Archaeological Survey of the Proposed Jana/Klip Dams:

For Institute of Natural Resources

By
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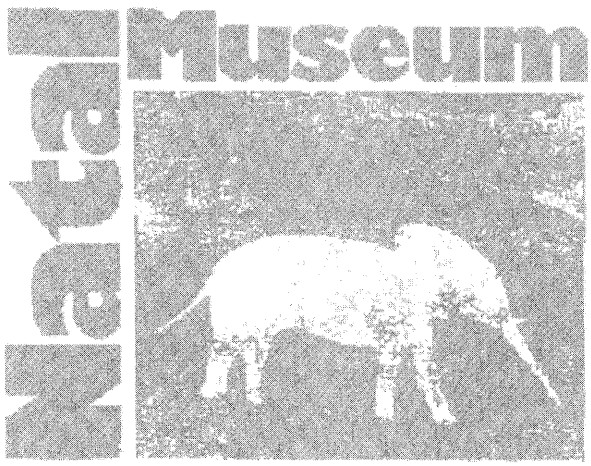

Introduction

The Institute for Cultural Resource Management was contracted by Amafa-aKwaZulu-Natali to undertake an archaeological survey of the proposed Jana and Klip Dams located on the Tugela River downstream from Colenso. Several archaeological sites were already known to occur in the area of the proposed dams and servitudes

The archaeological survey located fifty-eight sites dating from the Middle Stone Age to the Historical Period. Many of these sites would require some form of mitigation. A total of six archaeological sites are affected by the transmission line. However, only four of these required further archaeological mitigation.

The terms of reference for this study are:

1. Description of sites of archaeological importance in the Jana and Klip impact areas;
2. Description of cultural-historical features in the Jana-Klip impact area;
3. Description of likely archaeological impacts at each site, highlighting those considered highly significant;
4. Comparative summary of impacts (statement of preferred site); and,
5. Pre-feasibility level assessment of likely costs of mitigation.

The Klip Dam was to be surveyed up to the 920 m contour line, while the Jana Dam was to be surveyed up to the 860 m contour line. Only these areas were surveyed, unless an obvious site existed nearby these parameters. Any changes to the levels of the dam walls, would require further archaeological surveys. The location of quarries and other servitudes have not been decided, and these are omitted from this survey and report.

Methodology

Both a desktop analysis and a 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 study area where much of the vegetation had been recently burnt, and/or died for the winter. In addition to these physical features, previous experience of Iron and Stone Age settlement patterns, as well as local topography, informed us of potential site locations.

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, ie spatial relationships between varies 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 sites 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. 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 of archaeological sites

The recorders site number JN and KD refer to Jana Dam and Klip Dam respectively. The co-ordinates of each site are given in Appendix A. A summarised list of sites occur in Table 1

JN1

This site is a large smelting area with slag, tuyeres , grindstones, glass beads, and ceramic vessels. Several features are outlined by stone circles and/or artefact concentrations occur on the site, indicating that a

cultural deposit exists on the site. Iron-ore has been brought to the site and broken with hammer stones. The vegetation is dense, and further features and artefacts probably exist.

The site probably dates to last century (see Maggs 1982).

The site is of high archaeological significance and further mitigation is required. The impact of the dam will be low, however the servitude will probably pass over the site. Mitigation will be in the form of full archaeological excavation and mapping.

JN2

This site consists of a stone-walled settlement and an iron working area, intersected by the current dirt track. The settlement consists of two ±40 m long and ±6 m wide walled terrace. Upper and lower grindstones and a mortar occur in this area. Below this terrace are more grindstones and other worked stones. Three ephemeral stone circles occur outside the terrace. A cultural deposit may exist in the terrace.

An iron working area is on the opposite side of the dirt track. There is a stone-walled feature in which tuyeres and pieces of slag occur. At least three oval furnaces, with associated tuyeres, occur outside the stone-walled feature. These furnaces are fairly well preserved. Many ceramic vessel fragments are scattered in this area. These sherds are orange-red in colour. A cultural deposit may also exist in this section of the site.

The site probably dates to last century (see Maggs 1982).

The site is of high archaeological significance and further mitigation would be necessary. Mitigation will be in the form of test-pit excavations and archaeological mapping.

JN3

The site is a scatter of adiagnostic sherds, worked/smoothed stone, slag, iron ore and hematite. It appears as if the dirt track has damaged the site. Three Middle Stone Age (MSA) flakes occur.

The site is of low archaeological significance and no further mitigation is required.

JN4

This site consisted of two sets of very faded white rock art images. One image may be an antelope, while the other set may be a group of humans. A single piece of pottery was found in this shelter.

The site is of low archaeological significance and no further mitigation is required.

JN5

This site consists of stone-walled features and terracing. Two stone-walled features are bilobial cattle byres, and are located behind the main stone-wall feature. The entrance of cattle byres face downhill. The main stone-walled feature is made of large stone blocks at the base, with flat slabs placed above it. To the right of this feature is a series of stone-walled features. These form two rectangular areas with a semi-circular wall attached to the lower rectangle. A cultural deposit may exist at this site.

This site dates to the Historical Period.

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

JN6

The site consists of a stone-walled cattle byre with two secondary enclosures attached to it. A smaller circular stone-walled feature is located ±45 m from the main feature. A lower grindstone is associated with the site. No cultural deposit was visible at the site.

This site dates to the Historical Period.

The site is of medium-low archaeological significance and will require archaeological mapping.

JN7

The site is a scatter of slag, hematite, iron ore and pottery.

This site dates to the Historical Period.

The site is of low archaeological significance and no further mitigation is required.

JN8

The site is a large settlement with stone-walling, graves, terracing and iron working areas, and is bisected by a road. The stone-walling consists of a circular feature on a terrace and a bilobial stone-walled feature and ephemeral stone-walling behind the terrace. Four graves, in an east-west direction, are situated in the vicinity of the stone-walling. Between the graves and the bilobial stone-walled feature is a row of two paired furnaces in a relatively preserved condition. Slag and tuyere fragments are associated with the furnaces. The pottery sherds tend to be thicker than those from other sites, but are of similar colour and temper.

On the opposite side of the road is another iron working area. Two furnaces are in a relatively well preserved condition while two others are fragmented. Slag and tuyere fragments are associated with this area. A cultural deposit probably exists at the site. This site dates to the Historical Period. Further uphill is a mine that has been excavated by Maggs (1982).

The site is of high archaeological significance and further mitigation is required. Mitigation will be in the form archaeological excavation and mapping.

JN9

The site is a large multicomponent site with stone-walled features, graves, furnaces and a cultural deposit. The settlement consists of ephemeral walling and terraces, with a large stone-walled cattle byre in the front. Two possible graves occur on each side of the byre. The settlement has two daga floors, each with the remains of short wooden poles. This may suggest that the daga features (or house remains) may be older than 50 years, since the wooden poles tend to last for several years before they are eaten by termites. This is confirmed with the graves that do not have headstones —a characteristic feature associated with more recent graves. The settlement thus appears to be more recent than the iron working features.

The furnaces are stratigraphically older than the settlement. There are two sets of four furnaces in a well preserved condition. One set is located near one of the daga floors while the other is on the left hand side of the main cattle byre. Tuyeres and slag are associated with the furnaces.

Upper and lower grindstones, grooved stones, orange-red sherds and a few metal fragments are associated with the site. The site has a cultural deposit.

This site dates to the Historical Period.

The site is of high archaeological significance and further mitigation is required. Mitigation will be in the form of archaeological excavations and mapping.

JN10

The site is a settlement with a cultural deposit and scatter of artefacts. Several upper and lower grindstones occur on the surface as well as (a)diagnostic sherds, and a few bone fragments. Some of the diagnostic pottery has an orange-red or red burnished, of which some have a flat rim and lip with a slight external emphasis. A single European ceramic fragment is associated with the site. Approximately 50 m away from the main artefact scatter is a daga floor with red burnished pottery.

This site dates to the Historical Period.

The site is of medium archaeological significance and further mitigation is required. Mitigation will be in the form of archaeological test-pit excavations and mapping. This will occur near the daga floor.

JN11

The site is a large concentration of slag with some furnace fragments and probably relates to the daga floor of JN10. There is a high concentration of slag and ore in one part of the site, however, the rest of the site appears to have been eroded. The dense concentration of slag appears to be mostly in a primary context, and may contain furnaces. This site dates to the Historical Period.

Many MSA stone tools were on the surface. One bifacial point and other retouched and utilised flakes were recorded.

The site is of medium archaeological significance and further mitigation would be required. Mitigation would be in the form of test-pit excavation around the slag concentration. Some of the MSA tools may be sampled for a teaching collection.

JN12

The site consists of three furnaces in a row. The furnaces are in a medium-low state of preservation. This site dates to the Historical Period.

Several Late Stone Age (LSA) fragments occur on the surface.

The site is of low-medium significance and further mitigation is required. Mitigation will be in the form of archaeological mapping.

JN13

The site is a series of settlements dating from the Historical Period and to the more recent past. The difference between these ages will be made clearer by excavation.

The more recent part of the site consists several daga floors and stone walling. In front of these is a large stone-walled cattle byre and two smaller stone-walled features, that are surrounded by a lower stone wall. Both of these may/not be associated with the daga floors. Stone-walled features occur behind this settlement. There is an ash feature at the entrance of one of these latter features indicating that it is a kraal. Recent *Acacia spp.* tree fences occur throughout the site. This site differs in its settlement layout in comparison to others seen in the valley.

On the upslope side of the stone-walled byre is a bilobial stone-walled feature, and wattle-and-daub houses in a circular and rectangular shape. The sherds associated with these, and previous, features are orange-red or red in colour.

Downslope from the main site, are several upper and lower grindstones, pottery sherds, slag and tuyere fragments, furnaces and graves. The graves appear to be related to the settlements further upslope, and they have headstones. The furnaces are in a relatively well preserved condition.

Downslope towards the river are more furnace and slag fragments.

The site is of medium archaeological significance and requires further mitigation. Mitigation will be in the form of archaeological test-pits and mapping.

JN14

The site is an engraving site of a traditional Zulu game board, called *mahlabahlaba*. The engraving appears to be recent.

The site is of low archaeological significance and no further mitigation is required.

JN15

The site consists of two stone-walled rectangles beside a more recent cattle byre made from aloes.

The site is of low archaeological significance and no further mitigation is required.

JN16

The site is a multi-component site consisting of MSA, LSA, and at least two Historical Period phases of occupation.

The MSA and LSA include some formally retouched pieces, but are mostly utilised flakes and cores.

The Historical period phases of the site can be divided into two:

1. iron working activity,
2. stone-walled features.

The iron working activity area consists of a group of ±14 furnaces in a double row. These furnaces are in a fairly well preserved condition. Large pieces of furnace fragments and slag are associated with these furnaces.

Approximately 100 m uphill is a concentration of stone-walled features. One features has a terrace and a stone wall, while another has a rectangular wall. There are four possible graves downslope from these latter features. Alternatively they are collapsed stone-walled circles.

About 200m downstream the Tugela River, and over a small stream, are several more stone-walled features and stone terracing. It appears that there is a continual occupation of this area over time.

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

JN17

The site has two long stone walls ±50m apart. Between these walls are various stone-walled features. These features vary from ephemeral walling to circular features with cultural deposit. One feature includes four stone-walled circles besides each other.

This site dates to the Historical Period.

This site is of medium archaeological significance and requires further mitigation. Mitigation will be in the form of archaeological test-pit excavations and mapping.

JN18

The site is a settlement probably dating to the recent past, ie between 30 to 70 years ago. There is a large blue gum and *Acacia spp.* tree on the site. The site consists of stone-walled cattle byre, possible four graves, six rectangular to square houses, and a bilobial stone-walled feature on the right.

The site is of low archaeological significance and no further mitigation is required.

JN19

The site is a scatter of MSA and LSA stone tools, in a open scatter near the edge of the river bank. The MSA component consist of unifacial and bifacial points, flakes and cores. The LSA component consists of scrapers, adzes, blades, utilised flakes and cores.

The site is of low-medium significance and further mitigation is required. Mitigation will be in the form of sampling aspects of the stone tools.

JN20

The site is a rock shelter 25 m long, 3 m deep and 10 m high. It dates to the LSA and recent past. The recent past relates to one of the caves wherein a 'hermit' lived, and is dealt with in another specialist report.

The LSA component of the cave consists of rock art and a cultural deposit. The rock art consists of six faded red images. There is one eland and five indeterminate antelope. The cultural deposit is ±50cm deep. Near the surface is an ashy feature with burnt bone. In the drip line, stone tools, grindstones and pottery sherds were observed. Artefacts also occur on the talus slope in front of the cave.

The site is of high archaeological significance and further mitigation is required. Mitigation will be in the form of an archaeological excavation of the LSA side of the cave.

JN21

The site consists of two stone-walled features. One feature is a cattle byre, while the other is a low rectangular feature, possibly a household.

This site dates to the Historical Period.

The site is of low archaeological significance and no further mitigation is required.

JN22

These sites are in a flat area near the Tugela River floodplain. There are several stone-walled features, terraces, graves, furnaces, tuyere and slag fragments, grindstones and shale plinths.

At least four settlements occur in this area, each having several graves, stone-walled features and terraces. Each settlement has a cultural deposit. The southern area has a higher concentration of occupation than the northern areas. In addition at appears that areas closer to the base of the hill have domestic occupation while those areas closer to the river appear to be non-domestic areas.

In particular, three settlements stand out as being of high significance. The first is on a raised terrace. The walling on the terrace has supportive stone slabs, and these may have doubled as the support for an old road. The terrace is ±40 m long and 10 m wide. Two large stone-walled circular houses are built on the terrace. The base of each house has large dressed blocks, and above this are horizontally placed shale slabs. Two windows occur in each house. The roof was probably thatched supported by cross-beams, however, no holes were found in the wall to support the beams. To the left of the houses were smaller activity areas. The talus slope in front of the terrace includes orange-red Nguni ceramics, glass from historical bottles, metal pieces from iron pots, and upper and lower grindstones. The preservation of this site is very good and the architectural style is nearly unique to the area.

To the left and right of this settlement are two more settlements. Each settlement has at least three graves, several large shale plinths, stone walling and potential cultural deposit. The furnaces and other artefacts from further downslope are probably associated with these sites.

This site dates to the Historical Period.

The site is of high archaeological significance and further mitigation is required. Mitigation will be in the form of archaeological excavations and mapping. The mitigation should occur for the whole area.

JN23

This site is an *isivivane* near the top of a hill. These stone features are part of Zulu traditional belief, and may be used to this day.

The site is of low-medium significance. Mitigation should be undertaken in conjunction with the local community.

JN24A/B

This site consists of stone-walled features, terracing and agricultural fields. There are two main settlements separated by a small stream. Each site consists of a stone terrace, with potential deposit, a stone-walled cattle byre, and ephemeral stone walling, and stone circles. One terrace has a daga floor.

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

JN25

The site consists of an extensive scatter of mostly LSA and fewer MSA stone tools in an open area. The LSA tools include scrapers, adzes, and a drill, as well as many utilised flakes. In comparison, only a few MSA standard flakes were observed. The tools are made on local dolerite, cryptocrystalline silicates and/or sandstone. One orange-red pottery sherd was observed.

It initially appears that this may be the remains of an open site, of which few have been recorded in KwaZulu-Natal. While organic materials may (not) be preserved, a spatial component of the site may still exist.

The site is of high-medium status and further mitigation is required. Mitigation will be in the form of test-pit excavations to determine if a spatial component exists at the site and the degree of preservation of organic remains.

JN26

The site consists of three pairs of furnaces in a relatively well preserved condition. These will not be affected by the dam, but may be affected by potential servitudes.

The site is of medium archaeological significance and mitigation will be required if they are to be affected.

JN27

The site consists of a large stone-walled feature and an engraving. The whole site was not properly analysed since the local community was not in favour of the team being in the area. The stone walling was different to that noted elsewhere, in that there was a main primary enclosure with many secondary enclosures inside, and attached to, the primary enclosure. Additional stone-walling occurred inside the primary enclosure. An Iron Age engraving was situated near the entrance of the site. The engraving consisted of several small pecked circles around a central circle.

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

JN28

The site consists of six large stone circles ±10 m in diameter, and some terracing on the hill. A possible cultural deposit may occur within the stone-walled features. The site is not identified by the community as belonging to their community, suggesting that it is relatively old.

This site dates to the Historical Period.

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

JN29

The site consists of an old mine shaft probably related to furnaces of the area. It has been subsequently covered by the land owner. The mine shaft is said to be ±1 m wide and mine for iron-ore. The shaft was deep and formed an L-shape.

While the site is of medium-high archaeological significance, it has been damaged and no further mitigation is required.

JN30

The site consists of four furnaces in a relatively well preserved condition. Tuyere, slag and a few pieces of iron-ore are concentrated near the furnace. The furnaces do not appear to have been used as much as other furnaces. The ceramics are undecorated and orange-red in colour. An upper grindstone and some hammerstones are present. A cultural deposit may exist at the site. This site dates to the Historical Period.

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

JN31

The site consists of ephemeral stone walling, a blue glass bead, several upper grindstones, shale plinths and a branding iron. Oral history dates this site to beyond sixty years in age.

The site will not be affected by the dam, however, the pipeline may impact on the site. No further mitigation will be required.

JN32

The site consists of ephemeral stone features ±1 m x 1 m, tuyeres fragments, and pieces of hematite and manganese dioxide.

The site is of low archaeological significance, and in an eroded area. No further mitigation is required.

JN33

The site consists of settlement probably dating to this century. There are four raised stone circles forming the platform of houses. Old rectangular glass bottle fragments and a single grave are associated with the site. A cultural deposit may exist at the site.

This site dates to the Historical Period.

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

JN34

The site consists of several stone-walled terraces, circular features and furnaces. One of the terraces contains two circular features that may have a cultural deposit. Four furnaces occur to the right of the terrace and some are still complete. More furnaces may occur in the area, however, the vegetation is dense. Slag, silica, large tuyere fragments, upper grindstones, lower grindstones, hammerstones and iron-ore occur in this vicinity.

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

JN35

The site is a multicomponent site of possible three occupations. It consists of terracing, stone walling and cultural deposits. The occupations are as follows:

1. A terrace with an agricultural field below. Artefacts include fragments of metal and pottery sherds. This part of the site may be recent.
2. Two large stone-walled circles ±50 m apart with the entrances possibly facing uphill. Uphill from the stone-walling area several iron working areas. These areas include slag, tuyeres, possible furnaces, ephemeral stone-walled features. Several upper grindstones, lower grindstones, and grooved stones occur, and the ceramic vessels are an orange-red colour. Another concentration of slag occurs ±15 m uphill. A cultural deposit exists on the site.

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

JN36

This site is located in an eroded area near the Tugela River. The site consists of tuyeres, slag, iron ore, quarried basalt, and small square stone features ±1 m x 1 m.

The site is of low archaeological significance and no further mitigation is required.

JN37

The site consists of two stone-walled circles, two terraces and artefacts. One stone-walled circle has an entrance facing uphill. The pottery sherds are orange-red and brown in colour. A cultural deposit may exist at this site.

This site dates to the Historical Period.

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

JN38

The site consists of a small stone-walled semi-enclosure, 2 m x 1 m in size. Two sides of the feature are packed with flat stone with a rubble infill. The entrance may faces downhill. The feature appears to be similar to the mine excavated by Maggs (1982).

This site dates to the Historical Period.

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

JN39

The site consists of a large open scatter of artefacts, of which some may be in a primary context, and stone-walled features. The scatter of artefacts include orange-red pottery, slag, upper grindstones, lower grindstones, hammerstones, fire-cracked spalls, furnace fragments, iron-ore and calcrete. Further uphill is a large stone-walled feature (8 m x 3 m). The wall is constructed of flat shale slabs, with smaller stones as an infill. The smaller stone-walled features may be graves. Ephemeral stone-walled features exist. The site may have a cultural deposit. The pottery sherds are orange-red in colour and some have a round lip with flat rim.

This site dates to the Historical Period.

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

JN40

The site consists of three stone-walled features (possibly terracing) ±15 m long, near the base of the hill. Scatters of slag occur below the walling along the flat area, as well as furnace fragments. The vegetation is dense and may contain further features and/or artefacts.

This site dates to the Historical Period.

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

JN41

The site consists of two stone-walled features ±15 m long, 2 m wide and 8 m apart. The walls are constructed from shale slabs with a rubble infill. The site may be an extension of JN40.

The site is of medium-low archaeological significance and further mitigation will be required. Mitigation will be in the form of archaeological mapping.

JN42

The site consists of a bilobial stone-walled feature with the entrance facing uphill. Another secondary enclosure is attached to the primary enclosure. Further uphill is an ephemeral stone-walled terrace with circular features. A cultural deposit may exist at this site.

This site dates to the Historical Period.

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

JN43

The site consists of ephemeral stone-walled features and three possible graves.

This site dates to the Historical Period.

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

JN44

The site consists of stone-walled features and possible graves. A cultural deposit exists on the site. A terrace surrounds four hut floors and possible walling. Another settlement may exist above this site, however, the vegetation was too dense for an accurate observation.

This site dates to the Historical Period.

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

JN45

The site consists of a terrace with ephemeral stone-walled features.

This site dates to the Historical Period.

The site is of low archaeological significance and no further mitigation will be required.

JN46

Site consists of a stone-walled features and a daga floor. The stone walling occurs slightly uphill from the daga floor, and downhill to the left.

The site is unlikely to be affected by the dam and no further mitigation is required.

2829DB4

Site consists of stone walling and furnaces and has an archaeological deposit.

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

2829DB12

This site consists of stone-walled features, graves, slag, furnaces and tuyeres.

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

2830CA2

This site consists of a stone enclosure, stone-walled features, furnaces, mines/quarry.

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

2830CA3

The site consists of stone-walled features and furnaces that have been surveyed and excavated by Tim Maggs (1982)

No further mitigation is required.

KD1

The site consists of terracing and a stone-walled feature ±10 m x 10 m. An ephemeral circular feature exists above the terrace.

The site is of low archaeological significance and no further mitigation will be required.

KD2

The site consists of stone-walled features, terracing and a cultural deposit. One stone-walled feature is low and ±10 m in diameter, and may have secondary walling and a secondary enclosure. Above these features is a circular feature with shale paving, This is probably the remains of a house. A potential shale 'quarry' may exist on the left hand side of this site. This 'quarry' was probably the area used for removing shale for the houses. A terrace and stone circle occur uphill.

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

KD3

The main site consists of rock art and a cultural deposit in a small rock overhang. The deposit includes bone, stone and pottery, as well as an ashy feature.

Over 200 rock art images exist in various conditions of preservation. They include:

1. trance dancing scenes,

2. therianthropic images,
3. male and female humans in various activities and postures,
4. various antelope, including eland,
5. fat-tailed sheep,
6. palettes,
7. bow, arrows and possible bags, and,
8. connecting thin lines between people.

The images are in white, red, yellow, black and dark red. The most significant feature of the art is the occurrence of fat-tailed sheep. Fat-tailed sheep are rare images, especially in the Tugela River Basin.

To the right of the overhang are two smaller shelters. Each shelter contains a cultural deposit and pot sherds. In front of these two shelters is an open flat area that has several stone tools and a deposit. This may be an open site with spatial information.

The site will not be directly affected by the dam. However, if the flood waters are within 10 m of the open area, then mitigation will be required.

The site is of high archaeological significance and further mitigation will be required. Mitigation will be in the form of archaeological excavations and mapping.

KD4

The site is a very large settlement of stone-walled features, graves, circular features, house floors, terraces, and many artefacts. The stone-walled features vary from circular to rectangular in shape, and size. The main wall has secondary walling. Some of the walling is constructed from flat shale slabs. On the right hand side of the settlement are thirteen graves (without headstones). In front of the main walling are several concentrations of slag, a few glass fragments, and several upper grindstone.

This site dates to the Historical Period.

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

KD5

The site consists of ephemeral tone-walled features circular features (probably houses) and a small terrace.

The site may be younger than sixty years of age, and thus requires no further mitigation.

KD6

The site consists of three terraces and three circular features. A cultural deposit may exist at the site. The preservation of the site is fairly good.

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

KD7

The site consists of ephemeral stone walling and a possible terrace. The pottery sherds are orange-red in colour.

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

KD8

The site consists of stone-walled features and terracing in front of an open scatter of artefacts. There are five *izivivane* in the area. A cultural deposit exists at the site. The community recognises these as *izivivane*.

This site dates to the Historical Period.

The site is of medium archaeological significance and further mitigation will be required. Mitigation will be in the form of archaeological test-pit excavations and mapping, in conjunction with community interaction.

KD9

The site consists of a large stone-walled feature ±40 m in diameter, and various stone-walled features within. Two of these stone-walled features are rectangular in shape, while the other is circular. Several wooden posts still exist at parts of the site, however, these have been eaten by termites.

This site dates to the Historical Period.

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

KD10

The site covers a large area and consists of four smaller sites.

1. Two low stone-walled circles with infill. The entrances face uphill. A cultural deposit may exist within these circles.
2. A bilobial stone-walled feature.
3. One settlement with terracing, ±4 houses and a possible cattle byre in the front.
4. Two stone-walled features, one circular and the other rectangular in shape. Both features are made from shale slabs.

The pottery sherds are orange-red or black in colour, with a flat rim and beveled lip.

This site is of low-medium significance. The site will require further mitigation in the form of archaeological mapping.

KD11

The site is a settlement with stone-walled features and an cultural deposit. The stone walling consists of upright shale slabs similar to those at JN22. Behind this walling is a smaller square wall of upright shale slabs. A cultural deposit may exist at the site.

This site dates to the Historical Period.

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

KD12

The site consists of four undated engraved names, probably of the recent past. The names are:

1. A.L. Brown
2. E.C. Hulme
3. T(J?). W.S. Epping
4. A. Wallace

The site is of low archaeological significance and further mitigation will be required in terms of the archaeology. The site may have historical significance.

KD13

The site consists of an old coal mine, according to oral history. Fragments of coal were observed on the outside, however, an animal currently lives in the mine and a full inspection was not carried out.

This site dates to the Historical Period.

The site is of low-medium archaeological significance and further mitigation will be required. Mitigation will be in the form of archaeological mapping.

KD14

The site consists of stone-walled features, terracing and circular features, ±70 m long and 40 m wide. A large stone-walled feature encloses both the main cattle byre and terracing, but not the two circular features. A cultural deposit may exist at the site.

This site dates to the Historical Period.

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

KD15

The site consists of three stone terraces halfway up an hill.

This site dates to the Historical Period.

The site is of low archaeological significance and no further mitigation will be required.

KD16

The site is a coal mine ±7 m long, 1 m high and 4 m deep. There is a thick coal seem (±0.5 m thick) running across this cave.

This site dates to the Historical Period.

The site is of low-medium archaeological significance and further mitigation will be required. Mitigation will be in the form of archaeological mapping.

KD17

The site is a large settlement with stone-walled features, terracing and a potential cultural deposit. The main stone-walled feature is a rectangular wall with a secondary wall and an entrance facing upslope. Another secondary wall is attached to this wall on the outside and curves behind the primary enclosure. Uphill, and to the left, are three stone-walled circles abutting a natural rock outcrop. Below this outcrop is a stone-walled terrace.

This site dates to either the Late Iron Age or the Historical Period.

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

KD18

The site consists of a stone-walled features with two small circular enclosures in the front. The stone walling abuts the terrace. There is a stone pile on the upper right hand side of the wall.

The site may belong to the recent past.

The site is of low-medium archaeological significance and further mitigation will be required. Mitigation will be in the form of archaeological mapping.

KD19

The site is a settlement with terracing and circular features, but no stone walling is present. The site is ±30 m long and ±15 m wide. A grave occurs on the right hand side of the terrace. A cultural deposit may occur at the site.

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

The sites and their mitigation's are summarized in Table 1.

The issue of human graves needs to be dealt with at some stage of the project. I recommend that if any graves are to be excavated, this is only undertaken once the community has identified all of those graves belonging to them.

Comparison of archaeological sites located in the Proposed Jana and Klip Dams

The comparison between the sites is not a straightforward comparison. While the Jana Dam has more sites to be affected by the Klip Dam, both have proposed area have sites of varying significance and importance. Tables 2 and 3 summarize the sites as per dam and the amount of time allocated to each dam.

Mitigation for the Jana Dam would take a total of 134 days from 40 sites requiring mitigation. This would cost about R268 000 for mitigation. Mitigation for the Klip Dam would take a total of 67 days from sites 16 requiring mitigation. This would cost about R134 000 for mitigation. This tabulation assumes that KD2 will be affected in some way.

There are no sites that are so important that it would oppose the construction of either dam. However, in terms of archaeological impact, the Klip Dam will have a lower negative impact than the Jana Dam. The archaeological sites along the Klip Dam are in sum total of less significance than those along the Jana Dam. If mitigation were to take place, the impact of both dams would be high positive.

If the Klip Dam is the preferred dam site, then mitigation may be needed for some of the Jana Dam sites. This mitigation related to the opening of the flood gates for the Klip Dam, and the rising levels of the

water. If the level of water rises then those sites along the flat flood plains may be affected and thus need to be mitigated.

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 comparison between the two dams was to be made to suggest a preferred dam site.

A total of 66 archaeological sites were found. Of these most were located in the area of the proposed Jana Dam, and most of these were significant. While the Klip Dam has significant sites, only one was very significant. This site, KD2, would however not be directly affected by the dam.

The preferred dam area is the Klip Dam, since this dam will impact on fewer archaeological sites.

Table 1: List of sites and significance in the Jana & Klip Dam

Site No.	Period	Significance	Effecting Dam
JN1	HP	High	Jana Dam
JN2	HP	High	Jana Dam
JN3	MSA/HP	Low	Jana Dam
JN4	LSA/HP	Low	Jana Dam
JN5	HP	Medium	Klip Dam
JN6	HP	Medium-low	Jana Dam
JN7	HP	Low	Jana Dam
JN8	LSA/HP	High	Jana Dam
JN9	MSA/HP	High	Jana Dam
JN10	HP	Medium	Jana Dam
JN11	MSA/HP	Medium	Jana Dam
JN12	LSA/HP	Low-medium	Jana Dam
JN13	HP	Medium	Jana Dam
JN14	HP	Low	Jana Dam
JN15	HP	Low	Jana Dam
JN16	MSA/LSA/HP	Medium	Jana Dam
JN17	HP	Medium	Jana Dam
JN18	HP	Low	Jana Dam
JN19	MSA/LSA	Low-medium	Jana Dam
JN20	LSA	High	Jana Dam
JN21	HP	Low	Jana Dam
JN22	HP	High	Jana Dam
JN23	HP	Low-medium	Jana Dam
JN24	HP	Medium	Jana Dam
JN25	MSA/LSA/HP	High-medium	Jana Dam
JN26	HP	Medium	Jana Dam
JN27	HP	Medium-high	Jana Dam
JN28	HP	Medium	Jana Dam
JN29	HP	Medium-high	Jana Dam
JN30	HP	Medium	Klip Dam
JN31	HP	Low	Jana Dam
JN32	HP	Low	Jana Dam
JN34	HP	Medium	Jana Dam
JN35	HP	Medium	Jana Dam
JN36	HP	Low	Jana Dam
JN37	HP	Medium	Jana Dam
JN38	HP	Medium	Jana Dam
JN39	HP	Medium	Jana Dam
JN40	HP	Medium-low	Jana Dam
JN41	HP	Medium-low	Jana Dam
JN42	HP	Medium	Jana Dam
JN43	HP	Low-medium	Jana Dam
JN44	HP	Medium	Jana Dam
JN45	HP	Low	Jana Dam
JN46	HP	Medium	Jana Dam
2830CA2	HP	High	Jana Dam
2830CA3	HP	High	Jana Dam
2829DB4	HP	High	Jana Dam
2829DB12	HP	High	Jana Dam
KD1	HP	Low	Klip Dam
KD2	LIA/HP	Medium	Klip Dam

KD3	LSA	High	Klip Dam
KD4	HP	Medium	Klip Dam
KD5	HP	Medium	Klip Dam
KD6	HP	Medium	Klip Dam
KD7	HP	Low	Klip Dam
KD8	HP	Medium	Klip Dam
KD9	HP	Medium	Klip Dam
KD10	MSA/LSA/HP	Low-medium	Klip Dam
KD11	HP	Medium	Klip Dam
KD12	HP(recent)	Low	Klip Dam
KD13	HP	Low-medium	Klip Dam
KD14	HP	Medium	Klip Dam
KD15	HP	Low	Klip Dam
KD16	HP	Low-medium	Klip Dam
KD17	HP	Medium	Klip Dam
KD18	HP	Medium	Klip Dam
KD19	HP	Medium	Klip Dam

Table 2: Sites requiring mitigation for Jana Dam

Site No.	Mitigation required	No. of days	± Money
JN1	Yes – excavation if affected	21	R42 000
JN2	Yes – test-pit excavations and mapping	3	R6000
JN3	No	-	-
JN4	No	-	-
JN5	Yes – test-pit excavations and mapping	3	R6 000
JN6	Y – mapping	1	R2 000
JN7	No	-	-
JN8	Yes –test-pit excavations and mapping	6	R12 000
JN9	Yes - test-pit excavations and mapping	3	R6 000
JN10	Yes - test-pit excavations and mapping	3	R6 000
JN11	Yes - test-pit excavations and mappings	3	R6 000
JN12	Yes – mapping	1	R2 000
JN13	Yes –test-pit excavations and mapping	3	R6 000
JN14	No	-	-
JN15	No	-	-
JN16	Yes - test-pit excavations and mapping	3	R2 000
JN17	Yes – mapping	2	R4 000
JN18	Yes - mapping	1	R2 000
JN19	Yes - sample	1	R2 000
JN20	Yes - excavation	14	R28 000
JN21	No	-	-
JN22	Yes - test-pit excavations and mapping	6	R18 000
JN23	Yes – mapping and community negotiations	1	R2000
JN24	Yes – test-pit excavations and mapping	1	R2000
JN25	Yes - test-pit excavations and mapping	3	R6000
JN26	Not affected	-	-
JN27	Yes - test-pit excavations and mapping	3	R6000
JN28	Yes – test-pit excavations and mapping	3	R6000
JN29	Not affected	-	-
JN30	Yes - test-pit excavations and mapping	3	R6000
JN31	Not affected	-	-
JN32	No	-	-
JN34	Yes - test-pit excavations and mapping	3	R6 000
JN35	Yes - test-pit excavations and mapping	3	R6 000
JN36	No	-	-
JN37	Yes - test-pit excavations and mapping	3	R6 000
JN38	Yes - test-pit excavations and mapping	3	R6 000
JN39	Yes - test-pit excavations and mapping	3	R6 000
JN40	Yes - mapping	1	R2 000
JN41	Yes – mapping	1	R2 000
JN42	Yes - test-pit excavations and mapping	3	R6 000
JN43	Yes - mapping	1	R2 000
JN44	Yes - test-pit excavations and mapping	3	R6 000
JN45	No	-	-
JN46	No	-	-
2830CA2	Yes - test-pit excavations and mapping	3	R6 000
2830CA3	No	-	-
2829DB4	Yes - test-pit excavations and mapping	3	R6 000
KD4	Yes - test-pit excavations and mapping	3	R6 000
KD5	No	-	-
KD6	Yes - test-pit excavations and mapping	3	R6 000
KD7	No	-	-
KD8	Yes - test-pit excavations and mapping	3	R6 000
KD9	Yes - test-pit excavations and mapping	3	R6 000
KD11	Yes - test-pit excavations and mapping	3	R6 000

KD12	No – historical value?		
KD13	Yes – mapping	1	R2 000
KD15	No	-	-
KD18	Yes - mapping	1	R2 000

Table 3: Sites requiring mitigation for Jana Dam

Site No.	Mitigation required	No. of days	± Money
KD1	No	-	-
KD2	Yes - test-pit excavations and mapping	3	R6 000
KD3	Yes - excavation	30	R60 000
KD4	Yes - test-pit excavations and mapping	3	R6 000
KD5	No	-	-
KD6	Yes - test-pit excavations and mapping	3	R6 000
KD7	No	-	-
KD8	Yes - test-pit excavations and mapping	3	R6 000
KD9	Yes - test-pit excavations and mapping	3	R6 000
KD10	Yes – mapping	1	R2 000
KD11	Yes - test-pit excavations and mapping	3	R6 000
KD12	No	-	-
KD13	Yes – mapping	1	R2 000
KD14	Yes – test-pit excavations and mapping	3	R6 000
KD15	No	-	-
KD16	Yes - mapping	1	R2 000
KD17	Yes - test-pit excavations and mapping	3	R6 000
KD18	Yes – mapping	1	R2 000
KD19	Yes - test-pit excavations and mapping	3	R6 000
JN5	Yes - test-pit excavations and mapping	3	R6 000
JN30	Yes - test-pit excavations and mapping	3	R6 000
JN36	No	-	-