 ARHAEOLOGICAL IMPACT ASSESSMENT

2.1) METHODOLOGY

The two day assessment (2007-03-5 and 6) was conducted by one archaeologist. The assessment was done by foot and off-road vehicle (200cc quad) and limited to a Phase 1 surface survey; no excavation or sub-surface testing was done since a permit from SAHRA is required to do so. GPS co-ordinates were taken with a Garmin e-Trex Vista GPS

MAP 3: The approximate 300ha development area situated on farm Bokspuits 118



(3-8m error margin). Photographic documentation was done with a Casio X-S2 Exilim camera. A combination of Garmap and Google Earth software was used in the display of spatial information.

Archaeological and cultural heritage site significance assessment and associated mitigation recommendations were done according to the system prescribed by SAHRA (2005).

FIELD RATING	GRADE	SITE SIGNIFICANCE	RECOMMENDED MITIGATION
National Significance	Grade 1	High Significance	Site conservation / Site development
Provincial Significance	Grade 2	High Significance	Site conservation / Site development
Local significance	Grade 3A	High Significance	Site preservation or extensive mitigation before development destruction
Local significance	Grade 3B	High Significance	Site preservation or extensive mitigation before development destruction
Generally Protected A	-	High / Medium Significance	Site preservation or mitigation before development destruction
Generally Protected B	-	Medium Significance	Site preservation or mitigation / test excavation / systematic sampling before development destruction
Generally Protected C	-	Low Significance	No archaeological mitigation required – Site destruction

TABLE 1: Archaeological and cultural heritage site significance and mitigation recommendations

2.2) COVERAGE AND GAP ANALYSIS

The Phase 1 AIA covered:

- i. The approximate 300ha prospecting and mining area; and
- ii. Relevant access road.

2.3) PHASE 1 AIA FINDINGS

2.3.1) THE 300ha ASSESSED AREA

The assessed landscape comprises of a mosaic of typical karoo vegetation intersected by red-sand dunes and quartz outcrops. Low densities Middle Stone Age (MSA) artefacts were observed at a number of the quartz outcrops. Artefact densities were in general too low to record an artefact ratio (artefacts: m²). The identification of artefacts, and by implication affecting ratio estimates, was further hampered by use of white quartz as raw material. Natural flaking qualities of quartz very closely resemble knapping / anthropic flake scars. A number of artefacts were however very definitely of anthropic nature (observed at locality BKS2). Typologically artefacts are representative of the MSA with an emphasis on flake and blade technology. The most dominant artefact type observed was irregular scrapers.

The artefact occurrence seems further to be relatively restricted to the surface. A number of animal burrows and a trench (locality BKS3), approximately 70cm deep, allowed for a sub-surface interpretation. Mounds and sections associated with animal burrows as well as trench sections proved to be anthropically sterile.

Based on the extremely low presence of artefacts (too low to record an artefact ratio) with deposits primarily limited to the surface, the occurrence is ascribed a Generally Protected C field rating with a Low Significance: It is

recommended that the occurrence be destroyed without the developer having to apply for a Site Destruction Permit from SAHRA.



IMAGE 4: One of the quartz outcrops (BKS2) on which a few artefacts were identified



IMAGE 5: Artefacts observed at BKS2



IMAGE 6: Sterile trench sections at recorded locality BKS 3

2.3.2) CONSULTATION WITH LANDOWNERS

Consultation with the landowners of Bokspuits 118; Willie Strauss, W.P. Strauss and Schalk Nolte, resulted in further cultural heritage related information:

1) BKS1: FORMER CORE DUMPING SITE

Core prospecting has been done by at least 3 companies in the past. Site BKS1 represents the former core dumping site. The majority of the cores were however at some point removed by one of the companies. Core prospecting was done during the last 40 years (Pers comm.: Willie Strauss), the site thus does not represent an archaeological / historical site of significant value as defined and protected by the NHRA.

The site may well be re-used by the proposed development.



IMAGE 7: Site BKS1 – Former core dumping site

2) UNMARKED HISTORICAL GRAVES

Willie Strauss' grandparents first settled at Bokspuits 118 in the early 1900's. Soon thereafter his grandmother lost two children. The children, both younger than a month at the time of death, were buried next to each other and the graves marked with stones. However, during one of the former prospecting developments, the stones were removed and used by prospectors for site demarcations. The exact location of the two graves, a valued family heritage, has thus been lost in the process (Pers comm.: Willie Strauss).

The location of the graves may be threatened by the proposed development.

3) BKS4: MIDDLE STONE AGE SITE

Willie Strauss further also reported on two Stone Age sites situated elsewhere on his portion of the property. Time however allowed only one of these sites, BKS4, to be visited.

BKS4 is situated at the foot of a hill. The site is characterized by a significant change in vegetation and soil color. Surface deposits stretch for more than 700m (BKS4/1 - BKS4/2) around the foot of the hill. Artefacts, primarily

produced from white quartz, are typologically representative of the Middle Stone Age (MSA) with irregular scrapers being the most dominant artefact type. Recorded artefact ratios varied between 3-8:1. A sub-surface component to the deposit may well be present.

Neither of the Stone Age sites known to Willie Strauss will be affected by the proposed development.



IMAGE 8: MSA site BKS4 characterized by a change in vegetation and soil color



IMAGE 9: Quarts rich surface deposits at BKS4



IMAGE 10 & 11: Surface artefacts from Site BKS4

4) STONE AGE DEPOSITS IN RED SAND DUNES

W.P. Strauss commented on Stone Age artefacts eroding out of a red sand dune situated on his portion of the property. A number of Stone Age flakes, portions of bored stones and ostrich eggshell beads have been collected by him. He noted that wind erosion often exposes artefacts, sometimes in quite high densities. In a direct reversed process, exposed artefacts are again often relatively quickly covered by the dune. He further reported on the fact that the position of the dune did not visibly moved since his childhood. However, changes in the shape of the dune are often obviously visible after heavy winds.

Time constraints did not allow for a site visit. The proposed development will however not impact on W. P. Strauss' portion of the property.

Schalk Nolte only recently acquired his portion of the property. He was not aware of any cultural heritage sites situated on the property.

DEVELOPMENT AREA	ARCHAEOLOGICAL SITES, FIND PLACES AND FEATURES	IMAGE NR	CO-ORDINATES	
			SOUTH	EAST
300ha Copper Prospecting and Mining Development on Bokspuits 118				
Development Area				
A	-	Image 1-3	S29.00302°	E21.64467°
B	-		S28.99978°	E21.65315°
C	-		S29.00463°	E21.66240°
D	-		S29.01407°	E21.65993°
E	-		S28.99978°	E21.65315°
F	-		S29.01083°	E21.64514°
G	-		S29.01083°	E21.64236°
	BKS2 – MSA low density scatter	Image 4-5	S29.01672°	E21.65360°
BKS3 – Trench	-	Image 6	S29.01326°	E21.64816°
Non-development Area				
	BKS1 – Core dumping site	Image 7	S29.02511°	E21.66602°
	BKS4 – MSA site	Image 8-11		
	(BKS4/1)		S29.03922°	E21.64331°
	BKS4/2)		S29.04217°	E27.64208°

TABLE 2: GPS co-ordinates of the proposed development area, identified and associated sites and features

3) CONCLUSION AND RECOMMENDATIONS

No cultural heritage resources, inclusive of palaeontological and archaeological deposits, built structures older than 60 years, sites of cultural significance associated with oral histories, burial grounds and graves, graves of victims of conflict and cultural landscapes or viewsapes, as defined and protected by the NHRA (1999) were identified during assessment of the approximate 300ha portion of the 22,000ha farm Bokspuits 118, Groblershoop District, Northern Cape.

Low densities of quarts MSA stone tools are scattered amongst surface quartz outcrops on the proposed development area, such as at recorded locality BKS2. Artefact densities were too low to ascribe an artefact ratio to the surface restricted occurrence. The occurrence is ascribed a Generally Protected C field rating with a Low Significance: It is recommended that the occurrence be destroyed without the developer having to apply for a Site Destruction Permit from SAHRA.

3.1) RECOMMENDATIONS

The proposed 300ha copper prospecting and mining development, to be situated on the approximate 22,000ha property Bokspuits 118, Groblershoop District, Northern Cape, poses no threat to our cultural heritage as defined and protected by the NHRA (1999):

- It is recommended that development proceed as applied for.

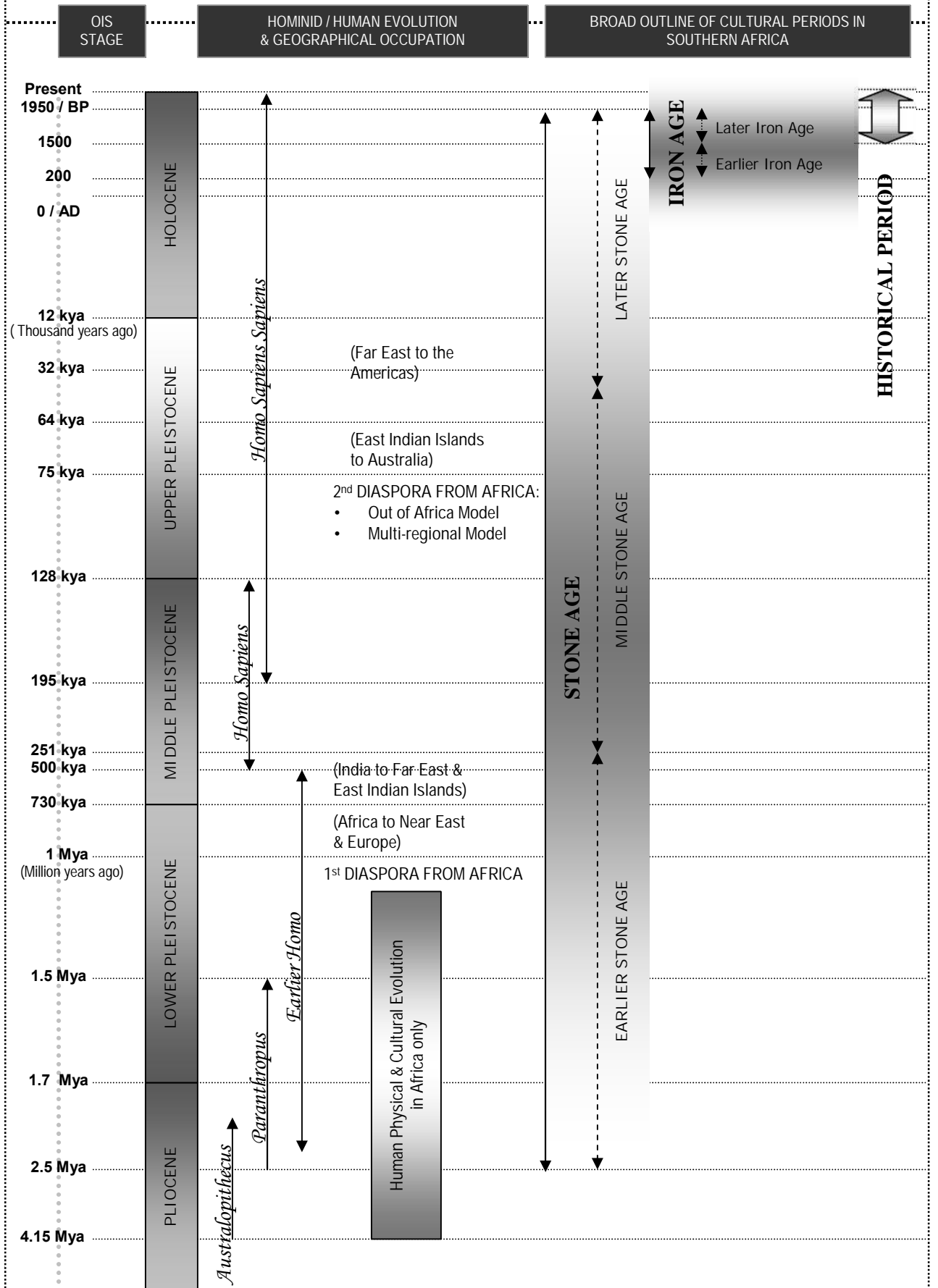
4) ACKNOWLEDGEMENTS

I would like to thank J. P. van Niekerk (Amber Mountain Investments) for accompanying me to the site and providing on site and development information. I would further like to thank the landowners Willie Strauss, W.P. Strauss and Schalk Nolte for their time and contribution regarding known cultural heritage resources on the Bokspuits 118 property.

5) REFERENCES CITED

- i. South African Government. (No 107) of 1998. National Environmental Management Act.
- ii. South African Government. (No 25) of 1999. National Heritage Resources Act.
- iii. South African Government. (No 28) of 2002. Mineral and Petroleum Resources Development Act.
- iv. South African Heritage Resources Agency. 2005. Minimum standards for the archaeological and heritage components of impact assessments. Unpublished guidelines.

Schematic Outline of the Pre-historic and Historic Periods



Extracts from the
NATIONAL HERITAGE RESOURCES ACT (NO 25 OF 1999)

DEFINITIONS

Section 2

In this Act, unless the context requires otherwise:

- ii. "Archaeological" means –
 - a) material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures;
 - b) rock art, being any 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 which is older than 100 years, including any area within 10 m of such representation;
 - c) wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic, ... and any cargo, debris, or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation.
- viii. "Development" means any physical intervention, excavation or action, other than those caused by natural forces, which may in the opinion of a heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including –
 - a) construction, alteration, demolition, removal or change of use of a place or structure at a place;
 - b) carrying out any works on or over or under a place;
 - c) subdivision or consolidation of land comprising, a place, including the structures or airspace of a place;
 - d) constructing or putting up for display signs or hoardings;
 - e) any change to the natural or existing condition or topography of land; and
 - f) any removal or destruction of trees, or removal of vegetation or topsoil;
- xiii. "Grave" means a place of interment and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place;
- xxi. "Living heritage" means the intangible aspects of inherited culture, and may include –
 - a) cultural tradition;
 - b) oral history;
 - c) performance;
 - d) ritual;
 - e) popular memory;
 - f) skills and techniques;
 - g) indigenous knowledge systems; and
 - h) the holistic approach to nature, society and social relationships.
- xxxi. "Palaeontological" 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;
- xli. "Site" means any area of land, including land covered by water, and including any structures or objects thereon;
- xliv. "Structure" means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith;

NATIONAL ESTATE

Section 3

- 1) For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.
- 2) Without limiting the generality of subsection 1), the national estate may include –
 - a) places, buildings, structures and equipment of cultural significance;
 - b) places to which oral traditions are attached or which are associated with living heritage;
 - c) historical settlements and townscapes;
 - d) landscapes and natural features of cultural significance;
 - e) geological sites of scientific or cultural importance
 - f) archaeological and palaeontological sites;
 - g) graves and burial grounds, including –
 - i. ancestral graves;
 - ii. royal graves and graves of traditional leaders;
 - iii. graves of victims of conflict
 - iv. graves of individuals designated by the Minister by notice in the Gazette;
 - v. historical graves and cemeteries; and
 - vi. other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No 65 of 1983)
 - h) sites of significance relating to the history of slavery in South Africa;
 - i) movable objects, including –
 - i. objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - ii. objects to which oral traditions are attached or which are associated with living heritage;
 - iii. ethnographic art and objects;
 - iv. military objects;
 - v. objects of decorative or fine art;
 - vi. objects of scientific or technological interest; and

- vii. books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1 xiv) of the National Archives of South Africa Act, 1996 (Act No 43 of 1996).

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 relevant provincial heritage resources authority.

ARCHAEOLOGY, PALAEOLOGY AND METEORITES

Section 35

- 3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.
- 4) 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 assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- 5) When the responsible heritage resources authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or palaeontological site is under way, and where no application for a permit has been submitted and no heritage resources management procedure in terms of section 38 has been followed, it may –
 - a) serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order;
 - b) carry out an investigation for the purpose of obtaining information on whether or not an archaeological or palaeontological site exists and whether mitigation is necessary;
 - c) if mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph a) to apply for a permit as required in subsection 4); and
 - d) recover the costs of such investigation from the owner or occupier of the land on which it is believed an archaeological or palaeontological site is located or from the person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.
- 6) The responsible heritage resources authority may, after consultation with the owner of the land on which an archaeological or palaeontological site or meteorite is situated, serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

BURIAL GROUNDS AND GRAVES

Section 36

- 3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority –
 - 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; or
 - c) bring onto or use at a burial ground or grave referred to in paragraph a) or b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.
- 4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction of any burial ground or grave referred to in subsection 3a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.
- 5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection 3b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority –
 - a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and
 - b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.
- 6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority –
 - a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and
 - b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

HERITAGE RESOURCES MANAGEMENT

Section 38

- 1) Subject to the provisions of subsections 7), 8) and 9), any person who intends to undertake a development categorised as –
 - a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;
 - b) the construction of a bridge or similar structure exceeding 50 m in length;
 - c) any development or other activity which will change the character of a site –
 - i. exceeding 5 000 m² in extent; or
 - ii. involving three or more existing erven or subdivisions thereof; or
 - iii. involving three or more erven or subdivisions thereof which have been consolidated within the past five years; or
 - iv. the costs which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
 - d) the rezoning of a site exceeding 10 000 m² in extent; or
 - e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.
- 2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection 1) –
 - a) if there is reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or
 - b) notify the person concerned that this section does not apply.
- 3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection 2a) ...
- 4) The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development decide –
 - a) whether or not the development may proceed;
 - b) any limitations or conditions to be applied to the development;
 - c) what general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;
 - d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of the development; and
 - e) whether the appointment of specialists is required as a condition of approval of the proposal.

APPOINTMENT AND POWERS OF HERITAGE INSPECTORS

Section 50

- 7) Subject to the provision of any other law, a heritage inspector or any other person authorised by a heritage resources authority in writing, may at all reasonable times enter upon any land or premises for the purpose of inspecting any heritage resource protected in terms of the provisions of this Act, or any other property in respect of which the heritage resources authority is exercising its functions and powers in terms of this Act, and may take photographs, make measurements and sketches and use any other means of recording information necessary for the purposes of this Act.
- 8) A heritage inspector may at any time inspect work being done under a permit issued in terms of this Act and may for that purpose at all reasonable times enter any place protected in terms of this Act.
- 9) Where a heritage inspector has reasonable grounds to suspect that an offence in terms of this Act has been, is being, or is about to be committed, the heritage inspector may with such assistance as he or she thinks necessary –
 - a) enter and search any place, premises, vehicle, vessel or craft, and for that purpose stop and detain any vehicle, vessel or craft, in or on which the heritage inspector believes, on reasonable grounds, there is evidence related to that offence;
 - b) confiscate and detain any heritage resource or evidence concerned with the commission of the offence pending any further order from the responsible heritage resources authority; and
 - c) take such action as is reasonably necessary to prevent the commission of an offence in terms of this Act.
- 10) A heritage inspector may, if there is reason to believe that any work is being done or any action is being taken in contravention of this Act or the conditions of a permit issued in terms of this Act, order the immediate cessation of such work or action pending any further order from the responsible heritage resources authority