

**McGregor Museum  
Department of Archaeology**



Report on a Phase 1  
Archaeological Assessment of  
proposed salt works areas on the  
Eenzaamheid Pan,  
north of Upington, Northern Cape.

David Morris  
August 2006

# **Report on a Phase 1 Archaeological Assessment of proposed salt Works areas on the Eenzaamheid Pan north of Upington, Northern Cape.**

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## **Introduction**

The archaeology of the Northern Cape is rich and varied, covering long spans of human history. Concerning Stone Age sites here, C.G. Sampson has observed: "It is a great and spectacular history when compared to any other place in the world" (Sampson 1985). Some areas are richer than others, and not all sites are equally significant. Heritage impact assessments are a means to facilitate development while ensuring that what should be conserved is saved from destruction, or adequately mitigated and/or managed.

The present report concerns archaeological observations on proposed salt works areas on Eenzaamheid Pan, north of Upington, Northern Cape.

This report also provides background information on the archaeology of the wider region against which field survey observations may be assessed.

## **Terms of reference**

Terms of reference were to detail observations based on a field survey on the pan in question and to assess significance of impact should salt mining proceed. The report was to provide: site description; methodology; impact assessment; and mitigation measures and recommendations.

## **Legislation**

The National Heritage Resources Act (No 25 of 1999) (NHRA) provides protection for archaeological resources.

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 S. A. 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.

## **Methods and limitations**

A background literature/museum database search provides indications of what might be expected in the region.

During the site investigation, areas of proposed mining were examined in some detail. Salt mining entails construction of evaporation dams and associated infrastructure within the pan floor area, with the only impacts beyond the pan floor being the access road, which already exists. Thus while some sense of the archaeology of the surrounding hills and dunes was desirable to have, the major focus of the investigation was the pan floor itself.

When assessing archaeological resources, surface indications may be regarded as providing a fair estimate of the nature and range of material present in this environment, given the processes of deflation that create pans. The edges of pans may also be older surfaces exposed by wind or water erosion. By contrast, dunes on the edges of pans represent processes of sedimentation, and archaeological traces typically might occur below surface except in instances of localised deflation or erosion. Hence, subsurface archaeological traces and features may occur at the margins of the pan. In the event that any major feature is encountered, for example a burial or a cache of ostrich eggshell flasks, then work should be halted and a professional archaeologist consulted.

### **Background: archaeological resources in the region**

While much of the surrounding region has yet to be examined from an archaeological viewpoint, certain insights exist from a limited number of prior observations.

Broadly speaking, the archaeological record of this region reflects the long span of human history from Earlier Stone Age times (more than one and a half million to about 270 000 years ago), through the Middle Stone Age (about 270 000 – 40 000 years ago), to the Later Stone Age (up to the protocolonial era). The last 2000 years was a period of increasing social complexity to the east, with the appearance there of farming (herding and agriculture) alongside foraging, and of ceramic and metallurgical (Iron Age) technologies alongside an older trajectory of stone tool making (Morris & Beaumont 2004). In these drier western tracts it is probable that foraging persisted as an almost exclusive pursuit into the early colonial era. In the absence of rock outcrops, no rock art sites are known.

Earlier Stone Age sites have been documented to the south of Eenzaamheid Pan in areas strewn with Dwyka tillite, which provided ample raw material. John Masson (2006) has recently reported such material indeed at Eenzaamheid Pan. But a comparable setting at Goeboegoeboe Pan, which lacks, however, the Dwyka element, has comparatively very sparse Stone Age material.

Dune crests and slopes, where deflation exposes older surfaces, are known frequently to bear traces of Later Stone Age sites, noted previously both to the south (Norokei Pan, Groot Wit Pan) and to the north (adjacent to the Molopo Lodge site, for example, at 27°10.986' S 20°24.392' E).

The site is of historical significance in that it was the place where Jakob Marenga, anti-German colonial resistance leader, was killed on 20 Sep 1907 in an action involving more than 100 mounted police and troops from the Cape Colony (Masson 2006).

## **Observations**

The surface of the pan at Eenzaamheid was systematically traversed on the western side where the proposed salt works would be focused: it is strewn with cobbles of stone. However, very few artefacts were noted on the pan surface itself. At 27°40.075' S 20°50.240' E, the existing works, the pan surface is considerably disturbed. Elsewhere on the pan floor, at 27°40.212' S 20°50.465' E, 27°39.800' S 20°50.582' E, 27°39.691' S 20°50.388' E, 27°39.694' S 20°50.052' E, highly weathered artefacts occurred at estimated intervals of <math><1/100\text{ m}^2</math>.

However, on the western slope a considerably higher density of artefacts conforming to those described by Masson was noted in the vicinity of 27°39.740' S 20°49.810' E and 27°39.737' S 20°49.839' E. These occur adjacent to the current access road to the proposed evaporation dams: an existing roadway descending along the side of a hill on the western end of the pan. Any modification of the road on its approach to the pan floor would have an impact on this site.

No Later Stone Age sites were found in this vicinity (but have been noted by Masson in the dunes at the eastern end of the pan).

## **Assessment of impacts during construction, operational and decommissioning phases of mining.**

There would be a minimal impact on archaeological resources during development and expansion of the salt works on the pan floor, and no mitigation is regarded as being necessary.

Earlier Stone Age material adjacent to the access road makes this part of the development more sensitive, but as long as the roadway is not modified the impact would be minimal.

## **Recommendations**

The proposed salt mining at this pan is not expected to have a significant negative impact on the archaeological resources of the region.

## **Procedure in the event of sites being found during construction or mining**

In the event that sites or features (eg high density of artefacts, a burial, or ostrich eggshell cache) are found during construction or mining, an archaeologist should be alerted immediately in order to assess the find and make recommendations for mitigation, if necessary. All archaeological traces are protected by legislation. The McGregor Museum would normally be in a position to send an archaeologist at short notice, or to recommend an accredited archaeologist for such work.

## References

- Masson, J. 2006. Archaeology and geomorphology: Eensaamheid Pan, Northern Cape. *The Digging Stick* 23(1):15-18.
- Morris, D. & Beaumont, P.B. 2004. *Archaeology in the Northern Cape: Some key sites*. Kimberley: McGregor Museum.
- Sampson, C.G. 1985. Atlas of Stone Age settlement in the central and upper Seacow Valley. *Memoirs of the National Museum* 20.



Earlier Stone Age artefacts at the western edge of Eenzaamheid Pan

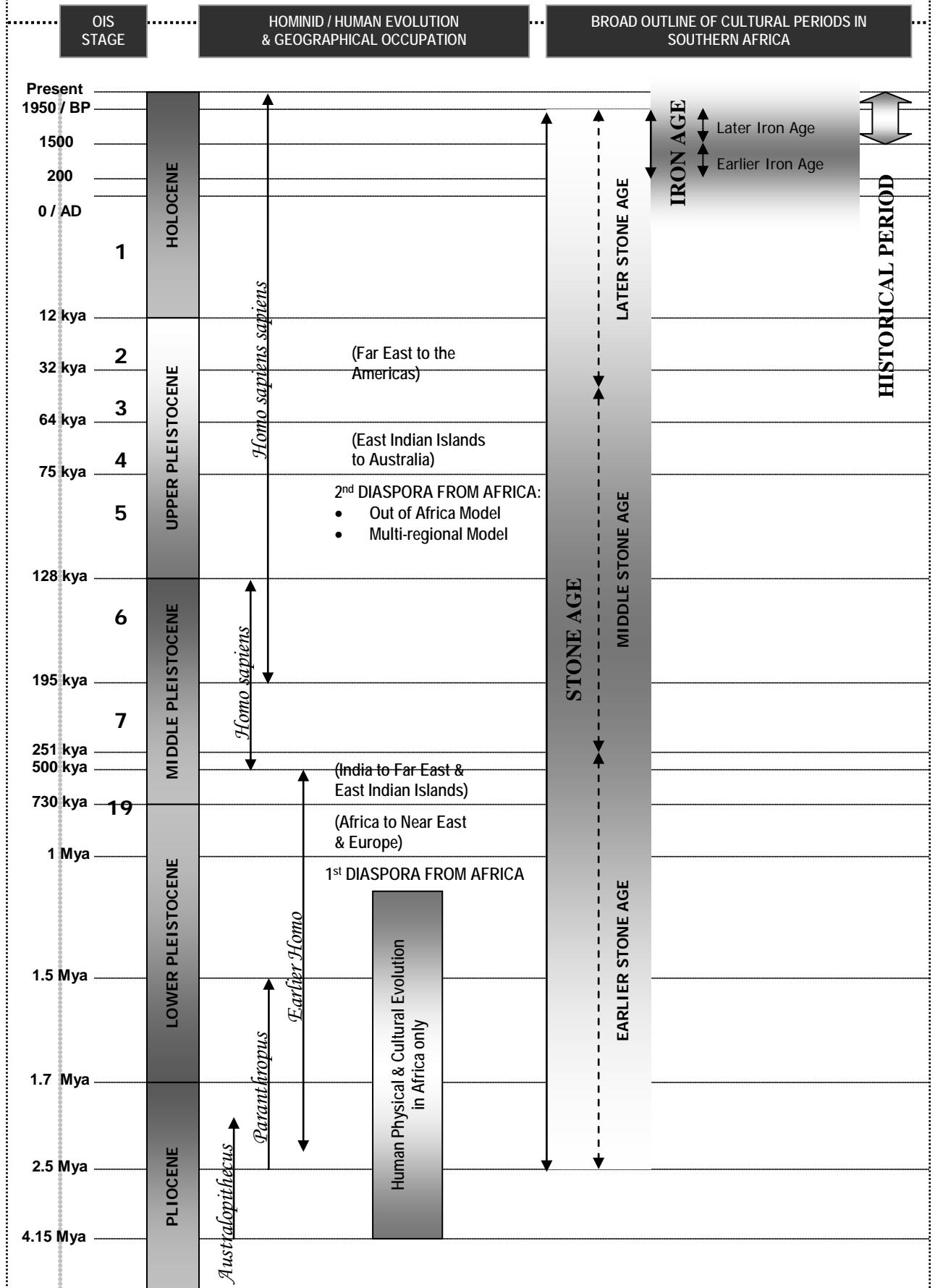




Earlier Stone Age core (above); Pan floor (below)



# Schematic Human Physical and Cultural Evolution in Africa





## National Heritage Resources Act (No 25 of 1999) Extracts

### 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.
- xxxii. “*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 m<sup>2</sup> 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 m<sup>2</sup> 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.