

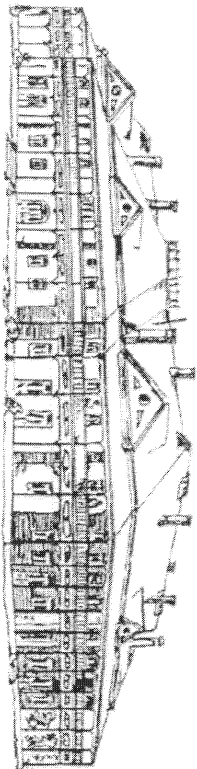
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**McGregor Museum
Department of Archaeology**



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**Archaeological Impact Assessment
at the Kai Kai Coastal Estate development
south of Port Nolloth, Northern Cape**

**David Morris
November 2005**

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south of Port Nolloth, Northern Cape

David Morris
McGregor Museum, Kimberley
November 2005

Introduction

The author was contacted by Mr Thomas R van Viegen of earth/INC in order to carry out a phase 1 archaeological impact assessment in an area of proposed housing estate development south of Port Nolloth, known as Kai Kai. The area was visited in November 2005.

Observations made and recommendations arising from them are the subject of this report.

The area of intended development is situated immediately alongside a rocky shoreline and consists of what at first sight might be thought to be sand dunes and deflation hollows reaching not more than a few hundred metres inland. On closer inspection it was found that the supposed dunes are in fact a massive 'megamidden' which is locally capped by recent dune development. A considerable quantity of midden was in evidence over virtually the entire site. The site is automatically protected by the National Heritage Resources Act and a Phase 2 investigation is recommended in order to define it more clearly.

Fieldnotes and photographs are lodged with the McGregor Museum, Kimberley.

Legislation

The National Heritage Resources Act (No 25 of 1999) (NHRRA) provides protection for archaeological resources (see appendix 1).

It is an offence to destroy, damage, excavate, alter, or remove from its original position, or collect, any archaeological material or object (defined in the Act), without a permit issued by the South African Heritage Resources Agency (SAHRA).

Section 35 of the Act protects all archaeological and palaeontological sites and requires that anyone wishing to disturb a site must have a permit from the relevant heritage resources authority. Section 36 protects human remains older than 60 years. In order for the authority to assess whether approval may be given for any form of disturbance, a specialist report is required. No mining, prospecting or development may take place without heritage assessment and approval.

SAHRA at national level acts on an agency basis for the Provincial Heritage Resources Agency (PHRA) in the Northern Cape, where archaeological sites are concerned. Permit applications should be made to the SAHRA office in Cape Town.

Methods and Limitations

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This is a Phase 1 assessment based on inspection of visible traces only.

A number of deflated areas in the 'dunes', as well as recent cuttings, and disturbed deposit associated with installation of services (sewerage etc) afforded an opportunity to assess the nature of the deposit below the surface. In places it was clear that younger aeolian dune development capped older midden surfaces.

Numerous observations were tabulated and plotted by way of GPS readings (Garmin eTrex; WGS 84) and cross-referenced to plot numbers on the development site map.

Background: middens along the coast

The coastal strip of South Africa is a sensitive zone of high archaeological visibility. Along the west coast in particular middens of note have been documented and these include so-called megamiddens (a term coined in the late seventies for features observed south of Lamberts Bay) adjacent to rocky intertidal outcrops.

Those that have been dated span the period of about 3000-2000 years ago, with evidence of more recent but less intensive occupation (Jerardino & Yates 1997; Jerardino 1998).

Characteristic of these sites is an overwhelming preponderance of marine shell and sediment with (relatively) low densities of cultural material and vertebrate fauna.

Sites of this type and a range of other archaeological occurrences have been studied much further south along the west coast than Port Nolloth.

Not all archaeological sites would be of equal significance. Where middens or other traces may be threatened, it is required that they be evaluated.

Significance criteria for determining conservation-worthiness and the necessity for Phase 2 mitigation would include, inter alia, the nature of the site in question; depth and presence/extent of stratigraphy; and degree of preservation (e.g. of organic materials such as bone).

Observations

The total extent of the Kai Kai development site was inspected. It quickly became clear that virtually the entire site comprises a megamidden. In places it has been covered over by more recent dune formation but in these places cuttings/deflation phenomena, and recent disturbance for installation of services, revealed the presence of the midden below the present surface.

Our findings seem consistent with characterizations of megamiddens further south, namely that the predominant feature is a massive accumulation of marine shell, though here mainly *Patella* spp. with other shell types. In this latter aspect this middens differs from megamiddens to the south which tend to be dominated by black mussel: there may be shifting emphases through time (Jerardino & Yates 1997).

The relative paucity of cultural material may be more apparent than real: a significant component of domestic artefacts is simply masked by the sheer enormity of the shell fraction (which may be a result of shellfish drying for purposes of delayed consumption – Jerardino & Yates 1997). Thus during our survey a not insignificant artefact aggregate was observed including lithics, ostrich eggshell, beads, and pottery (the latter suggesting post 2000 BP use of the site, though potentially this was superficial to the main accumulation).

The following specific observations were made:

Latitude Longitude	Plot number	Observations
29° 16.416'S 16° 52.712'E	94	Shellfish, lithics (quartz, silcrete), pottery, ostrich eggshell, terrestrial fauna, ostrich eggshell bead (v. small).
29° 16.370'S 16° 52.650'E	9	Shellfish, lithics (quartz, silcrete), ostrich eggshell.
29° 16.359'S 16° 52.623'E	11	Shellfish, lithics (quartz, silcrete), ostrich eggshell.
	12	Shellfish, lithics (quartz, silcrete), pottery, manuports incl UGS, ostrich eggshell, terrestrial fauna. On old dune beneath recent dune.
29° 16.308'S 16° 52.597'E	13-14	Below this plot is disturbed area. Above it, some truncation (trench disturbance): shellfish, lithics (quartz, silcrete), ostrich eggshell, terrestrial fauna, ostrich eggshell bead (small).
29° 16.255'S 16° 52.517'E	127 - above	Shellfish, lithics, ostrich eggshell, terrestrial fauna.
29° 16.215'S 16° 52.506'E	124-5 hollow behind	Shellfish, lithics, ostrich eggshell, terrestrial fauna.
29° 16.134'S 16° 52.540'E	75 – section behind	Shellfish, lithics, ostrich eggshell, terrestrial fauna.
29° 16.155'S 16° 52.531'E	73-72 – behind	Shellfish, lithics, ostrich eggshell, terrestrial fauna.
29° 16.159'S 16° 52.486'E	Middle of area designated Khoakhoasen -ais	Hotspot with shellfish, lithics, ostrich eggshell, terrestrial fauna.
29° 16.055'S 16° 52.352'E	39 between road and rocks	Shellfish, lithics (quartz, silcrete), pottery, ostrich eggshell, terrestrial fauna. Under thick recent dune.
29° 16.012'S 16° 52.419'E	148	Recently exposed from beneath dune. Shellfish, lithics, ostrich eggshell, terrestrial fauna.
	145-6	Shellfish, lithics, ostrich eggshell, terrestrial fauna.
29° 16.036'S 16° 52.467'E	143 - behind	Shellfish, lithics, ostrich eggshell, terrestrial fauna.
29° 16.070'S 16° 52.489'E		Shellfish, lithics, UGS, ostrich eggshell, terrestrial fauna.
29° 15.954'S 16° 52.473'E	59 - behind	Hotspot with Shellfish, lithics, ostrich eggshell, terrestrial fauna.

29° 15.936'S 16° 52.326'E	49/50 101/100	Shellfish, lithics, ostrich eggshell, terrestrial fauna.
29° 15.921'S 16° 52.301'E	48/49	Shellfish, lithics, ostrich eggshell, terrestrial fauna. High density.
29° 15.898'S 16° 52.282'E		Shellfish, lithics, ostrich eggshell, terrestrial fauna.
29° 15.942'S 16° 52.288'E	46	Section showing older dune (and midden) beneath new.
29° 16.009'S 16° 52.414'E		Shellfish, lithics, ostrich eggshell, terrestrial fauna, black (burnt) ostrich eggshell bead (small).

The above observation points show that the entire development site consists of parts of a megamidden. Taking into account the fact that some parts of the site are masked by more recent dune cover it is predicted that in fact no part of the Kai Kai development is not on the megamidden, which is an archaeological resource protected by the National Heritage Resources Act.

Recommendations

By any standards the Kai Kai megamidden is an impressive archaeological site.

Work on megamidens in the 1990s further south along the west coast have shown that logistical problems for the adequate sampling of such sites are not small: "huge quantities of material need to be processed in a series of non-contiguous excavations and considerable investment has to be made in radiocarbon dating" (Jerardino & Yates 1997:49).

In order to obtain just a preliminary impression of the nature of the Kai Kai megamidden, a series of test trenches at various points across the site are required for defining stratigraphies, midden content in terms of marine and terrestrial fauna, and the character and extent of cultural material present. The latter includes stone artefacts and manuports based on various raw materials (mainly quartz and silcrete for flaked stone tools), ostrich eggshell (including beads), and pottery. Organic remains, preferably charcoal samples, would have to be taken for radiocarbon dating to anchor stratigraphies in an absolute chronology *inter alia* for comparison with known sequences in the south.

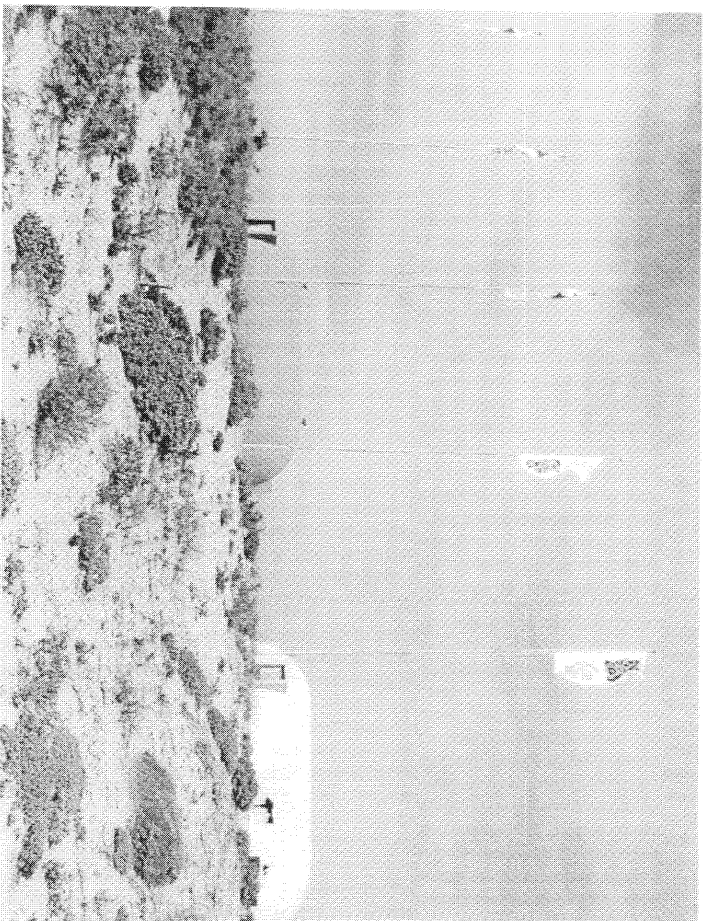
Detailed proposals and budgets for Phase 2 investigation would need to be compiled separately.

Acknowledgements

I thank Mr van Viegen for his assistance. Mr Ronald de Wet introduced us to the extent of the proposed development on site. Mr Petrus Wilson and Mr Tsholofelo Chinkuli (McGregor Museum CRM team) assisted with the survey and assessment of the site. I thank Dr A Jerardino for bringing my attention to the matter in the first place.

References

- Jerardino, A. & Yates, R. 1997. Excavations at Mike Taylor's Midden: a summary report and implications for a re-characterisation of megamiddens. *South African Archaeological Bulletin* 52:43-51.
- Jerardino, A. 1998. Excavations at Pancho's Kitchen Midden, western Cape coast, South Africa: further observations into the megamidden period. *South African Archaeological Bulletin* 53:16-25.



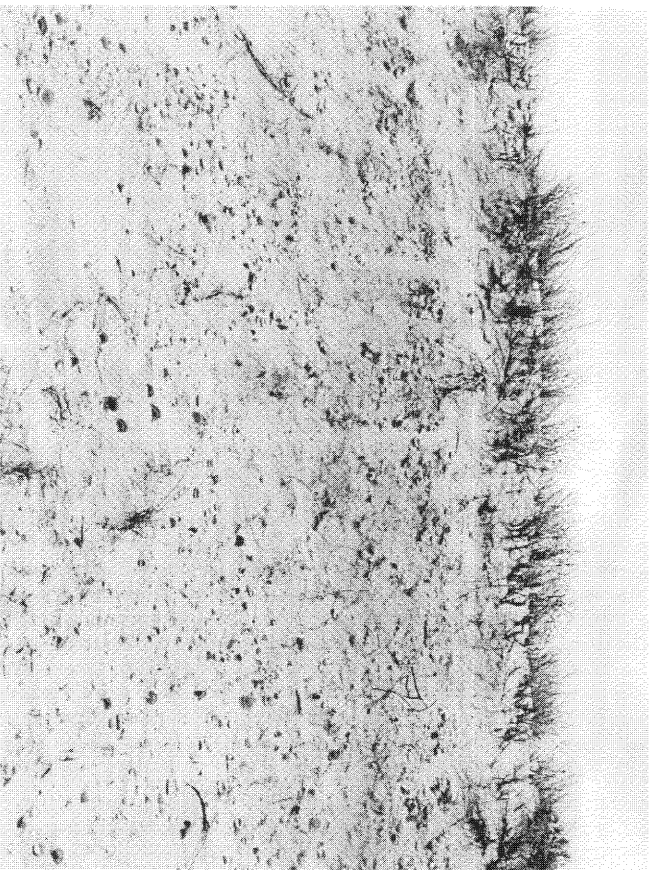
View of megalithic site in the vicinity of plot 94.



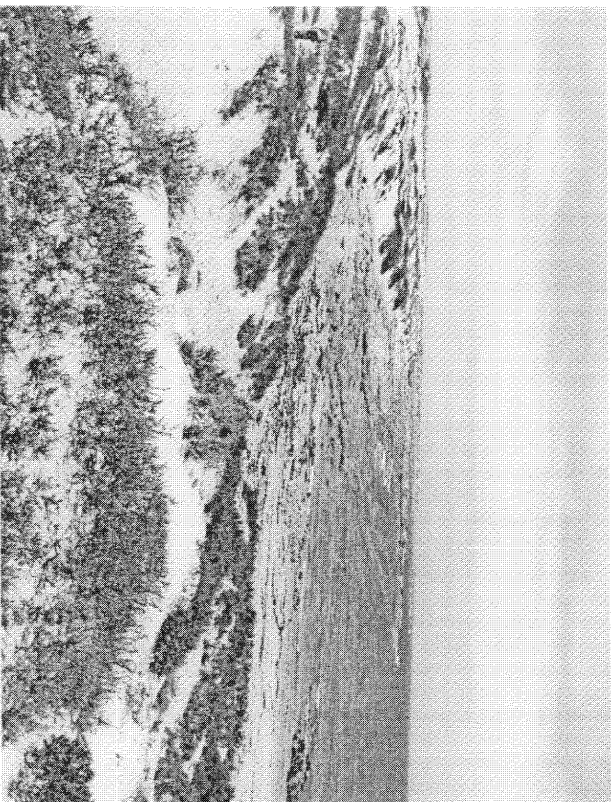
Shellfish remains and ostrich eggshell bead above Plots 13-14.



Massive densities of shell midden that characterize much of the site.



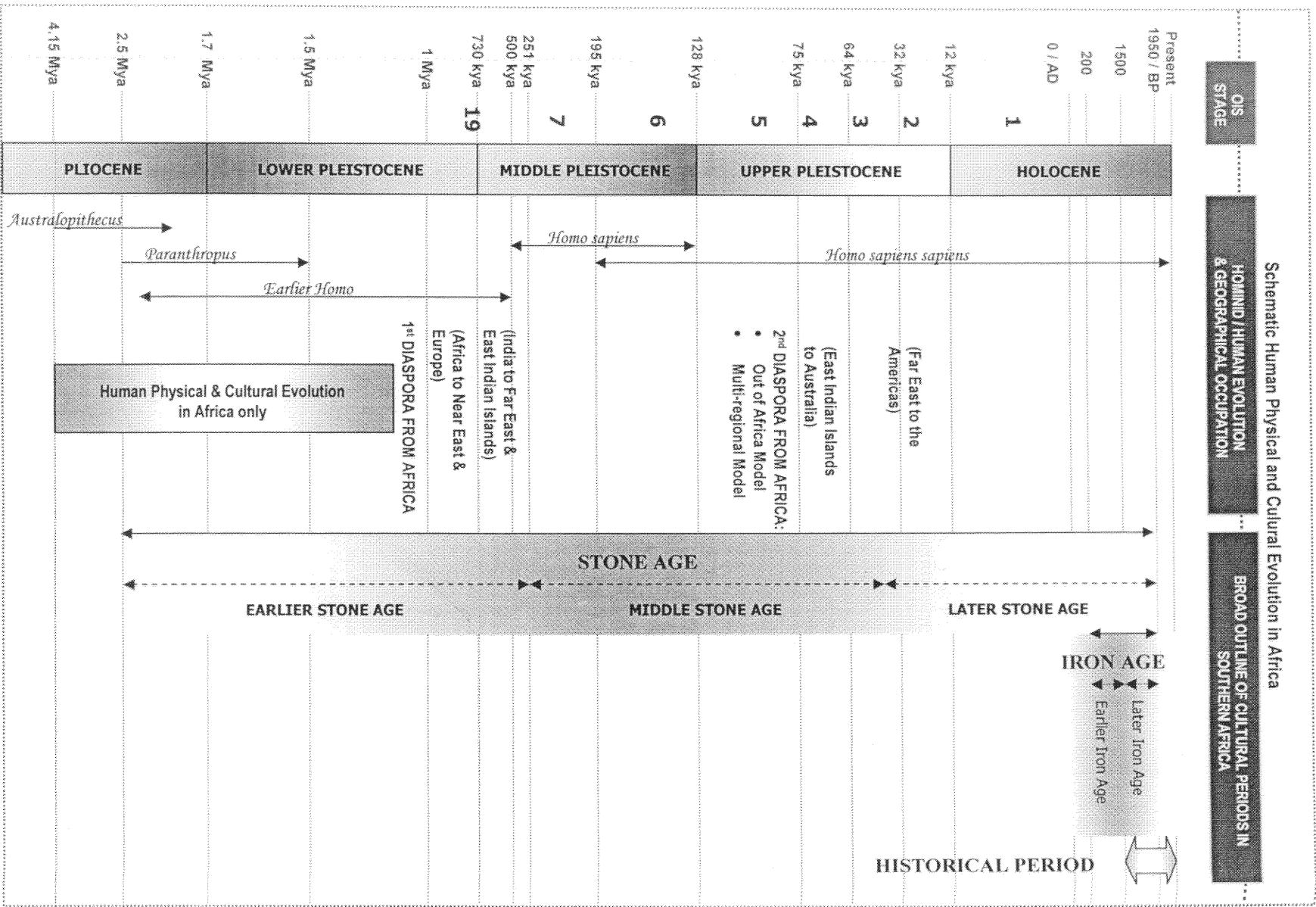
Stratification of recent dune development over midden, exposed in this section on the eastern side of the Kai Kai development site.



Undoubtedly the proximity of the megamidden to this rocky intertidal rocky outcrop is significant. Such settings provided a highly predictable set of marine resources requiring low effort with low risk. The main activity of the site may have been generation of dried seafood products for delayed consumption.

MAP

NB: Map in non-digital format provided separately.



Appendix 1

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 traces;

xli. "Site" means any area of land, including land covered by water, and including any structures or objects thereon;

xlii. "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 –
 - 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 underway, 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 even or subdivisions thereof; or
 - iii. involving three or more even 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.

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.