PHASE 1
ARCHAEOLOGICAL IMPACT ASSESSMENT

Low Cost Housing Project
Morgenzon 533 KQ
Phomolong
NORTHERN PROVINCE

Hester Roodt
March 1999

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AIM

The aim was to undertake a **Phase 1** *Archaeological Impact Assessment* on approximately 65 ha at Morgenzon 533 KQ, Phomolong in the Northern Province where a low cost housing project has been proposed, to assess the impact of the proposed project in terms of archaeological/historical sites and features and to make recommendations. The task was performed on March 26, 1999.

METHOD

A survey of the area demarcated for development was done on foot by an archaeologist and one assistant. Locations were recorded by means of a GPS (Garmin, 45XL), and archaeological features were photographed with a Kodak Digital DC120 camera. Notes were taken in the form of an audio tape, a daily report was completed and a finds list was kept and all finds packed and labelled in the field. The finds of each site was cleaned before being photographed and sealed.

DESCRIPTION

The size of the site is 65 ha and located on a fairly level area, which drops 40m over a distance of 2114m. Only a small part is disturbed by earlier agricultural practices. A small area is presently eroded, but much of the original surface must have eroded away in the past, as the subsoil gravel layer is visible especially above the 1180m above sea level contour. For the greatest part an informal settlement has been established in the area closest to the road.

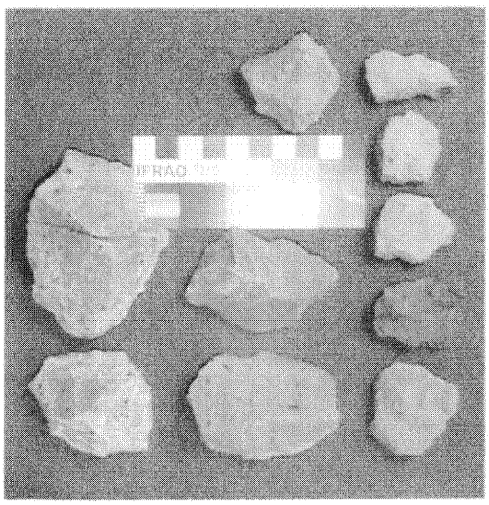
Very few pottery sherds were found and these proved to be of modern origin. The most abundant archaeological material are stone tools and flakes.

Four sites had been identified, for which GPS readings were taken. A collection was also made representing the area in general, which was allocated a site number (Site 5) for statistical purposes.

Site 1

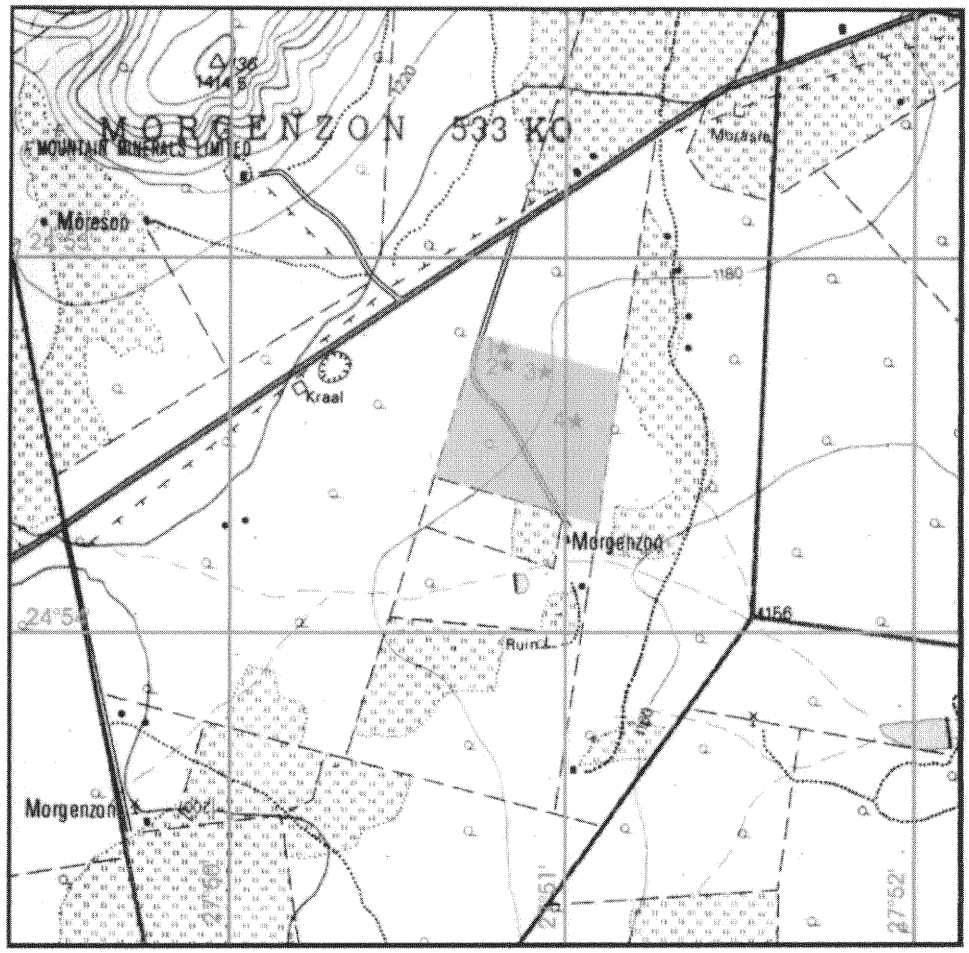
S24°53'13.1" E27°50'45.7"

This site is situated close to the current entrance of the informal settlement and is located in an unoccupied, open area between houses. All finds are surface material. This area is rich in stone tools and flakes, but only a random sample was taken. It was spread out in a radius of approximately 50 m and lies directly on top of the partly exposed gravel layer.



Finds

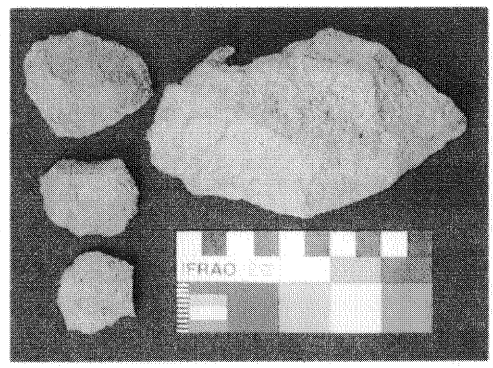
The cultural material consists of stone tools and flakes of MSA origin, which places it in a time frame of at least 150 000 - 40 000 years ago. As the greatest part of the collection consists of stone flakes, this was probably a production site. No ecofacts, human remains or other features were visible on the surface.



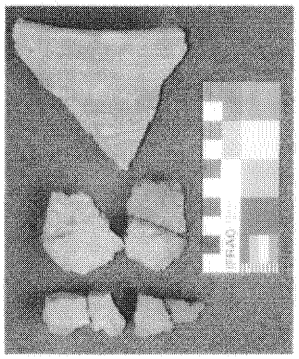
Site 2

S24°53'18.1" E27°50'52.9"

This site lies in close proximity to Site 1. It is also located in an open area between various homes. An area of approximately 50m was demarcated as Site 2.



The archaeological material were recovered from the surface. Random samples were taken. As this site as well as Site 1 is located on the highest part of the terrain where erosion is more extensive, the artefacts lie on the partly exposed gravel layer.



Finds

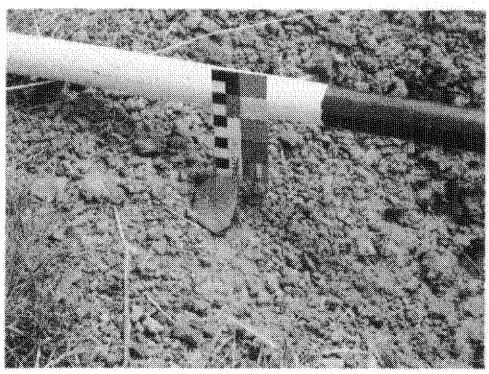
The material recovered were both MSA stone tools and flakes as well as pottery sherds. Some of the finds exhibit recent breakage, which could be the result of being exposed on the surface to vehicle traffic. No ecofacts, human remains or other features were visible on the surface.

The pottery has modern characteristics and are of recent origin, as clay pots are still in use among some of the residents.

Site 3

S24°53'16.3" E27°50'57.1"

This find was made in a test pit which was sunk prior to our investigation. The test pit is approximately 50 x 50 x 50cm in size and lies approximately 100m from the nearest home. It is in close proximity to a few boulders which are roughly arranged in a semi-circle, which seems to be of natural origin.

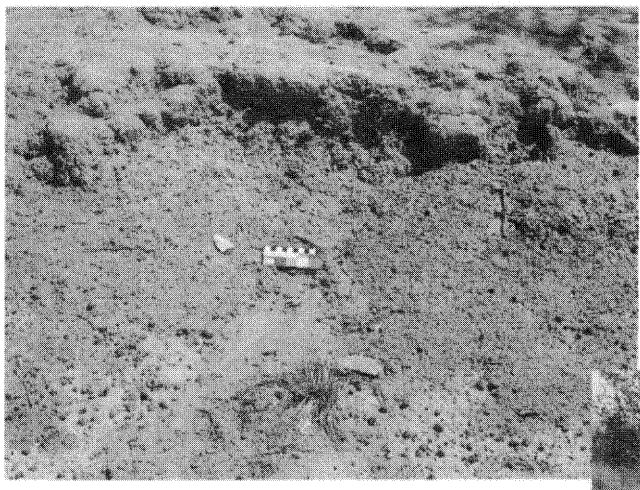


Find

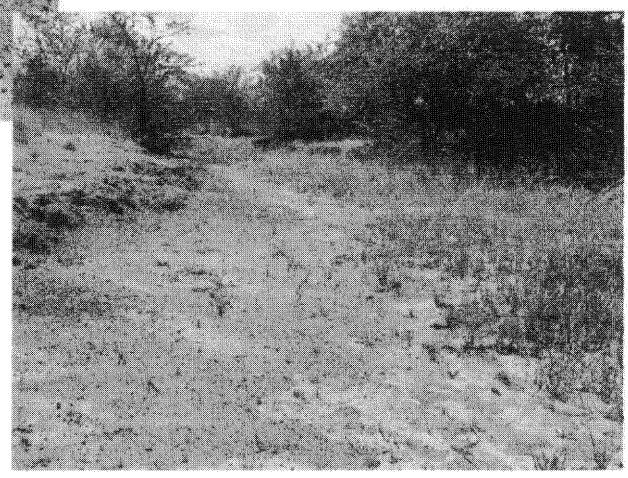
Although only one stone flake - of MSA origin - was recovered, this find location was marked as a site, as the stone flake lies *in situ* about 8cm beneath the present surface. As it should be clear from the photograph, this artefact is embedded in the exposed gravel layer. This site indicates the approximate depth at which one could expect to find still more cultural material.

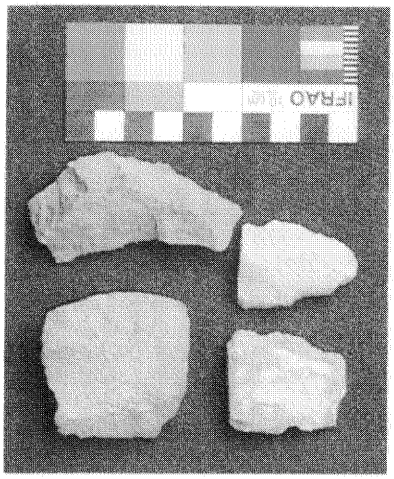
Sites 4 and 4b

S24°53'6.9" E27°5000.9 "



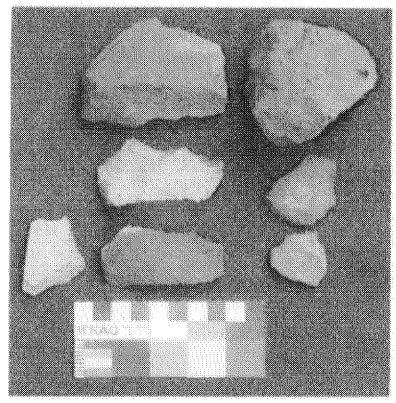
The archaeological material at Site 4 were collected from an eroded part just below the 1180 m above sea level contour. Again it indicates that cultural material can be expected below soil surface. Site 4b marks other artefacts which were recovered within 50m from Site 4, although not in the donga. This whole area must have suffered erosion in the past, as can be seen in the photograph.





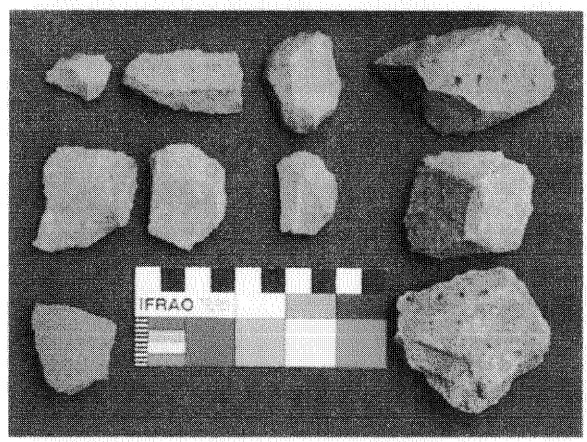
Finds

The stone tools, also of MSA origin, seemed in a better state of preservation than any of the other finds on the surface sites.



Site 5

This "site" covers the whole area in general, where samples of especially stone tools and flakes were taken. Pottery seems very rare in this area, although a few pieces were recovered.



INTERPRETATION & EVALUATION

General

The Stone Age can be divided into three stages based on technological and typological characteristics. The three main stages are the following:

- The Early Stone Age (ESA), 1,8 Ma - 10 000 years ago.
- The Middle Stone Age (MSA), ca 150 000 years ago.
- The Late Stone Age (LSA), ca 40 000 years ago

2,5 – 200,000
200,000 – 25/40.000
40/25,000 –

For the purpose of this report, only the MSA will be discussed in short.

The Middle Stone Age

South from the Limpopo the Middle Stone Age (MSA) replaces the ESA at the beginning of the Upper Pleistocene, and possibly even earlier. The earliest MSA site has been dated for 150 000 years ago. At present no transitional industries have been identified, but a transition would probably result in very small hand axes and very long flake blades.

Collections are characterised by a variety of prepared cores and retouched flake tools, of which most have no equivalent in the ESA. Hand axes and choppers are absent, while flake and blade tools such as points, scrapers and finely toothed tools are characteristic. Both retouched and unrefined pieces could have been attached to wooden handles, as many examples presents a blunt back and sharp blade.

Three groups of MSA artefacts are distinguished, namely tools (with signs of secondary retouching or use), cores and waste (the pieces without signs of edge retouching). Characteristic of the MSA are the many triangular flakes with converging dorsal flaking and faceted butt-ends. Two broadly defined cores are distinguished, namely cores which were used to produce flakes with crossed dorsal flaking (mainly radiated, disc shaped or cores which had been worked from any direction), and cores with parallel, half-parallel or sometimes converging dorsal flaking (mainly with single or double platforms). The narrow, thin butt-ends and digressive percussion bulbs of some of the artefacts indicate the use of an intermediate punch (the so-called indirect percussion technique). This type of flake cores are present in large quantities in the South African interior and further north.

MSA sites occur in a variety of sites, such as river banks, flood plains, on the shores of lakes and pans as well as in fountain deposits. The material of long occupation layers are well preserved in caves.

Hearths are characteristic of Upper Pleistocene, i.e MSA occupation, such as at the Cave of Hearths, Northern Province, and Border Cave, Kwa-Zulu Natal. It is thus clear that humankind was able to control fire in South Africa at least 130 000 years ago, and probably earlier.

The hominid associated with MSA deposits is an archaic form of *Homo sapiens*, although in some cases remains of *H. sapiens sapiens* too have been associated with these deposits.

Sites 1 & 2
These two sites are located close to each other (please refer to the map), being exposed to the same type of disturbances, which include vehicle as well as animal traffic. Random samples were taken. Concentration of artefacts are however not as large as in some other areas such as at Rooiberg and Chuene's Poort.

The pottery has no impact on the investigation.

Site 3
Only one stone flake was found here embedded in the gravel. The terrain at present however doesn't lend itself to close inspection as it is covered with a thick grass layer. A surface scan of small open areas in close proximity to the find did not reveal any artefacts. The fact that the other sites rendered concentrations of artefacts could be indicative of more tools being present at this site yet invisible as a consequence of the plant growth, or that the main concentrations, and probably the production site, is located at Sites 1 and 2.

Sites 4 and 4b
Artefacts from this area reveal a deep deposit. It was not possible to estimate the depth of deposition as the tools were recovered from the surface. The photograph reveals the erosion feature. Although the artefacts from Site 4b were recovered from the presently uneroded area, this surface had been eroded in the past. The surface consists of a densely compacted, hard sandy soil, greyish in colour. The concentration in this area is not as high as at Sites 1 and 2, which is probably the result of the top soil being washed away, which caused the artefacts from several layers to be concentrated on the exposed gravel layer. Sites 4 and 4b have more topsoil than the other sites, and could for this reason contain more artefacts in the sandy soil deposit.

Site 5
This collection was made of the rest of the grass covered area. Visibility of artefacts are generally low, and as all artefacts in this collection are isolated finds, no GPS readings were taken. The presence of these artefacts imply that more cultural material can be found on the rest of the area. At present it is however impossible to give an estimation of occurrence of concentrated activities.

RECOMMENDATIONS

Problem areas

- Very little information still exists relating to the ESA transition to the MSA. This type of artefacts is rare in the collections.
- It is still inconclusive whether the ESA and MSA traditions existed simultaneously in restricted regions.
- **It will be necessary to acquire a more representative collection and excavate some test pits in order to establish deposit depth of the artefacts.**
- **Before the site can be ascribed to a specific phase in the MSA tradition, a statistical analysis of the relation of various tools to each other as well as to the flakes will be required.**

In view of the above, it is recommended that a Phase 2 Archaeological Impact Assessment be undertaken. The details could be finalised through mitigation on site.

Although no Iron Age or historical remains were recovered or identified, it would be of the utmost importance that the archaeologist be notified:

- should any **graves** and/or **middens** be encountered during initial clearing of the surface or during subsoil removal. Please refer to *Addendum 2, paragraph 12(2A),* in particular *(d), (e)* and *(f).*
- Please see *Addendum 3* in connection with the finds of March 26, 1999, especially the emboldened text.

The presently identified sites should be treated as follow:

Sites 1 and 2

- **During the Phase 2 assessment the sites would be sampled according to a grid system in order to establish the site layout and to see whether a pattern of artefactual material clusters occur within the area.**
- **As the two sites are in close proximity to each other, the intermediate area will also be included in this survey.**
- **As far as possible, the neighbouring residential stands will also be surveyed, for which the consent of the residents will be acquired.**
- **Should it be necessary, this survey would be enlarged in order to establish the extent of the site.**
- **Some test pits will be sunk to view further deposits and depth. At the same time it will create an opportunity to educate interested individuals in archaeology and prehistoric developments.**

Site 3

- **At Site 3 an area of approximately 20 x 20m should be cleared of plant growth in order to establish the depositioning of artefacts in the gravel layer. This should be done with care in order not to unnecessarily uproot embedded artefacts. Labourers could be drawn from the population.**
- **Should any finds be made, it will be documented by means of a grid system and collected.**
- **If necessary, a few test pits will be excavated.**

Site 4

- **The whole eroded area will be surveyed for more artefacts, which will be collected according to a grid system.**
- **The surrounding area will be surveyed within at least 50m of the length of the donga.**
- **Some test pits will be sunk to establish depositioning characteristics.**

- **All material already recovered, as well as those from Phase 2 will be lodged with the *Pietersburg Museum* together with all documentation such as finds lists, daily reports, site description and a full report.**
- **A copy of the report will be sent to the *National Monuments Council* (NMC).**
- **A complete documentation form regarding this survey as well as the Phase 2 survey will be lodged with the *National Cultural History Museum* in Pretoria, which will be included in their data base regarding all archaeological finds in the Northern Province.**

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Hester Roodt

March 28, 1999

ADDENDUM 1

THE LAW

The **National Monuments Act** *(No. 28 of 1969)* protects all palaeontological, archaeological and historical sites and material older than 50 years. It is an offence to destroy, damage, alter, remove from its original site, or excavate any such site or material without a permit from the National Monuments Council. A person convicted of an offence in terms of the Act, could be liable for a fine of up to R10000 or two years imprisonment, or both. *See Addendum 1 for extracts from this act.*

In terms of the **Environmental Conservation Act** *(No. 73 of 1989)* the **Integrated Environmental Management Procedure, Guideline Document 1** identifies certain man-made areas and features that are listed as environments which must be included in an environmental impact assessment report. These include archaeological and palaeontological sites, graves and burial sites, buildings and sites of religious, social and cultural significance.

ARCHAEOLOGICAL IMPACT ASSESSMENT

To minimise the impact of development on archaeological sites, and the impact of archaeological sites on development projects, and to avoid costly delays if a site is discovered during the course of construction work, it is important to hire an archaeologist well in advance to survey the area. It is important that developers realise that only qualified professional archaeologists should be employed to undertake survey work.

The developer is responsible for the costs involved in hiring an archaeologist to investigate the site.

Phase 1

The archaeologist hired to do the work will submit a phase 1 report. On the basis of the recommendations and assessment of significance made in the report, a decision can be taken on how the development may proceed. In most cases development will be able to go ahead as planned after the sites have been recorded.

Phase 2

In some cases, mitigation in a Phase 2 programme will be necessary and may involve excavation or collection of archaeological material. The purpose behind mitigation is to sample the site so that the evidence can be stored permanently in a museum where it can be consulted at a later date for record and research purposes.

Phase 3

More rarely, the site may be so important that it will warrant modification of the development in a Phase 3 programme. If this happens, the archaeologist, the National Monuments Council and the developer can confer on the action to be taken. It may be possible to incorporate an Iron Age village into a green belt in a housing scheme, or to modify a high rise building plan by covering rare 18th century foundations and associated rubbish dumps beneath a parking lot to avoid destroying them completely. Such solutions are possible if the archaeologist is consulted early enough in the planning process.

Permission for the development to proceed can be given only once the National Monuments Council is satisfied that steps have been taken to ensure that the archaeological sites will not be damaged, or that they have been adequately recorded and sampled.

If this chain of action is followed, we stand a chance of saving something of our archaeological heritage for future generations and of avoiding conflict between developers and cultural conservationists. The National Monuments Council must ensure that the historical and cultural heritage of all South Africans is protected. Careful planning can minimise the impact of archaeological surveys on development projects by selecting options that cause the least amount of inconvenience and delay.

ADDENDUM 2

EXTRACTS FROM THE NATIONAL MONUMENTS ACT (NO 28 OF 1969, AS AMENDED IN 1986) THAT ARE RELEVANT TO ARCHAEOLOGICAL SITES

12(2A) No person shall destroy, damage, excavate, alter, remove from its original site or export from the Republic -

(a) any meteorite or fossil; or

(b) any drawing or painting on stone or a petroglyph known or commonly believed to have been executed by Bushmen; or

(c) any drawing or painting on stone or a petroglyph known or commonly believed to have been executed by any other people who inhabited or visited the Republic before the settlement of the Europeans at the Cape; or

(d) **any implement, ornament or structure** known or commonly believed to have been made, used or erected by people referred to in paragraphs (b) and (c); or

(e) the anthropological or archaeological contents of **graves**, caves, rock shelters, **middens**, shell mounds or other sites used by such people; or

(f) any other historical site*, **archaeological or palaeontological finds, material or object,**

except under the authority of and in accordance with a permit issued under this section.

[* An "historical site" is defined as "any identifiable building or part thereof, marker, milestone, gravestone, landmark or tell older than 50 years."]

Report on Workshop on Standards for the Assessment of Significance and Research Priorities for Contract Archaeology

SA3 (Southern African Association of Archaeologists) Biennial Conference
University of Venda, 10 July 1998

Janette Deacon
National Monuments Council

Opportunities for archaeological contract work will expand in southern Africa in the next few years. To make the best of the opportunities, medium-term (3-5 year) research and heritage conservation priorities need to be established as a matter of urgency in consultation with CRM practitioners, provincial and national heritage agencies and research archaeologists. The following factors are relevant.

1. In South Africa, the Department of Environmental Affairs and Tourism published on 5 September 1997 its long-awaited List of Activities which may have a substantial detrimental effect on the environment and the regulations regarding activities identified under Section 21(1) of the Environment Conservation Act (No. 73 of 1989). These effectively make environmental impact assessments compulsory for the listed activities.

2. The National Heritage Bill, designed to replace the National Monuments Act in South Africa, came before the Cabinet and Parliament in 1998. It could become law from 1 April 1999. Amongst other innovations, it makes impact assessments compulsory where historical, archaeological and palaeontological sites are affected by development but are not protected by other legislation.

3. In neighbouring African countries, the tempo of contract work is also rising as new legislation and requirements of the World Bank are implemented.

It seems widely accepted that CRM practitioners do mitigation to rescue the research potential of a site which would otherwise be lost. The following kinds of sites were identified as being worthy of mitigation:

Stone Age / Hunter Gatherer

- any open air site with bone or other organic material;
- any cave or rock shelter with deposit;
- rock paintings and rock engravings (record context as well as images);
- quarry sites with possibilities for core re-fitting;
- long sequence sites;
- coastal and inland shell middens;
- any sites with Howiesons Poort, Stillbay or Robberg artefacts;
- human remains or burials;
- fish traps;
- placement of Earlier Stone Age sites in the landscape - are they associated with river valleys, water sources or quarries?
- evidence for modernity in Middle Stone Age sites;
- sites with evidence for interaction between Stone Age and Iron Age or colonial people;
- Later Stone Age sites with Bambata pottery;
- pastoral sites, especially in the Eastern Cape;
- caches of ostrich eggshells or other items;
- hunting blinds;
- evidence for exploitation of raw material sources such as haematite or specularite.

Iron Age / Agriculturist

- Sites that will help to clarify the ceramic sequence of the Early Iron Age in the northern and eastern regions of southern Africa;
- any Bambata settlement;
- Early Iron Age sites with evidence for structures or long term occupation;
- sites with evidence for political or social hierarchies;
- evidence of the organization of metal production;
- **burials with evidence for social differentiation, health and nutrition;**
- evidence for trade within and outside of the Zimbabwe culture area;
- **sites in areas that are under-researched to build up the culture-historical sequence;**
- special-purpose sites such as rainmaking, circumcision, mining, furnaces, cattle posts vs living sites, salt making;
- Blackburn and Moor Park sites in KwaZulu-Natal;
- well preserved early Moloko sites with middens for evidence of diet and subsistence or stone walling;
- any Zimbabwe-style stone walling should be mapped in sufficient detail to estimate factors such as population size and grain-bin variability;
- evidence for contemporary cultural interaction, for example between Khami and Moloko;
- sites with architectural styles and information on materials used for housing, even in the recent past;
- evidence for the introduction of maize, either direct or in the style of grindstones used;
- sites with botanical remains of cultigens;
- information on the distribution, size and characteristics of dolly-holes for gold mining;
- evidence for textiles or weaving in addition to spindle whorls;
- evidence for games and contextual information relating to them;
- figurine caches and spatial relationships to settlements;
- check stone outcrops near stonewalled sites for engravings.

Historical / Colonial

- sites connected with whaling and sealing;
- ships or ship/boat structures on land;
- shipwreck survivor camps;
- sites in the interior with nineteenth century ceramics (**RESUNACT** is preparing guidelines for identification);
- single occupation sites in urban environments with deposits such as wells, cisterns and depressions;
- 17th century or early 18th century sites in Cape Town;
- sites that are connected with national and international slave trade routes;
- LSA sites with metal items such as brass buttons;
- documentary and archival searches should be done before going into the field;
- sites that could inform on the effects of military forces on indigenous local populations;
- the symbolic significance of textiles, beads and other items imported by traders;
- sites with oral traditions of sacred significance - oral histories increase significance and are therefore relevant to archaeology;
- **historical graves need sensitive removal during mitigation and this is often best done in collaboration between archaeologists and funeral specialists.**