

**Archaeological Survey of the Proposed Mooi-Mgeni River Transfer Scheme:**

**For Mgeni Water**

**By**

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## **Introduction**

The Institute for Cultural Resource Management was contracted by Umgeni Water to undertake an archaeological survey of the proposed Mearns and Spring Grove Dams located on the Mooi River. No archaeological sites had been previously recorded in the affected area, and thus all recorded sites in this report are new recordings.

The archaeological survey located 12 sites during the course of the survey. These sites date from the Middle Stone Age to the Historical Period. Many of these sites will require some form of mitigation.

The terms of reference for this study are:

1. Description of archaeological sites in the affected areas;
2. Assessment of the significance of each archaeological site;
3. Assessment of the mitigation required for each archaeological site;
4. Time and cost implications for the mitigation.

Any changes to the levels of the dam walls, will require further archaeological surveys and/or proposed mitigation for sites directly affected. The location of servitudes have not been finalised yet, and these are omitted from this survey and report. Once these servitudes have been finalised then further archaeological surveys should be required.

## **Methodology**

Both a desktop analysis and foot survey were undertaken as part of this project. The desktop analysis took place at the Natal Museum, since this museum is the provincial repository for all known archaeological sites. The desktop analysis is primarily a method of determining the probability of archaeological sites occurring in a given area. This is achieved by analysing existing records of archaeological sites in the area, as well as noting the geology, topography, soil types and water sources. This method of site 'detection' is fairly accurate when dealing with agriculturist sites since ecology and farming are interrelated.

The foot survey entailed walking the affected area. Unfortunately much of the area was covered in dense vegetation, such as brambles and/or grasses, making some areas difficult to survey. In addition to these physical features, previous experience of Iron and Stone Age settlement patterns, as well as local topography, informed me of potential site locations.

Some sites were recorded during the course of the survey, yet they are not directly in the affected area. This was primarily to note their occurrence in case of future development, such as servitudes.

### **Defining significance**

Archaeological sites vary according to significance and several different criteria relate to each type of site. However, there are several criteria that allow for a general significance rating of archaeological sites.

These criteria are:

1. State of preservation of:
  - 1.1. Organic remains:
    - 1.1.1. Faunal
    - 1.1.2. Botanical
  - 1.2. Rock art
  - 1.3. Walling
  - 1.4. Presence of a cultural deposit
  - 1.5. Features:
    - 1.5.1. Ash Features
    - 1.5.2. Graves
    - 1.5.3. Middens
    - 1.5.4. Cattle byres
    - 1.5.5. Bedding and ash complexes
2. Spatial arrangements:
  - 2.1. Internal housing arrangements
  - 2.2. Intra-site settlement patterns
  - 2.3. Inter-site settlement patterns
3. Features of the site:
  - 3.1. Are there any unusual, unique or rare artefacts or images at the site?
  - 3.2. Is it a type-site?
  - 3.3. Does the site have a very good example of a specific time period, feature, or artefact?
4. Research:
  - 4.1. Providing information on current research projects
  - 4.2. Salvaging information for potential future research projects

5. Inter- and intra-site variability
  - 5.1. Can this particular site yield information regarding intra-site variability, i.e. spatial relationships between various features and artefacts?
  - 5.2. Can this particular site yield information about a community's social relationships within itself, or between other communities?
6. Archaeological Experience:
  - 6.1. The personal experience and expertise of the CRM practitioner should not be ignored. Experience can indicate areas that have potentially significant aspects, but need to be tested prior to any conclusions.
7. Educational:
  - 7.1. Does the site have the potential to be used as an educational instrument?
  - 7.2. Does the site have the potential to become a tourist attraction?
  - 7.3. The educational value of a site can only be fully determined after initial test-pit excavations and/or full excavations.

The more a site can fulfill the above criteria, the more significant it becomes. Test-pit excavations are used to test the full potential of an archaeological deposit. These test-pit excavations may require further excavations if the site is of significance. Full excavations tend to occur only when a site is of high significance and it will be negatively affected by a development. Sites may also be mapped and/or have artefacts sampled as a form of mitigation. Sampling normally occurs when the artefacts may be good examples of their type, but are not in a primary archaeological context. Mapping records the spatial relationship between features and artefacts.

### **Description, Assessment and Mitigation of Archaeological Sites**

The co-ordinates of each site are given in Appendix A. These co-ordinates are sensitive and confidential and are not to be made public. A summarised list of the sites and the impact of either dam is given in Table 1. Prior to any archaeological mitigation, the land will need to be cleared by either the landowner or Mgeni Water. The land clearance would need to be in the form of burning and in consultation with the archaeologist.

**Table 1: List of archaeological sites, their significance and required mitigation**

Archaeological Site Name	Period	Type of site	Dam	Affected by maximum flood level?	Significance	Mitigation Required
<b>M1</b>	MSA/LSA	Stone tool Scatter	Spring Grove	Yes	Low	None
<b>M2</b>	Recent**	Settlement, graves	Spring Grove	Yes	High	N/A
<b>M3</b>	Recent	Settlement, graves	Spring Grove	Yes	High	N/A
<b>M4</b>	LIA?	Stone walled settlement	Spring Grove	Yes	Medium	Mapping & Test-pits
<b>M5</b>	LIA?	Stone walled settlement	Spring Grove	Yes	Medium	Mapping & Test-pits
<b>M6</b>	LSA	Rock Art	Mearns	?	High	Tracing & removal
<b>M7</b>	LSA/HP	Art & Shelter	Mearns	?	High	Excavation, removal & mapping
<b>M8</b>	LIA/HP	Stone walled settlement	Spring Grove	?	Medium	Mapping & test-pits
<b>M9</b>	LIA/HP	Stone walled settlement	Spring Grove	?	Medium	Mapping & test-pits
<b>M10</b>	LIA	Stone walled settlement	Mearns	?	Medium	Mapping & test-pits
<b>M11</b>	LIA/HP	Stone walled settlement	Mearns	?	Low	N/A
<b>Total</b>						

**M1:**Description:

This site is an open scatter of Middle Stone Age (MSA) and Late Stone Age (LSA) stone tools, at the base of a small hill, overlooking the Mooi River. The tools are in an open scatter and have been disturbed by environmental factors over time and the current track.

The MSA tools are made on dolerite and are mostly cores and flakes, although one unifacial point (spear) was observed. The LSA tools were mostly on agates, although a chalcedony piece was recorded. These LSA tools consisted mainly of flakes (utilised and/or debitage), cores and tools manufactured for specific uses (e.g. scrapers and adzes).

Significance & Mitigation:

The Spring Grove Dam will affect the site. It is of low archaeological significance and no further mitigation is required.

**M2:**Description:

The site consists of a modern stone-walled feature and is the remains of a human settlement. While much of the site is covered in bramble, a definitive spatial arrangement of the settlement could be observed. In all probability, human graves exist at this site.

Significance & Mitigation:

This site is a recent site. By recent it is probably not older than 60 years of age, and is thus not protected by legislation. However, there is a possibility that human burials may exist at this site and some mitigation may be needed, such as the consultation with local communities. This process does not fall under the archaeological Terms of Reference.

**M3:**Description:

The area may consist of modern stone walling and is probably the remains of a human settlement. Much of the site is covered in bramble. Human graves may exist at this site.

Significance & Mitigation:

This site is a recent site. By recent it is probably not older than 60 years of age, and is thus not protected by legislation. However, there is a possibility that human burials may exist at this site and some mitigation may be needed, such as the consultation with local communities.

**M4:**Description:

This site is a stone-walled settlement located near the top of a rocky outcrop overlooking a small stream running into the flood plain of the Mooi River. The main stone-walled feature is that of a cattle pen. This pen is  $\pm 16$  m x 16 m and forms the primary enclosure. Attached to the outside of this primary enclosure are three secondary enclosures between 5 m to 7 m in diameter. There appears to be a substantial archaeological deposit within the main pen. A fragment of bone (possibly cattle) occurred in the pen, suggesting that organic remains may be preserved.

Behind the cattle pen is terrace that has been supported by stone walling. Several stone-walled features occur on this terrace, and these are most likely the remains of old houses. This terrace is  $\pm 20\text{m} \times 50\text{ m}$  wide/long and has an archaeological deposit.

The site appears to be similar to those recorded in the Estcourt area, dating between AD 1250 to AD 1400. The site is important since it allows for inter-site comparisons of different/similar farming practices across environmental and/or geographical space.

Significance & Mitigation:

The site is of medium archaeological significance. It has an archaeological deposit and dates to a time period of which little is known about in KwaZulu-Natal. Few, if any, of these site have been previously recorded in this part of the Natal Midlands. The site thus has research potential.

The dam may not directly affect the site, although its proximity to the water may affect the site. The mitigation required, if affected, should be in the form of archaeological mapping and test pit excavations. The test pit excavations will determine the full potential of the site, and whether further excavations would be necessary.

**M5:**

Description:

The site is a stone-walled settlement consisting of a cattle pen and housing, near the banks of the Moor River. As with other sites, dense bramble bushes made it difficult to record. The stone-walled cattle pen is  $\pm 14\text{m}$  in diameter with two secondary enclosures (1 m x 2 m) inside the main enclosure. It is thus different to the stone-walled pen at M4. There is an archaeological deposit in all of the enclosures.

About 30 m behind the stone-walled enclosure is a stone-walled terrace with several stone-walled structures. On the far right is a potential grave and another terrace occurs behind the first terrace. All stone-walling consists of a double row of large rocks, with smaller pebbles and stones being used as infill. Some faunal remains and a lower grindstone similar to that of M4 were also recorded at this site. This lower grindstone is characteristic of those used for grinding sorghum and millet.

This site may date to between AD 1250 and AD 1450.

Significance & Mitigation:

The site is of medium-high significance due to the presence of human graves and an archaeological deposit. The site thus has research potential, since few, if any, human skeletal

remains have been recorded from this time period. The study of human burial, and social, practices is an important aspect in rebuilding past beliefs. Furthermore, similar type of settlements may yield information about inter-site variability.

The site requires further mitigation. Mitigation will be in the form of archaeological mapping and test-pit excavations. In addition to this, the potential burial will need to be excavated. .

### **M6:**

#### Description:

This site is on a small rock overhang above the banks of the Mooi River. It is  $\pm 3$  m wide, 1 m deep, and 1 – m high. The art is painted on a relatively flat surface below the roof of the shelter. Unfortunately water seepage has occurred over some of the paintings. There is no archaeological deposit in this shelter. The site dates to the LSA and contains many rock art images.

The images can be divided into 9 separate panels.

1. One white antelope and indeterminate white smears. This panel has been chipped by a hammer or pick and some graffiti occurs above the main image.
2. Group of mainly white antelope. The antelope face either left or right. Two of the bottom left antelope have yellow torsos with white legs, neck and head. All of the antelope are in standing positions, except two. The first is in a jumping position, while the other is in a semi-reclined position, in a posterior view, while the head is turned to the left. The legs of one antelope have been painted are disproportionate to the rest of the body and superimpose two antelope below it.
3. In a small alcove to the right, there is a group of very faded red images. These included two antelope facing left, one faint human with red arrow heads (the quiver has faded), and a small indeterminate animal.
4. Area of indeterminate red paint.
5. To the right, on a flat face of the shelter, is a red animal with the torso out of proportion to the rest of the body. That is, the legs, neck, tale and head are much smaller than the torso. Below this animal is a row of five human legs (the rest of the body was probably painted in a different colour that has now faded). Part of this panel has been chipped in an attempt to remove it.
6. Group of six faded humans
7. Two indeterminate red animals
8. Indeterminate white image and lines, and one small sheep(?).
9. Long white line  $\pm 0.5$  cm wide.



Significance & Mitigation:

This site has high archaeological significance for several reasons. There are few rock art sites in the Mooi River area - only one other site is known of in the area. This recorded site has been damaged beyond recording. This site has examples of several styles of San rock art: monochromatic, bichromatic and 'Late White'. The superimpositioning of these images is important when working out each image's relative chronology to other images at this site, and at other sites. The occurrence of a possible sheep is rare. Most images of sheep occur in the Drakensberg, and few are recorded outside of this area. The site has images that while are not in excellent condition, may have enough pigment for analyses. The analyses of pigment for possible dating and or sourcing is a new aspect in rock art studies.

The proximity of the new water levels is important to note, since water seepage and/or increased humidity may damage the art and/or deposit. Thus, the exact location of the site in relation to the increased water level is important. If this site is to be affected by the Mearns Dam, then further mitigation will be required. However, it is unlikely that the dam will extend as high as this site. If the site is possibly affected, then the following mitigation will be required. Some of the images will need to be traced by a qualified specialist, and then some will need to be physically removed. In addition to this, some of the paintings (especially those not removed) should be sampled for later pigment analyses.

**M7:**

Description:

This site is located  $\pm 15$  m to the right of M6. The site is a small shelter  $\pm 8$  m long and 5 m wide. It has an archaeological deposit at least 15 cm in depth. On the surface of the shelter were several pieces of pottery (all from the same pot), ochre, and a few stone tools. The shelter also contains rock art. These images are referred to as finger smears. There is enough pigment in the paint for a sample to be taken.

The images are important in that they are a contrast to the painted images at M6. Those at M6 were painted by San hunter-gatherers, while Nguni people probably painted those at M7. Ethnographic literature suggests that Nguni-speaking people used shelters as part of rain making rituals. These rituals included the use of pots (with offering for ancestral spirits) and possibly paint.

Significance & Mitigation:

This site has high archaeological significance and it has an archaeological deposit appears to be well preserved. The images are a contrast to those of M6 and there is enough painted material for

samples to be taken for future pigment analyses. Furthermore, these are the first “finger smeared” images recorded so far in the Mooi River area.

If the Mearns Dam will affect the site, then mitigation will be required. Mitigation will be in the form of archaeological excavation of the deposit, mapping of the art, and removal of sample for future analyses. As with M6, the proximity of the new water levels is important to note, since water seepage and/or increased humidity may damage the art and/or deposit.

### **M8:**

#### Description:

This site is a stone-walled settlement located on a spur overlooking the Mooi River. Dens bramble bushes, covering much of the site, made surveying difficult; however several stone walled features are visible. The most important feature is that of a grave. The grave is a semi-circle of stone packed above each other, in a 4 m x 2 m diameter. It appears that this human grave is in the center of an old stone-walled cattle pen. In front and behind this grave is stone terracing. The terracing and possible grave and other areas in the site, have an archaeological deposit. This site is similar to other stone-walled settlements recorded in this survey, and may have a similar age. However, the 1:50 000 topographical map indicates a recent settlement in close proximity to this site. Without further investigation it is difficult to determine the age of the site.

#### Significance & Mitigation:

The site is of medium archaeological significance and further mitigation will be required if the site is to be affected by the Spring Grove Dam. The site probably falls in the buffer area of the dam. Mitigation should be in the form of archaeological mapping and test-pit excavations. The human burial would also need to be assessed in terms of excavation. The assessment/excavation of the burial is on condition that no community claims ownership of it – as is the case with all archaeological human remains.

### **M9:**

#### Description:

This site is a stone-walled settlement covered by dense bramble bushes, located on the edge of a small spur overlooking the Mooi River. Some terracing is visible as well as a small (2 m x 2 m) stone-walled feature. More stone-walled features exist underneath the bramble, but could not be initially recorded. The site may be similar in age and type as those reported earlier. An archaeological deposit exists at this site. If this site does follow the same pattern as at other sites, then human graves may occur.

**Significance & Mitigation:**

The site is of medium archaeological significance and further mitigation is required. Mitigation should be in the form of archaeological mapping and test-pit excavations.

**M10:****Description:**

The site is a possible settlement overlooking the current Mearns weir. The only stone-walled feature consists of a cattle enclosure with the entrance facing downslope. It appears that the natural terracing of the rock outcrop was used for the building and location of the houses. These areas occur further upslope from the cattle pen and are visible as areas relatively cleared of larger rocks.

A lower grindstone used specifically for sorghum/millet was recorded downslope from the main stone-walled feature. The grindstone is a good example of these types of grind stones, and further archaeological deposit may exist at this site. This area may have been an agricultural area.

**Significance & Mitigation:**

The site is of medium archaeological significance. This site is slightly different in spatial organisation than the other stone-walled sites recorded, and thus inter-site comparisons may be significant. Further mitigation may be required if the Mearns Dam will affect it. Mitigation would be in the form of archaeological mapping and test-pit excavations.

**M11:****Description:**

This site is a stone-walled cattle pen on the top of the hill overlooking the Little Mooi River. The site consists of a primary enclosure with secondary walling attached to the outside of it.

**Significance & Mitigation:**

The site is of low archaeological significance and will not be affected by the dam.

**General:**

During the course of the survey several cultural/non-archaeological features were noted and or recorded:

1. Several recent settlements that may have human remains. These will need to be mitigated. Such sites are M2, M3, and one near M5. Other settlements probably occur in the affected areas as well.

2. A hill on Vaalekop, is said to have spiritual/sacred connections with local *amasangoma*. If these connections are true, then the dam may affect the hill, and community involvement will be required. Spiritual/Sacred landscapes are protected by the KwaZulu-Natal Heritage Act.
3. Areas of farms located along the Mearns Dam, especially Edgehill, are known to have the remains of shells dating to the Anglo-Boer. These will need a historical specialist to determine if these are battle sites. If they are battle sites, archaeological excavations may also be needed.
4. Several large pieces of petrified wood were observed in the Mearns Dam area. I believe that a palaeontologist should be informed regarding these fossils. These fossils are protected by the KwaZulu-Natal Heritage Act.

### **Conclusion**

The proposed dam sites were surveyed for archaeological sites. These sites were assessed in terms of their archaeological significance and the mitigation required for each site.

A total of 12 sites were found, of which two are more recent historical, than they are archaeological. Of these 12 sites, seven may require mitigation if they are to be affected by either the Mearns or Spring Grove Dams. Finding sites of similar ages in a small and defined area is of archaeological interest. These sites can yield information about settlements patterns at both an inter-regional and intra-regional level.

The exact geographical locations are given in the Appendix A. Once these sites have been plotted and confirmed with the final water levels for each dam, then decision needs to be made as to the mitigation for sites. Some sites may not be directly affected by the dam, i.e. covered with water. However, secondary affects include increased humidity and/or dampness of ground, possible tourism, or future use of the dams (e.g. if the dams were to be used for recreational, or other, purposes, the sites nearby the dam may be damaged). These secondary affects will also require mitigation.

**APPENDIX A**

<b>Archaeological Site Name</b>	<b>Period</b>	<b>Type of site</b>	<b>Dam</b>	<b>Co-ordinates</b>	
M1	MSA/LSA	Stone tool Scatter	Spring Grove	S 29 20' 08"	E 29 54' 28"
M2	Recent**	Settlement, graves	Spring Grove	N/A	
M3	Recent	Settlement, graves	Spring Grove	N/A	
M4	LIA?	Stone walled settlement	Spring Grove	S 29 20' 25"	E 29 56' 22"
M5	LIA?	Stone walled settlement	Spring Grove	S 29 20' 04"	E 29 55' 21"
M6	LSA	Rock Art	Mearns	S 29 16' 12"	E 29 57' 32"
M7	LSA/HP	Art & Shelter	Mearns	S 29 16' 12"	E 29 57' 32"
M8	LIA/HP	Stone walled settlement	Spring Grove	S 29 19' 14"	E 29 57' 28"
M9	LIA/HP	Stone walled settlement	Spring Grove	S 29 19' 14"	E 29 57' 24"
M10	LIA	Stone walled settlement	Mearns	S 29 14' 39"	E 29 58' 10"
M11	LIA/HP	Stone walled settlement	Mearns	S 29 14' 18"	E 29 57' 48"

**APPENDIX B**

<b>Archaeological Site Name</b>	<b>Affected by max flood level?</b>	<b>Significance</b>	<b>Mitigation Required</b>	<b>Days required for mitigation</b>	<b>Cost<sup>1</sup></b>	<b>Comment</b>
M1	Yes	Low	None		0	0
M2	Yes	High	N/A		0	0
M3	Yes	High	N/A		0	0
M4	Yes	Medium	Mapping & Test-pits		4	11000
M5	Yes	Medium	Mapping & Test-pits		5	13750
M6	?	High	Tracing & removal		3	8250No mitigation if not effected by dam
M7	?	High	Excavation, removal & mapping		10	27500No mitigation if not effected by dam
M8	?	Medium	Mapping & test-pits		5	13750No mitigation if not effected by dam
M9	?	Medium	Mapping & test-pits		4	11000No mitigation if not effected by dam
M10	?	Medium	Mapping & test-pits		4	11000No mitigation if not effected by dam
M11	?	Low	N/A		0	0

<sup>1</sup> Costs are estimates should not be considered as final costs. Costs also exclude V.A.T.