

Heritage Impact Assessment Report

Gansbaai Erf 3819 and Lot 32A of Erf 538:

Proposed expansion of an aquaculture operation

EnviroAfrica

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HWC Case #: 120228JL31

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Executive Summary

The proposed development entails the expansion of the present aquaculture facility in Gansbaai on Erf 3819 and Lot 32A of Erf 538, Gansbaai. Erf 3819 is 5.996 ha and Lot 32A of Erf 538 is 7689 m².

One significant shell midden was located on the Western boundary of the property. Finds include LSA and MSA stone tools, pottery sherds, marine and ostrich egg shell and mammal and fish bone.

Should the development proceed, three heritage resources need to be mitigated.

1. Visual Character
2. Midden site
3. Potential archaeological resources.

Visual Character

The visual character of the development can be assessed and mitigated through the Environmental Impact Assessment process.

Midden Site

As always avoidance is the primary goal on conservation of archaeological resources. However, if the midden site cannot be avoided, then a mitigation strategy by means of a sampling excavation must be considered.

Potential Archaeological Resources

The dense vegetation cover on the property prevent an intensive investigation of the entire property. It is recommended that vegetation clearing and bulk-earthworks be monitored by a professional archaeologist to mitigate the impact of the development on possible archaeological resources.

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Glossary

'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 10m 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, as defined respectively in sections 3, 4 and 6 of the Maritime Zones Act, 1994 (Act 15 of 1994), 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; and features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found;

'cultural significance' means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance;

'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 [sic];

'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. Protected structures are those which are over 60 years old.

Acronyms

ASA: Archaeological Specialist Assessment

APM: Archaeology, Palaeontology and Meteorites

EIA: Environmental Impact Assessment

ESA: Earlier Stone Age (>200 000-2.5 Million years ago)

HIA: Heritage Impact Assessment

HWC: Heritage Western Cape

IAP: Interested and Affected Parties

LSA: Later Stone Age (<35 000 years)

MSA: Middle Stone Age (>30 000 years - <300 000 years ago)

NHRA: National Heritage Resources Act 25 of 1999

SAHRA: South African Heritage Resources Agency

1. INTRODUCTION

Pro-Active Archaeology was asked to undertake the Heritage Impact Assessment of the properties in question by EnviroAfrica, on behalf of Premier Fishing SA (Pty) Ltd.

1.1 Project Description

The proposed development entails the expansion of the present aquaculture facility in Gansbaai on Erf 3819 and Lot 32A of Erf 538, Gansbaai. Erf 3819 is 5.996 ha and Lot 32A of Erf 538 is 7689 m². The abalone aquaculture development is intended to be a full cycle farming and production facility for *Haliotis Midiae* (Abalone). The full cycle facility would entail the phased construction of a hatchery, holding tanks, seaweed culture infrastructure, blowers, fans, grading rooms, offices and a staff area. An Application Form has been submitted to DEA&DP. The proposed development will be subject to the Scoping and EIA process. The layout of the development is subject to the EIA finding, and as such has not yet been finalized.



Figure 1: Location of Erf 3819 and Lot 32A of Erf 538, Gansbaai.

1.2 Stakeholders

Table 1: Stakeholders

	Developer	Landowner (Erf 3819)	Landowner (Lot 32A of Erf 538)	Environmental Consultant
Name	Premier Fishing SA (Pty) Ltd	Premier Fishing SA (Pty) Ltd	Government RSA – Public Works	EnviroAfrica
Contact	James Lawson-Smith	James Lawson-Smith		Charel Bruwer Jnr

Person				
Telephone	'0283841162	'0283841162	'0214022276	'0283162888
Cell				'0823765544
Address	PO Box 383, Gansbaai, 7220	PO Box 383, Gansbaai, 7220	Private Bag X9027, Cape Town, 8000	PO Box 4, Onrus, 7210, South Africa
email	abfarm@netactive.co.za	abfarm@netactive.co.za	ntombi.dlangamada@dpw.gov.za	chareljnr@enviroafrica.co.za

1.3 Relevant Legislation NHRA 1999 S38(3)

(3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2) (a) : Provided that the following must be included:

- (a) The identification and mapping of all heritage resources in the area affected;
- (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6 (2) or prescribed under section 7;
- (c) an assessment of the impact of the development on such heritage resources;
- (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
- (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
- (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
- (a) plans for mitigation of any adverse effects during and after the completion of the proposed development.

2. IDENTIFICATION AND MAPPING OF HERITAGE RESOURCES

Section 2 concentrates on the identification and mapping of all heritage resources in the area affected. Loosely defined, heritage is that which is inherited. The NHRA of 1999 has defined certain kinds of heritage as being worthy of protection, by either specific or general protection mechanisms. In South Africa, the law is directed towards the protection of human made heritage, although places and objects of scientific importance are covered. The NHRA (1999) also protects intangible heritage such as traditional activities, oral histories and places where significant events happened. Generally protected heritage includes:

- Cultural landscapes
- Buildings and structures (greater than 60 years of age)
- Archaeological sites (greater than 100 years of age)
- Palaeontological sites and specimens
- Shipwrecks and aircraft wrecks
- Graves and grave yards.

2.1 Desktop Study

The Gansbaai area is well known for the prehistoric site Die Kelders and has been the subject of numerous Heritage and Archaeological Studies. Die Kelders archaeological site is also known as Klipgat, and has been scientifically investigated from the 1960's. A full list of articles published around the data acquired from excavations is available in the references. Die Kelders is a cave complex, consisting of two chambers, Die Kelders 1 (DK1) and Die Kelders 2 (DK2). DK1 has been the most intensively analysed. Dating has set the deposits at 80 000 years ago to 1500 years ago. As such DK1 contains a record of human occupation that covers part of the Middle Stone Age (MSA) and most of the Later Stone Age (LSA). It is therefore a significant site as it has contributed to our knowledge of these times and various scientific debates. One of the major debates surrounding our interpretation of the MSA is the emergence of modern human behaviour. How modern human behaviour is defined and what evidence can be used in the debate, are some of the areas in which DK1 can shed light. DK1 has some of the earliest evidence of pottery in South Africa, pre-dating the arrival of domesticated animals by some 500 years. The pottery itself seems to be thicker and tempered at lower temperatures than later forms. It was also one of the first places archaeologists excavated the remains of domesticated sheep.

2.2 Gansbaai 3819 – Heritage Resources

Heritage resources on Gansbaai 3819 are limited to the pre-historic period. A large, partly damaged shell midden was located as well as lithics from the LSA and MSA, and pottery, grind stones and bone.

2.2.1 The Midden Site

The shell midden on the property is located on the map in Figure 6 and co-ordinates given in the table below. The cultural artefacts indicate a Middle and Later Stone Age typology.

Table 2: Co-ordinates of Shell Midden

M1	34°35'24.29"S 19°20'23.61"E
M2	34°35'28.48"S 19°20'24.56"E
M3	34°35'28.59"S 19°20'23.22"E
M4	34°35'27.90"S 19°20'22.29"E

The midden, detailed in Figure 7, increases in height from north to south with poacher paths criss-crossing the dune (Figure 8). These paths have led to erosion in places. The midden seems to have slumped to the west, particularly in the southern section. This is perhaps due to previous development to the west, where dune material and underlying rock have been removed to provide a level surface. This has led to further erosion of the midden and archaeological material has subsequently slid down the slopes. It is unclear as to the location of the primary context of the cultural material. Most of the LSA material can be found on the slopes of the dunes. MSA material is generally found on the flatter surface on the western boundary of the property. The northern tip of the midden has been disturbed by building activity. The rubble of the construction is all that remains (Figure 9).

Lithics from the LSA and MSA were located, as well as pottery, grind stones and bone.

2.2.2 Lithics & Grindstones

18 stone tools were located in the Midden area.

N	Typology	Type	Material	Mark	Figure
1	MSA	Notched flake	Silcrete	305	10
2	MSA	Flakes	Quartzite	307	11
1	LSA	Flake	Quartzite	308	12
1	MSA	Flake	Quartzite	309	13
1	LSA	Core	Silcrete	310	14
1	LSA	Flake	Silcrete	310	14
1	MSA	Core	Quartzite	311	15
1	MSA	Flake	Quartzite	311	15
3	MSA	Flake	Quartz	312	16
1		Flake	Silcrete	313	17
1		Flake	Quartz	313	17
1		Flake	Quartzite	314	18
1		Flake	Quartz	315	19
1	LSA	Flake	Silcrete	315	19
1	LSA	Flake	Quartzite	315	19

1	MSA	Flake	Core	316	20
Total=18					

The quartzite grindstones are represented by one lower and several upper pieces, shown in Figures 21 and 22.

2.2.3 Pottery

Several pieces of pottery were located on the slopes of the midden. They appear to be tempered with quartz. (Figures 23 and 24)

2.2.4 Bone

Two pieces of bone were found during the survey. The first is a left mandible (Figure 25) from a small medium bovid. It is embedded in the side of the midden and located at Mark 306. The second is a fragment of scapula from a large medium bovid (Figure 26). This was found on the slope of the midden.

Fish vertebrae were located (Mark 297) within Dune Mole Rat spoil heaps (Figures 27 and 28). However, no cultural material was evident, so the provenance of the fish vertebrae is unclear.

2.2.5 Marine and Ostrich-Egg Shell

Marine shell from a variety of species is well represented throughout the midden site as well as the property in general. The highest concentration of marine shell is, however in the midden area. Several piece of burnt shell were identified (Figure 29).

Three pieces of ostrich egg shell (Figure 30) were found near pottery sherds and the large medium bovid scapula.

3. GRADING & SIGNIFICANCE

This section describes the significance of the heritage resources located on the property on terms of of the heritage assessment criteria set out in section 6(2) or prescribed under section 7 (grading);

3.1 Legislation – Heritage assessment criteria and grading

3.1.1 NHRA 1999 7(1)

7(1) SAHRA, in consultation with the Minister and the MEC of every province, must by regulation establish a system of grading of places and objects which form part of the national estate, and which distinguishes between at least the categories-

- a) Grade I: Heritage resources with qualities so exceptional that they are of special national significance;
- b) Grade II: Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- c) Grade III: Other heritage resources worthy of conservation, and which prescribes heritage resources assessment criteria, consistent with the criteria set out in section 3(3), which must be used by a heritage resources authority or a local authority to assess the intrinsic, comparative and contextual significance of a heritage resource and the relative benefits and costs of its protection, so that the appropriate level of grading of the resource and the consequent responsibility for its management may be allocated in terms of section 8.

3.1.2 HWC and Grade III

Grade III has been further subdivided by HWC (HWC 2007:7-8).

3.1.2.1 Grade IIIA

This grading is applied to buildings and sites that have sufficient intrinsic significance to be regarded as local heritage resources; and are significant enough to warrant any alteration being regulated. The significances of these buildings and/or sites should include at least some of the following characteristics:

- Highly significant association with a:
 - historic person
 - social grouping
 - historic events
 - historical activities or roles
 - public memory
- Historical and/or visual-spatial landmark within a place

- High architectural quality, well-constructed and of fine materials
- Historical fabric is mostly intact (this fabric may be layered historically and/or past damage should be easily reversible)
- Fabric dates to the early origins of a place
- Fabric clearly illustrates an historical period in the evolution of a place
- Fabric clearly illustrates the key uses and roles of a place over time
- Contributes significantly to the environmental quality of a Grade I or Grade II heritage resource or a conservation/heritage area

Such buildings and sites may be representative, being excellent examples of their kind, or may be rare: as such they should receive maximum protection at local level.

3.1.2.2 Grade IIIB

This grading is applied to buildings and/or sites of a marginally lesser significance than grade IIIA; and such marginally lesser significance militates against the regulation of internal alterations. Such buildings and sites may have similar significances to those of a grade IIIA building or site, but to a lesser degree. Like grade IIIA buildings and sites, such buildings and sites may be representative, being excellent examples of their kind, or may be rare, but less so than grade IIIA examples: as such they should receive less stringent protection than grade IIIA buildings and sites at local level and internal alterations should not be regulated (in this context).

3.1.2.3 Grade IIIC

This grading is applied to buildings and/or sites whose significance is, in large part, a significance that contributes to the character or significance of the environs. These buildings and sites should, as a consequence, only be protected and regulated if the significance of the environs is sufficient to warrant protective measures. In other words, these buildings and/or sites will only be protected if they are within declared conservation or heritage areas.

3.2 Legislation – S 3 (3) – Cultural Significance

A heritage resources authority may prescribe detailed heritage assessment criteria, consistent with the criteria set out in section 3 (3), for the assessment of Grade II and Grade III heritage resources in a province. (3) Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of the national estate if it has cultural significance or other special value because of-

- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- (i) sites of significance relating to the history of slavery in South Africa.

3.3 Grading and Significance of Gansbaai 3819

The significance of the heritage resources on the Gansbaai 3819 property lies with their association with the nearby Die Kelders complex. Information gleaned from the property can add to the body of knowledge surrounding the emergence of modern human behaviour, the development of pottery in the Western Cape and the introduction of domesticated animals.

4. DEVELOPMENT IMPACT ON HERITAGE RESOURCES

The development may destroy the midden site in its entirety. Sampling of the midden site by means of test excavations is recommended.

5. DEVELOPMENT IMPACT ON SUSTAINABLE SOCIO-ECONOMIC BENEFITS

The development will increase the available jobs in the Gansbaai area and hopefully contribute in combating abalone poaching in the area.

6. COMMUNITY CONSULTATION

IAP's were contacted via registered post regarding the proposed development. To date there have been three responses:

- Kolgansbaai Home Owners Association
- DJ Nel
- Wright Approach Consultancy

Comments and objects regarding heritage issues focus on the visual impact of the development, particularly in regards to the neighbouring housing development. The Kolgansbaai Home Owners Association recommend that architectural guidelines be established to maintain the visual atmosphere of the area.

7. ALTERNATIVES, MITIGATION & CONCLUSIONS

Should the development proceed, three heritage resources need to be mitigated.

4. Visual character
5. Midden site
6. Potential archaeological resources.

7.1 Visual Character

The visual character of the development can be assessed and mitigated through the Environmental Impact Assessment process.

7.2 Midden Site

As always avoidance is the primary goal on conservation of archaeological resources. However, if the midden site cannot be avoided, then a mitigation strategy by means of a sampling excavation must be considered.

7.3 Potential Archaeological Resources

The dense vegetation cover on the property prevent an intensive investigation of the entire property. It is recommended that vegetation clearing and bulk-earthworks be monitored by a professional archaeologist to mitigate the impact of the development on possible archaeological resources.

8. REFERENCES

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9. APPENDIX A: ARCHAEOLOGICAL SPECIALIST REPORT

Gansbaai Erf 3819 and Lot 32A of Erf 538:

Proposed expansion of an aquaculture operation

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EXECUTIVE SUMMARY

The proposed development entails the expansion of the present aquaculture facility in Gansbaai on Erf 3819 and Lot 32A of Erf 538, Gansbaai. Erf 3819 is 5.996 ha and Lot 32A of Erf 538 is 7689 m².

One significant shell midden was located on the Western boundary of the property. Finds include LSA and MSA stone tools, pottery sherds, marine and ostrich egg shell and mammal and fish bone.

It is recommended that the midden site should be sampled by means of test excavations, including radiocarbon dating, prior to destruction. The archaeologist will require a permit for the mitigation and should recommend that the developer acquire a permit / permission for destruction so that the recommended mitigation may be monitored. The archaeologist should monitor this and report to HWC to ensure that this is done.

The remainder of the property must be monitored by archaeologists during vegetation clearing and bulk-earthworks, to mitigate any impact on potential archaeological finds.

Stakeholders

	Developer	Landowner (Erf 3819)	Landowner (Lot 32A of Erf 538)	Environmental Consultant
Name	Premier Fishing SA (Pty) Ltd	Premier Fishing SA (Pty) Ltd	Government RSA – Public Works	EnviroAfrica
Contact Person	James Lawson-Smith	James Lawson-Smith		Charel Bruwer Jnr
Telephone	'0283841162	'0283841162	'0214022276	'0283162888
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9.1 BACKGROUND INFORMATION

Pro-Active Archaeology was asked by EnviroAfrica to undertake the Archaeological Specialist Study (ASS) as part of a Heritage Impact Assessment, which in turn forms a section of the Environmental Impact Assessment. The proposed development entails the expansion of the present aquaculture facility in Gansbaai on Erf 3819 and Lot 32A of Erf 538, Gansbaai. Erf 3819 is 5.996 ha and Lot 32A of Erf 538 is 7689 m². The abalone aquaculture development is intended to as a full cycle farming and production facility for *Haliotis Midae* (Abalone). The full cycle facility would entail the phased construction of a hatchery, holding tanks, seaweed culture infrastructure, blowers, fans, grading rooms, offices and a staff area. An Application Form has been submitted to DEA&DP. The proposed development will be subject to the Scoping and EIA process. The layout of the development is subject to the EIA finding, and as such has not yet been finalized.

9.1.1 Stakeholders

	Developer	Landowner (Erf 3819)	Landowner (Lot 32A of Erf 538)	Environmental Consultant
Name	Premier Fishing SA (Pty) Ltd	Premier Fishing SA (Pty) Ltd	Government RSA – Public Works	EnviroAfrica
Contact Person	James Lawson-Smith	James Lawson-Smith		Charel Bruwer Jnr
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9.1.2 Terms of Reference

The Terms of Reference for the specialist Phase 1 Archaeological Impact Assessment are to:

- Identify and map pre-colonial archaeological heritage resources on the proposed sites;
- Determine the importance of pre-colonial archaeological heritage resources on the proposed sites;
- Determine and asses the potential impacts of the proposed development on the pre-colonial archaeological heritage resources, and
- Recommend mitigation measures to minimise impacts associated with the proposed development.

9.2 DESK TOP STUDY

The Gansbaai area is well known for the prehistoric site Die Kelders and has been the subject of numerous Heritage and Archaeological Studies. Die Kelders archaeological site is also known as Klipgat, and has been scientifically investigated from the 1960's. A full list of articles published around the data acquired from excavations is available in the references. Die Kelders is a cave complex, consisting of two chambers, Die Kelders 1 (DK1) and Die Kelders 2 (DK2). DK1 has been the most intensively analysed. Dating has set the deposits at 80 000 years ago to 1500 years ago. As such DK1 contains a record of human occupation that covers part of the Middle Stone Age (MSA) and most of the Later Stone Age (LSA). It is therefore a significant site as it has contributed to our knowledge of these times and various scientific debates. One of the major debates surrounding our interpretation of the MSA is the emergence of modern human behaviour. How modern human behaviour is defined and what evidence can be used in the debate, are some of the areas in which DK1 can shed light. DK1 has some of the earliest evidence of pottery in South Africa, pre-dating the arrival of domesticated animals by some 500 years. The pottery itself seems to be thicker and tempered at lower temperatures than later forms. It was also one of the first places archaeologists excavated the remains of domesticated sheep.

9.3 DESCRIPTION OF THE PROPERTY & METHODOLOGY

Erf 3819 and Lot 32A of Erf 538, Gansbaai fall within the Overstrand Municipality. The properties in question are located on the 1:50 000 map 3419CB Gansbaai (Figure 2). They are some six kilometres from the Die Kelders site complex. The properties are situated on the shoreline and the possibility of shell middens occurring are high. The satellite image in Figure 3 shows the breadcrumb trail of the two archaeologists who undertook the site visit on 24 April 2012. Limitations in the site investigation included dense alien vegetation growth (Figures 4 and 5) and personal safety. The area is frequented by Abalone poachers and the archaeologists took relevant safety precautions which included staying close together. Particular attention was given to the frontal dune area as this would most likely be the location of any shell middens. Data was acquired with a Garmin GPS and digital camera.

9.4 DESCRIPTION OF THE MIDDEN SITE

The shell midden on the property is located on the map in Figure 6 and co-ordinates given in the table below. The cultural artefacts indicate a Middle and Later Stone Age typology.

Table 3: Co-ordinates of Shell Midden

M1	34°35'24.29"S 19°20'23.61"E
M2	34°35'28.48"S 19°20'24.56"E
M3	34°35'28.59"S 19°20'23.22"E
M4	34°35'27.90"S 19°20'22.29"E

The midden, detailed in Figure 7, increases in height from north to south with poacher paths criss-crossing the dune (Figure 8). These paths have led to erosion in places. The midden seems to have slumped to the west, particularly in the southern section. This is perhaps due to previous development to the west, where dune material and underlying rock have been removed to provide a level surface. This has led to further erosion of the midden and archaeological material has subsequently slid down the slopes. It is unclear as to the location of the primary context of the cultural material. Most of the LSA material can be found on the slopes of the dunes. MSA material is generally found on the flatter surface on the western boundary of the property. The northern tip of the midden has been disturbed by building activity. The rubble of the construction is all that remains (Figure 9).

9.5 DESCRIPTION OF THE FINDS

Lithics from the LSA and MSA were located, as well as pottery, grind stones and bone.

9.5.1 Lithics & Grindstones

18 stone tools were located in the Midden area.

N	Typology	Type	Material	Mark	Figure
1	MSA	Notched flake	Silcrete	305	10
2	MSA	Flakes	Quartzite	307	11
1	LSA	Flake	Quartzite	308	12
1	MSA	Flake	Quartzite	309	13
1	LSA	Core	Silcrete	310	14
1	LSA	Flake	Silcrete	310	14
1	MSA	Core	Quartzite	311	15
1	MSA	Flake	Quartzite	311	15
3	MSA	Flake	Quartz	312	16
1		Flake	Silcrete	313	17
1		Flake	Quartz	313	17
1		Flake	Quartzite	314	18
1		Flake	Quartz	315	19

1	LSA	Flake	Silcrete	315	19
1	LSA	Flake	Quartzite	315	19
1	MSA	Flake	Core	316	20
Total=18					

The quartzite grindstones are represented by one lower and several upper pieces, shown in Figures 21 and 22.

9.5.2 Pottery

Several pieces of pottery were located on the slopes of the midden. They appear to be tempered with quartz. (Figures 23 and 24)

9.5.3 Bone

Two pieces of bone were found during the survey. The first is a left mandible (Figure 25) from a small medium bovid. It is embedded in the side of the midden and located at Mark 306. The second is a fragment of scapula from a large medium bovid (Figure 26). This was found on the slope of the midden.

Fish vertebrae were located (Mark 297) within Dune Mole Rat spoil heaps (Figures 27 and 28). However, no cultural material was evident, so the provenance of the fish vertebrae is unclear.

9.5.4 Marine and Ostrich-Egg Shell

Marine shell from a variety of species is well represented throughout the midden site as well as the property in general. The highest concentration of marine shell is, however in the midden area. Several piece of burnt shell were identified (Figure 29).

Three pieces of ostrich egg shell (Figure 30) were found near pottery sherds and the large medium bovid scapula.

9.6 FIELD RATING

A field rating of Generally Protected A is awarded. This site should be mitigated before destruction and has a generally Medium significance.

9.7 STATEMENT OF SIGNIFICANCE

The location of the midden on Erf 3819, so close to the Die Kelders archaeological site, provide its primary significance, in terms of scientific value. Any information that can be used to augment the data collected from Die Kelders, can only enhance our understanding of MSA and LSA life-ways.

9.8 RECOMMENDATIONS & CONCLUSIONS

9.8.1 Sampling of the Midden

The midden site has been provisionally rated as of Local Significance (Grade III site and graded with Medium Significance). If declaring the area a no-go zone for development is not feasible, then it is recommended that a sampling strategy in mitigation, be developed, after which part or the whole site could be destroyed. A mitigation strategy in these circumstances involves the controlled collection or excavation of a sample of the cultural and other remains, by hand, that will adequately allow characterization and dating of the site. The archaeologist will require a permit for the mitigation and should recommend that the developer acquire a permit / permission for destruction so that the recommended mitigation may be monitored. The archaeologist should monitor this and report to HWC to ensure that this is done.

9.8.2 Monitoring of vegetation clearing and bulk-earthworks

It is recommended that bulk earthworks be monitored by a professional archaeologist.

The monitoring strategy is divided into three phases:

1. Pre-construction;
2. On- site monitoring during construction; and
3. Report to Heritage Western Cape and developers.

9.8.2.1 Pre-construction Education and Awareness Training

Prior to construction, contractors will receive training from the Archaeologists in how to identify and protect archaeological remains that may be discovered during the project. An on-site 'Archaeological Officer' (AO) will be appointed. The pre-construction training will include some limited site recognition training for the types of archaeological sites that may occur in the construction areas. Indicators of a prehistoric archaeological site that may be encountered in

construction areas include:

- ◆ **Artefacts**, such as flaked stone tools, bone tools and loose pieces of flaked stone;
- ◆ **Middens**, which are the remains of ancient living areas identified by:
 - Shells and shell fragments;
 - Fish, bird and mammal bones;
 - Fire-altered rock;
 - Ash and charcoal; and,
 - Artefacts and cultural features (e.g. beads, hearths or pits);
- ◆ **Open-air sites**, which generally include fire altered rocks and charcoal and ash from fires. Such sites may also contain stone tools or scatters of flaked stone material from tool sharpening;
- ◆ **Human Remains**, which are indicated by the presence of light brown to dark brown bones either whole or in fragments and may include artefacts. Burial places fall under the jurisdiction of SAHRA will be approached using the guidelines set out in the NHRA 1999 Section 36. If human remains are found, please follow these guidelines:
 - Leave the remains in place;
 - Cordon off the area;
 - Contact SARHA (021 462 4502);
 - Contact an archaeologist;
 - Once an archaeologist has examined the find, the SA Police services and state pathologist must be contacted to report human remains;
 - If the remains are found to be a legitimate burial or pre-colonial burial, an emergency exhumation permit will be issued by SAHRA or HWC; and
 - If a crime is suspected, a police docket will be opened.

9.8.3 On-Site Monitoring

Newly identified archaeological sites during construction may be managed in a variety of ways,

including avoidance, salvage or emergency excavation and the use of temporary or long term site protection measures. If an archaeological discovery is made, construction work must stop with 15 m of the find (where practical) and:

- A 15 m exclusion zone must be marked around the discovery with tape, and a sturdy barrier fence installed until the find can be assessed and mitigated;
- The implementation of necessary slope stabilization, drainage, erosion and sediment control measures to protect the discovery must be undertaken; and,
- The AO contacted if not already on-site.

The preferred long-term approach to managing archaeological discoveries in construction areas is avoidance. If avoidance is not feasible, then salvage or emergency excavations may be necessary. These operations will require permits, which are issued by Heritage Western Cape. Any salvage or emergency excavations will be conducted by the Archaeologists and qualified associates, as appropriate.

If salvage or emergency excavation operations are not feasible, and site conditions and construction requirements permit, then an alternate solution such as capping the discovery with geotextile and clean, coarse textured fill may be acceptable.

All on-site archaeological management strategies will be designed and supervised by the Archaeologists. Contractors must ensure that construction personnel and sub-contractors do not collect archaeological remains. However, if an isolated artefact is found and may be destroyed by not immediately removing it from the working area, then personnel should follow these steps:

- Collect the artefact and mark its location with flagging, a wooden stake or some other visible marker;
- Inform the Archaeologist that an artefact was found; and,
- Where practical, establish a 15 m exclusion zone around the find.

The Archaeologists will then conduct a site inspection, assess the find and recommend mitigatory steps.

9.8.4 Reporting

A report will be submitted to Heritage Western Cape and the developers. It will detail:

1. Any pre-historical archaeological finds;

2. Assess their significance; and
3. Make recommendations in mitigation.

Please note that whilst historical archaeological resources can be identified on site, their significance and mitigation recommendations will need to be undertaken by a specialist historical archaeologist.

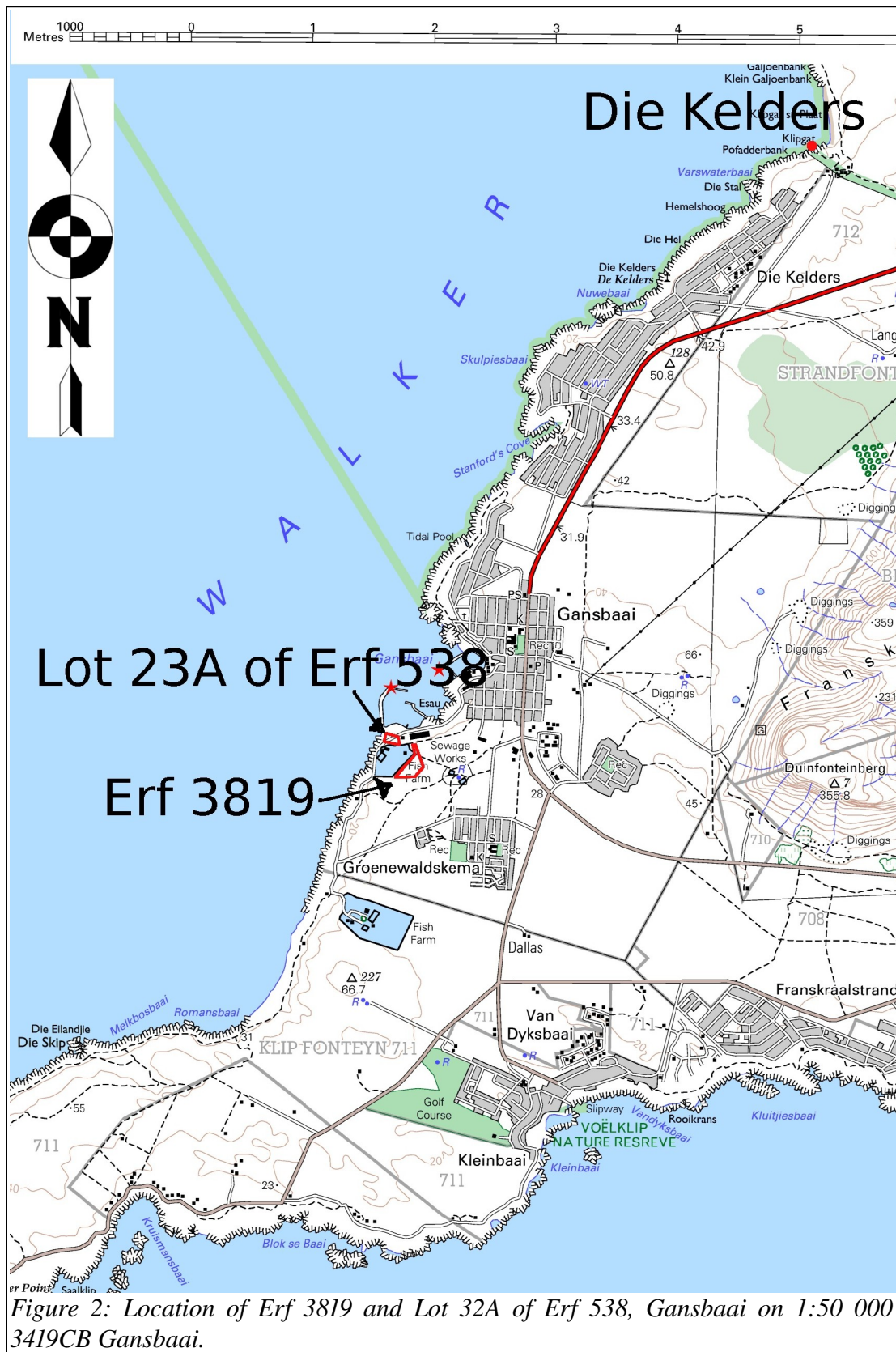
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9.10 FIGURES



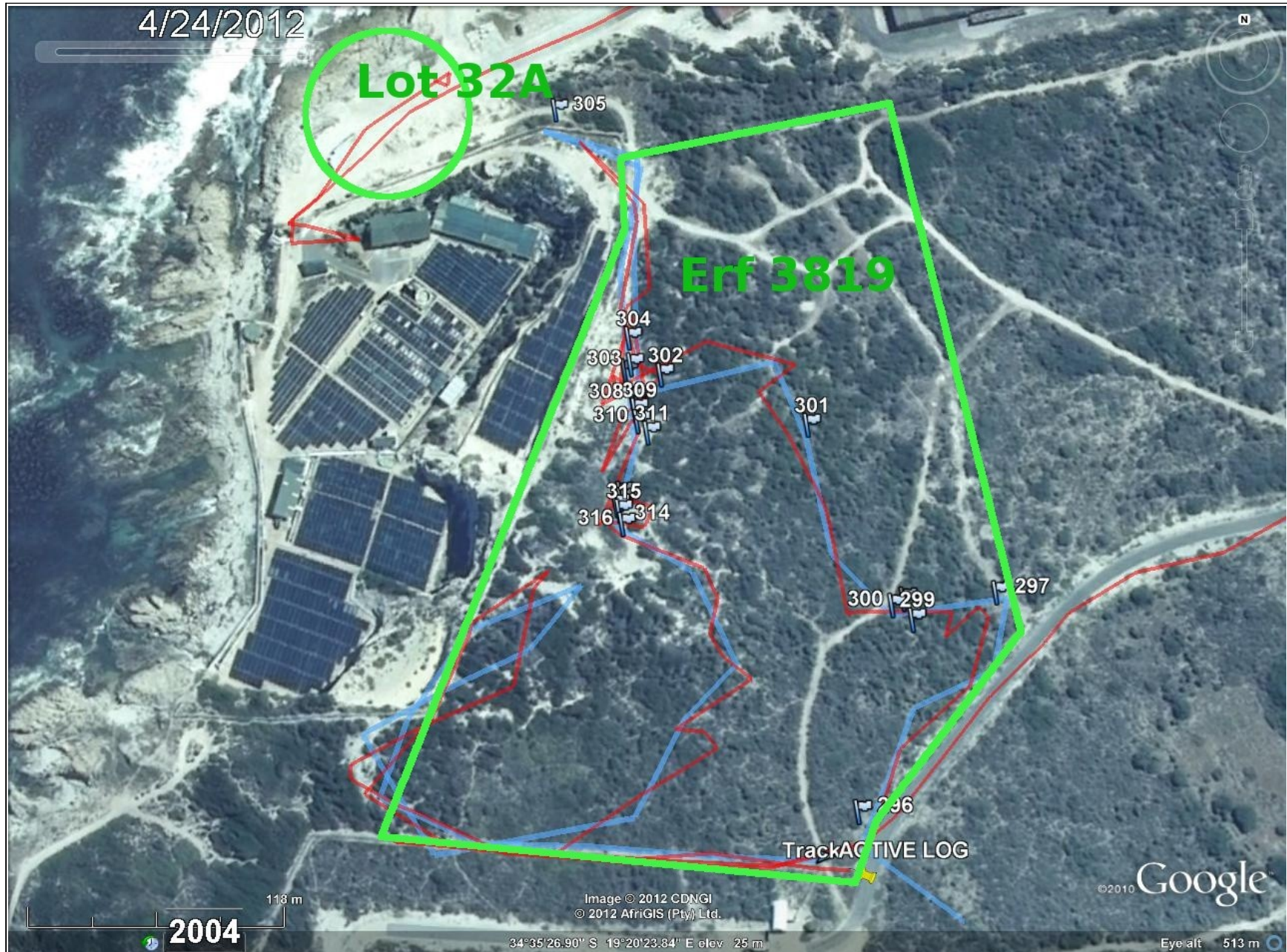


Figure 3: GPS tracking on the property.



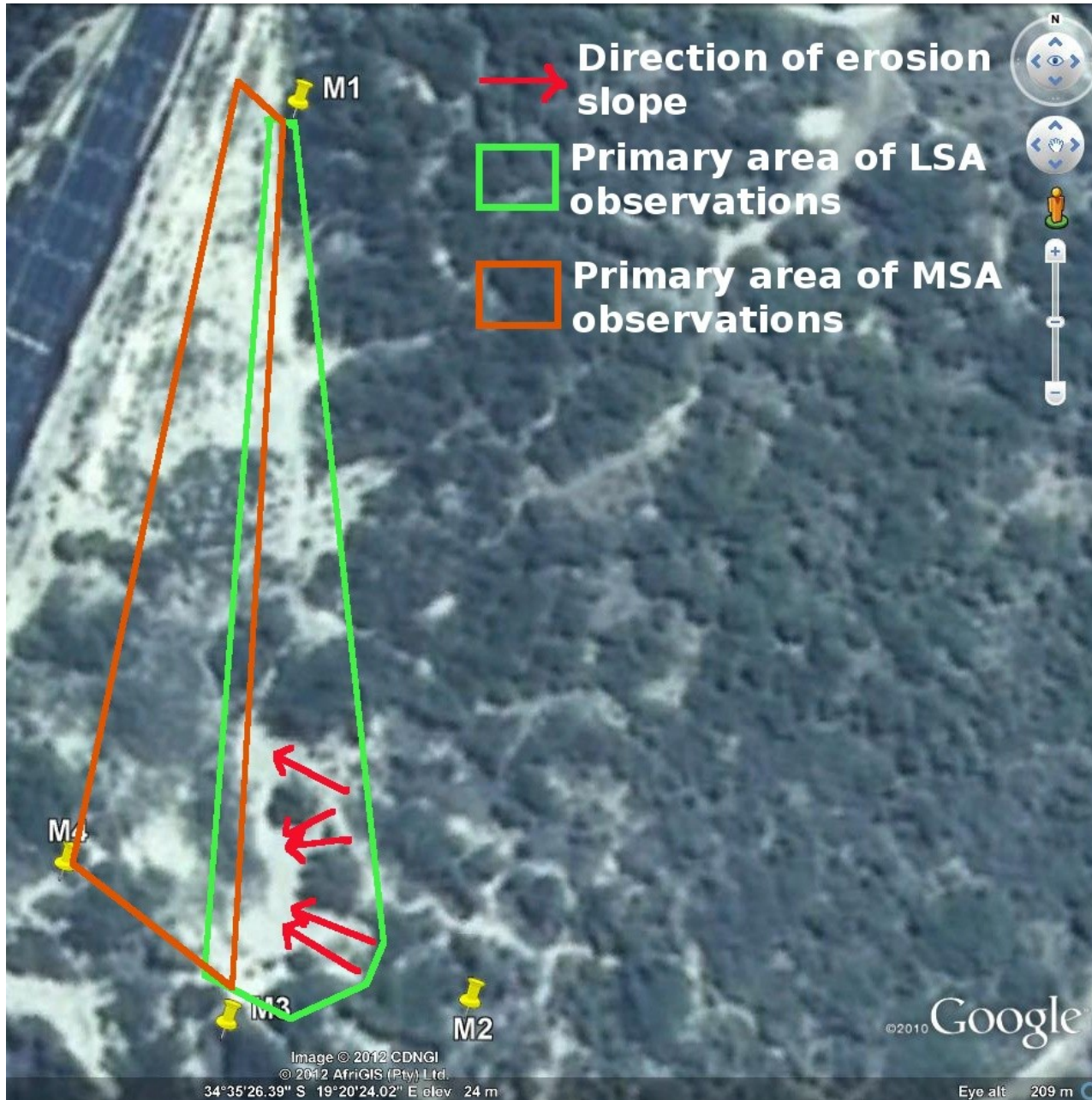
Figure 4: Dense vegetation growth limited accessibility on site.



Figure 5: General view of site looking north toward Gansbaai. Note dense vegetation growth.



Figure 6: Location of midden on Erf 3819.



tion of the midden.

Figure 7: Map showing location of slope erosion on the southern section of the Midden and general location of LSA and MSA observations.



Figure 9: Ruin at northern point of the midden.



Figure 10: MSA Quartzite notched flake.



Figure 11: 2 MSA Quartzite flakes.



Figure 12: LSA Quartzite flake.



Figure 13: MSA flake.



Figure 14: LSA Silcrete flake (R) and core (L).



Figure 15: MSA Quartzite flake (L) and core (R).



Figure 16: Collection of artefacts including lower grindstone, MSA quartzite flake and marine shell.



Figure 17: Collection of artefacts, including upper grindstones, LSA quartzite flake and burnt shell.



Figure 18: Collection of artefacts, including marine shell, pottery, LSA silcrete flake, ostrich egg shell and bone.



Figure 19: Collection of flakes.



Figure 20: MSA Quartzite core



Figure 21: Lower grindstone.



Figure 22: Two views of upper grindstone.



Figure 23: Pottery fragments.



Figure 24: Pottery fragments, lower right pieces has some decoration.



Figure 25: Small medium bovid right mandible.



Figure 26: Large medium bovid scapula.



Figure 27: Dune mole rat activity has brought fish vertebrae to the surface.



Figure 28: More Dune mole rat activity has brought fish vertebrae to the surface



Figure 29: Burnt limpet shell



Figure 30: Two views of the ostrich egg shell.