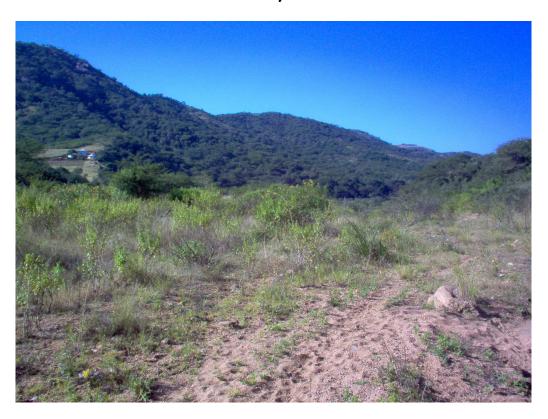
HERITAGE IMPACT ASSESSMENT OF NGWADINI RESERVOIR. UMKOMAZI RIVER CATCHMENT, KWAZULU-NATAL, SOUTH AFRICA



Assessment and report by



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11 July 2006

Management summary

eThembeni Cultural Heritage was appointed by WSP Environmental to undertake a heritage impact assessment of a proposed reservoir inland of Umkomaas, in terms of the KwaZulu-Natal Heritage Act No 10 of 1997. Two eThembeni staff members inspected the area on 9 March 2006 and completed a controlled-exclusive surface survey, as well as a database and literature search.

There are no homesteads in the area to be inundated, although four homesteads are located within about 100 metres of the proposed waters' edge. Their residents have agreed to be relocated elsewhere and their homesteads will be demolished. No permit from Amafa is required for such demolition, since the structures are all younger than sixty years and do not constitute heritage resources.

The area is a place associated with living heritage, since the local community use it for firewood and muthi collection, limited grazing and vegetable cultivation. It has medium to high local heritage significance. However, residents have agreed to forfeit these activities in exchange for benefits associated with the development. These include road upgrades, access to perennial water, irrigation water and a bridge connecting the two sides of the valley. Sappi will also provide two new cattle dips to replace the one being inundated the reservoir.

The reservoir site is located on land owned by the Ingonyama Trust, in an area that is sparsely populated. This landscape and natural feature with cultural significance has medium to high local heritage significance and will be transformed by the proposed development.

Eight gravesites have been identified in the affected area. All graves have high heritage significance due to their social value and may not be altered without the permission of the families concerned and a permit from Amafa aKwaZulu-Natali.

We recommend that this project may proceed with the recommended heritage resource mitigation and have submitted this report to Amafa aKwaZulu-Natali in fulfilment of the requirements of the KwaZulu-Natal Heritage Act. The client may contact Ms Elize Becker at Amafa's Pietermaritzburg office (telephone 033 3946 543) in due course to enquire about the Council's decision.

If permission is granted for the development to proceed, the client is reminded that the Act requires that a developer cease all work immediately and notify Amafa aKwaZulu-Natali should any heritage resources, as defined in the Act, be discovered during the course of development activities.

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Introduction and legislation

eThembeni Cultural Heritage was appointed by WSP Environmental to undertake a heritage impact assessment of a proposed reservoir inland of Umkomaas, in terms of the KwaZulu-Natal Heritage Act No 10 of 1997. Section 27(1) of the Act requires such an assessment in case of:

- (a) construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;
- (b) construction of a bridge or similar structure exceeding 50 m in length; and
- (c) any development, or other activity which will change the character of an area of land, or water -
 - (i) exceeding 10 000 m² in extent;
 - (ii) involving three or more existing erven or subdivisions thereof; or
 - (iii) involving three or more erven, or subdivisions thereof, which have been consolidated within the past five years; or
- (d) the costs of which will exceed a sum set in terms of regulations; or
- (e) any other category of development provided for in regulations.

A heritage impact assessment is not limited to archaeological artefacts, historical buildings and graves. It is far more encompassing and includes intangible and invisible resources such as places, oral traditions and rituals. In the KwaZulu-Natal Heritage Act 1997 a heritage resource is defined any place or object of cultural significance i.e. of aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This includes the following wide range of places and objects:

- (a) places, buildings, structures and equipment;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and palaeontological sites;
- (g) graves and burial grounds, including -
 - (i) ancestral graves,
 - (ii) royal graves and graves of traditional leaders,
 - (iii) graves of victims of conflict,
 - (iv) graves of important individuals,
 - (v) historical graves and cemeteries older than 60 years, and
 - (vi) other human remains which are not covered under the Human Tissues Act, 1983 (Act No.65 of 1983 as amended);
- (h) movable objects, including -
 - (i) objects recovered from the soil or waters of South Africa including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - (ii) ethnographic art and objects;
 - (iii) military objects;
 - (iv) objects of decorative art;
 - (v) objects of fine art;
 - (vi) objects of scientific or technological interest;
 - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings; and
 - (viii) any other prescribed categories,

but excluding any object made by a living person;

- (i) battlefields;
- (j) traditional building techniques.

A 'place' is defined as:

- (a) a site, area or region;
- (b) a building or other structure (which may include equipment, furniture, fittings and articles associated with or connected with such building or other structure);

- (c) a group of buildings or other structures (which may include equipment, furniture, fittings and articles associated with or connected with such group of buildings or other structures); and
- (d) an open space, including a public square, street or park; and in relation to the management of a place, includes the immediate surroundings of a place.

'Structures' means any building, works, device, or other facility made by people and which is fixed to land any fixtures, fittings and equipment associated therewith older than 60 years.

'Archaeological' means -

- (a) material remains resulting from human activity which are in a state of disuse and are in or on land and are older than 100 years, including artefacts, human and hominid remains and artificial features and structures;
- (b) rock art, being a 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 is older than 100 years including any area within 10 m of such representation; and
- (c) wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land or in the maritime cultural zone referred to in section 5 of the Maritime Zones Act 1994 (Act 15 of 1994), and any cargo, debris or artefacts found or associated therewith, which are older than 60 years or which in terms of national legislation are considered to be worthy of conservation;
- (d) features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found.

'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.

'Grave' means a place of interment and includes the contents, headstone or other marker of and any other structures on or associated with such place. Amafa aKwaZulu-Natali will only issue a permit for the alteration of a grave if it is satisfied that every reasonable effort has been made to contact and obtain permission from the families concerned. Since Amafa has not yet formulated guidelines or regulations for the removal of human remains, eThembeni adheres to the following procedures, compiled in discussion with the South African Heritage Resources Agency and used by professional colleagues:

- Notification of the impending removals (using English and Zulu language media and notices at the grave site);
- Consultation with individuals or communities related or known to the deceased;
- Satisfactory arrangements for the curation of human remains and / or headstones in a museum, where applicable;
- Procurement of a permit from Amafa aKwaZulu-Natali;
- Appropriate arrangements for the exhumation (preferably by a suitably trained archaeologist) and reinterment (sometimes by a registered undertaker, in a formally proclaimed cemetery):
- Observation of rituals or ceremonies required by the families.

Nature and description of proposed activities

Sappi Saiccor propose to build an 'off-stream' earth embankment storage reservoir¹ in the Ngwadini valley, a tributary of the uMkhomazi River approximately 23 kilometres from the Saiccor Mill. The reservoir itself will cover an area of about 73 hectares and will be filled by pumping water from the uMkhomazi River during normal flow conditions. It has been designed to have a capacity of about 10 million cubic metres of water. During critical low flow conditions water will be released from the reservoir back into the uMkhomazi River to maintain Saiccor's requirements. The proposed reservoir will provide approximately 68 days of supply.

The project will comprise the following activities:

- Construction of a 50 metre high earthfill embankment wall approximately 275 metres long with a concrete spillway on the Ngwadini stream, approximately 400 metres upstream of its confluence with the uMkhomazi River;
- Establishment of borrow pits as a source for reservoir wall construction material;
- Construction of abstraction facilities on the uMkhomazi River and associated pipe work;
- Construction of approximately 11 kilometres of 22kV Overhead Transmission Line to provide electrical feed to the pump intake facility;
- Upgrading of existing roads to the reservoir wall area;
- Inundation of the valley behind the reservoir wall;
- Provision of new cattle dips to replace the one being inundated by water from the reservoir.

Construction of the reservoir will take approximately 18 months and a further nine months to fill.

The key purpose of the reservoir is to ensure a reliable supply of water to Sappi Saiccor for its operational and community water supply commitments during critical low flow conditions that occur from time to time.

Sappi Saiccor has abstracted water from the uMkhomazi River since 1955, in accordance with licences issued by the relevant authorities and now the Department of Water Affairs and Forestry. This water is treated for use in its own operational processes as well as for the supply of potable water to the town of Umkomaas, the Ethekwini Metro and Umdoni Municipal Councils.

During past low flow periods, Sappi Saiccor has undertaken the construction of a temporary reservoir at Goodenough on the uMkhomazi River to ensure the availability of water. The implementation of the National Water Act No 36 of 1998 has determined that any water user has to allow sufficient flow through any structure constructed in a river to meet the Department of Water Affairs and Forestry's in stream flow requirement and estuarine fresh water requirements (ecological reserve).

This National Water Act determination has meant that during critical low flow periods, which historically occur in 7 to 10 year cycles, there may be insufficient flow in the uMkhomazi River to meet both Sappi Saiccor's requirements and the ecological reserve. It is therefore essential to ensure an adequate balance between the operational requirements of the mill and the management of the uMkhomazi River system as envisioned by the National Water Act.

Sappi Saiccor initiated investigations into alternative water supply options in the early 1990s. A range of alternatives were identified and considered:

- o Maintain the status quo i.e. a no storage option;
- o Desalination;
- Municipal supply;
- o Main uMkhomazi Channel build 'in stream' temporary earth barrages;
- o Main uMkhomazi Channel build a reservoir on the uMkhomazi River;
- Off channel options build an 'off-stream' storage reservoir on a tributary of the uMkhomazi River (various sites considered);
- o Inter-basin transfers uMngeni, Umgababa and uMzimkhulu Rivers.

The construction of an 'off-stream' storage reservoir in the Ngwadini Valley emerged as the preferred option. A range of investigations were undertaken on the proposed Ngwadini Reservoir site during the late 1990s including:

- o Initial Environmental Statement (CSIR, April 1996)
- Geotechnical investigations (Drennan Maude and Partners, May 1996)

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¹ An off-stream reservoir is a storage facility in a valley off the main river channel. Off-stream storage facilities are typically recharged by pumping from the main river during normal flow conditions. During low flow conditions water would be released back into the main river to ensure adequate supply for the maintenance of the mill's operations and its community water supply commitments.

- Preliminary Dam Design (Brown & Root (Pty) Ltd, May 1996)
- The uMkhomazi Water Storage Scheme (Ngwadini Dam) (CSIR, Feb 1997)
- o Engineering pre-feasibility studies (Brown & Root (Pty) Ltd, 1997-1998)
- o Flood Studies (Brown & Root (Pty) Ltd, May 1998)
- Social Implications (IWR Environmental & KLK Consulting, March 2000)

In 1991 the Department of Water Affairs and Forestry granted permission for the mill to build temporary storage facilities on the uMkhomazi River and the first temporary reservoir was constructed in 1992 at the Goodenough site (eight kilometres upstream). An EIA was carried out in 1999 for the construction of a temporary storage reservoir on the uMkhomazi River. The authorities issued a Record of Decision in May 2003 (EIA 3281), authorising the above activity for a period of three seasons. The Record of Decision required that Sappi Saiccor investigate a permanent solution to the assurance of water to the mill during critical low flow periods.

Site access, description and environmental issues

Road access to the proposed development area is from the N2 freeway southbound from Durban. Take exit 110 (Scottburgh / Dududu) and turn right along the tarred road (1105) to Dududu. Once the tar ends, take the first road to the right – the roads splits around the tribal court and the lower road leads directly to the study area, with the dam wall located at S30 08 23.0; E 30 36 27.0. The upper road leads to a T-junction; turn right and continue along the D1109 to Mahlaya's Store, overlooking the Ngwadini valley. A track leads from the store into the valley basin.

The reservoir site is located in the Vulamehlo Municipality, on land owned by the Ingonyama Trust, under the management of the Qiko and Zembe Tribal Authorities in an area that is sparsely populated. The local community use the area for firewood and muthi collection, limited grazing and vegetable cultivation. There are no other formal land uses on the site.

The reservoir basin is characterised by moderate to steep valley sides with slopes up to 53 degrees. Upstream of the proposed reservoir wall site the valley floor is relatively flat and has been naturally backfilled with alluvial sands and gravels. The area is underlain by rocks of the uMkhomazi Gneiss suite.

The Ngwadini catchment is approximately 1800 hectares in extent and drains to the north into the uMkhomazi River. The Ngwadini stream is non-perennial and flow only occurs immediately after precipitation events. The vegetation in the valley is characterised by disturbed valley bushveld vegetation. The valley basin has a high concentration of alien invasive species.

A number of potential positive and negative impacts may arise as a result of the proposed project. Potential positive impacts include improved access to the area, employment opportunities, improved flow in the lower uMkhomazi River during low flow periods, the creation of new aquatic habitats and increased biodiversity. Potential negative impacts include construction disturbance, changes in downstream flow regimes, effects on vegetation and alteration of the riverine environment. These, and any additional impacts identified, will be investigated and assessed during the environmental scoping study.

Methodology

Two eThembeni staff members inspected the area on 9 March 2006. Soil surface visibility was poor to none-existent and we completed a controlled-exclusive surface survey, where 'sufficient information exists on an area to make solid and defensible assumptions and judgements about where [heritage resource] sites may and may not be' and 'an inspection of the surface of the ground, wherever this surface is visible, is made, with no substantial attempt to clear brush, turf, deadfall, leaves or other material that may cover the surface and with no attempt to look beneath the surface beyond the inspection of rodent burrows, cut banks and other exposures that are observed by accident' (King 1978).

No excavations or sampling were undertaken, since a permit from Amafa aKwaZulu-Natali is required to disturb a heritage resource. We assessed the value and significance of heritage resources, as defined in the KwaZulu-Natal Heritage Act 1997 and the criteria contained in Appendix A. Culturally significant landscapes were assessed according to the criteria in Appendix B.

The client has provided a map of the area, accompanying this report separately. We consulted various provincial databases, including historical, archaeological and geological sources and undertook a limited literature review. Geographic coordinates were obtained with a handheld Garmin GPS72 global positioning unit. Photographs were taken with a Hulett Packard digital camera and submitted to Amafa on a compact disc.

Background and literature review

The general area is one of variable heritage resource significance and the following tables provide a brief summary of archaeological time periods:

E arly	1.5 million to 180 000 years ago	Only stone artefacts remain from	
S tone		this time period, including large	
A ge		choppers, cleavers and hand axes	
M idle	180 000 to 35 000 years ago	Stone tools smaller than in ESA;	
S tone		include blades and flakes; human	
A ge		and animal remains also found	
L ater	35 000 years ago to the time	Variety of artefacts made from	
S tone	of European settlement	organic and inorganic materials;	
A ge		human remains, shell middens etc	

E arly	400 – 500 AD	Mzonjani phase	
l ron	500 – 700 AD	Msuluzi phase	
A ge	700 – 900 AD	Ndondondwane phase	
	900 – 1200 AD	Ntshekane phase	
L ate	1200 – 1500 AD	Settlement by Nguni speakers	
l ron	1500 – 1700 AD	Introduction of maize	
A ge	1700 – 1850 AD	Pre-European settlement	
	1850 AD to present	Historical	

Numerous Stone and Iron Age sites have been recorded in the general area (Maggs 1989, Mazel 1989).

Early Stone Age stone scatters occur in raised beach gravels, eroded areas and ancient coastal dunes. No information is available on the foods eaten by the Early Stone Age people in Natal, but it can be assumed on the basis of evidence on Early Stone Age people elsewhere that their diet consisted primarily of animals and plant foods. It was also during this period that people learnt to control fire' (Mazel 1989: 3-5).

'Clear technological differences separate the Middle Stone Age from the Early Stone Age. Whereas Early Stone Age tools were generally core tools [choppers, handaxes, cleavers], Middle Stone Age tools were made of flakes and blades detached from the core [trapezoids, segments, scrapers, points, flakes, blades]. Handaxes and cleavers were absent...

'Relatively little is known about the particular types of food that the Middle Stone Age hunter-gatherers ate. Border Cave [situated in the Lebombo Mountains on the border between South Africa and Swaziland] is the only site from which information is at present available...Small quantities of a wide variety of animals were found in the Border Cave excavations. These included honey badger, dassie, Burchell's zebra, bushpig, warthog, hippopotamus, steenbok, oribi, mountain reedbuck, waterbuck, roan / sable, impala, blesbok, hartebeest / tsessebe, blue wildebeest, springbok, greater kudu, nyala, bushbuck, eland, Cape buffalo and possibly an extinct giant Cape horse (*Equus capensis*).

'A handful of seeds was also found at Border Cave, while grindstones, which may have been used in the processing of plant foods, have been recovered from the Middle Stone Age layers at Umhlatuzana Shelter [located between Durban and Pietermaritzburg]...

'Evidence of the manufacture of cultural articles from materials other than stone first appears during the Middle Stone Age. So also does evidence concerning religious practices, the final Middle Stone Age stage at Border Cave producing the earliest known burial so far attributed to the Middle Stone Age' (Mazel 1989: 6-8).

Recent excavations at Sibhudu Shelter, a near-coastal site located between the Mvoti and uMngeni rivers, promise to shed more light on the Middle Stone Age of KwaZulu-Natal.

Later Stone Age sites occur throughout the province, with high concentrations in places such as the uKhahlamba mountains where rock shelters suitable for occupation are plentiful.

Stone artefacts are overwhelmingly the most common cultural item recovered from the excavations that have been carried out, followed by pottery (belonging to the last 2 000 years), ground, polished and shaved bone, beads and ostrich eggshell... [Stone] scrapers were probably used for removing the fat from animal skins before these were pegged out to dry. Adzes were probably used for shaving wood and, to a lesser extent, bone; while backed pieces, of which there are different types, were probably employed in hunting and cutting up carcasses.

'A great deal of information about the foods Later Stone Age hunter-gatherers ate has been obtained from animal, plant and marine and freshwater shell remains. In some cases, it has been possible to identify the remains of individual species. As small animals in particular are sensitive to environmental fluctuations, these remains can also tell us much about past environments. Botanical remains are also very useful, for seeds can indicate which fruits and berries Later Stone Age people ate. And, because fruits and berries are seasonal, they can also provide information about the months during the year when sites were occupied' (Mazel 1989: 11-12).

'One of the main themes of Later Stone Age research in South Africa, including Natal, has been that of seasonality. It has been hypothesized, on the basis of the analysis of the seasonal movements of large antelope, that the food resources of southern Natal would have been exploited on a seasonal basis by hunter-gatherers. According to this hypothesis, they would have occupied the Drakensberg in summer and the Thornveld and coastal areas during winter, traversing the Midlands along ridges rather than in the valleys.

Recent field-work based on this hypothesis has suggested that in southern Natal during the last 3 500 years, hunter-gatherers would have occupied the Drakensberg in spring and summer (October to March), the coastal zone in winter (April / May to August), and the Midlands in autumn and late winter (March / April to September). This seasonal hypothesis...has given rise to the speculation that while they were in the Drakensberg, the hunter-gatherers would have lived in large groups and would have operated from large home-base sites.

'One of the results of the formation of these larger social units could have been an increase in ritual activity. Social organisation in the Midlands, however, would have been characterized by the small mobile groups that traversed the zone, while in the coastal zones larger groups, but not as large as those in the Drakensberg, would have been found' (Mazel 1989: 17).

'The advent of the Iron Age saw not only the introduction of metallurgy. Of even greater significance was the introduction of agriculture, necessitating a settled, village way of life instead of the nomadic patterns of the Stone Age. It also provided for an appreciable increase in population density, as well as a more complex life-style. Richly decorated pottery is a hallmark of these early settlements. Domestic

animals including cattle, sheep, goats and dogs were also a feature of the Iron Age, although current information indicates that they had already reached parts of South Africa, but apparently not Natal, during the Late Stone Age, through the agency of Khoisan herders...

',,, the earliest Iron Age sites in South Africa, including Natal, relate to an eastern coastal and lowland cultural tradition with links as far north as the Kwale sites of eastern Kenya. This tradition has been named 'Matola', after a site in southern Mozambique, which provided close typological links between the Natal and eastern Transvaal sites². [In KwaZulu-Natal] almost all of them are on the belt of ancient dunes, which would have been covered by coastal forest at the time' (Maggs 1989: 29-31).

'Most Early Iron Age sites in Natal are later than the [Mzonjani] period and are classified according to ceramic styles [refer to the table above]...By this time villages, often about eight hectares in size and probably containing a hundred or more people, had become common in the lower-lying and savannah areas, below an altitude of 1 000 metres. They were most common along the major rivers and in the coastal belt, where there was good, deep soil, sweet year-round grazing, and timber for building and fuel...

'Diet was based on agriculture and pastoralism, with a little supplementary hunting, fishing and gathering of wild plants and shellfish. Crops identified from seeds include several grains (bulrush millet, finger millet and probably sorghum), and probably the African melon... Most villages had one or more iron smelting areas and therefore produced their own requirements' (Maggs 1989: 31-32).

The beginning of the Late Iron Age marked a period of significant change in pottery styles, attributable to both socio-political and demographic factors (Maggs 1989). Settlements were no longer located in river valleys, but were built on higher ground where homesteads would benefit from cooling breezes and good views for strategic purposes.

Steep slopes, wetlands and marshy areas were used for grazing domestic animals and gathering wild food and medicinal plants. Settlements appear to have been much smaller, implying that 'society underwent a change away from the large Early Iron Age villages and towards the individual family homesteads of the historic Nguni-speaking peoples (Maggs 1989: 35).

Artefacts on Iron Age homestead sites include ceramic sherds, upper and lower grindstones and human and animal bones. Metalworking sites are often located in areas where iron ore is available and associated debris includes furnace remains, slag, bloom and ceramic sherds.

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² This tradition is now known as Mzonjani in KwaZulu-Natal.

Observations and recommendations

No construction activities associated with the proposed project had begun prior to our visit, in accordance with provincial heritage legislation.

⇒ Places, buildings, structures and equipment

There are no homesteads in the area to be inundated, although four homesteads are located within about 100 metres of the proposed waters' edge. Their residents have agreed to be relocated elsewhere and their homesteads will be demolished. No permit from Amafa is required for such demolition, since the structures are all younger than sixty years and do not constitute heritage resources.

⇒ Places to which oral traditions are attached or which are associated with living heritage

The local community use the area for firewood and muthi collection, limited grazing and vegetable cultivation. This place, associated with living heritage, has medium to high local significance due to its social value. However, residents have agreed, in the course of extensive community participation processes, to forfeit these activities, in exchange for benefits associated with the development. These include road upgrades, access to perennial water, irrigation water and a bridge connecting the two sides of the valley. Sappi will also provide two new cattle dips to replace the one being inundated the reservoir.

⇒ Historical settlements and townscapes

None will be affected.

⇒ Landscapes and natural features

The reservoir site is located on land owned by the Ingonyama Trust, under the management of the Qiko and Zembe Tribal Authorities in an area that is sparsely populated. Residents use the area for firewood and muthi collection, limited grazing and vegetable cultivation. This landscape and natural feature has medium to high local significance due to its social value and will be transformed by the proposed development.

⇒ Geological sites of scientific or cultural importance

None will be affected.

⇒ Archaeological and palaeontological sites

None will be affected.

⇒ Graves and burial grounds

The community has informed Sappi that eight gravesites are located in the affected area. However, we have only been able to record the locations of that of the late inkosi Bele (S30 08 39.0; E30 36 09.0), as well as one family grouping of four graves (S30 08 55.0; E30 36 26.0). The location of the remaining three graves at an abandoned homestead is known to the current inkosi. All eight graves have been the subject of negotiations and a binding agreement between the traditional authority and Sappi (see Appendix C).

All graves have high heritage significance due to their social value. No grave may be altered without the permission of the families concerned and a permit from Amafa aKwaZulu-Natali, as indicated in the legislation section above.

⇒ Movable objects excluding any object made by a living person

None will be affected.

⇒ Battlefields

None will be affected.

⇒ Traditional building techniques

None will be affected.

Summary of findings in terms of the KwaZulu-Natal Heritage Act 1997 Section 27(3)

(a) the identification and mapping of all heritage resources in the area affected

The area is a place associated with living heritage and constitutes a landscape and natural feature with cultural significance. Eight gravesites are present.

(b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in regulations

The place associated with living heritage, as well as the landscape and natural feature, have medium to high local significance due to their social value. The gravesites have high significance at all levels due to their social significance.

(c) an assessment of the impact of development on such heritage resources

The place associated with living heritage and the natural feature and the gravesites will be altered permanently, through inundation, by the proposed development. The gravesites will be exhumed and re-interred outside of the dam basin.

(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

The local community has negotiated compensation for the alteration to the place associated with living heritage and the landscape and natural feature. The gravesites will be exhumed and re-interred elsewhere.

(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

The client has undertaken such consultation in terms of statutory requirements and retains the relevant documentation.

(f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives

The gravesites require exhumation and reinterment elsewhere, with the permission of the families concerned and a permit from Amafa aKwaZulu-Natali.

(g) plans for mitigation of any adverse effects during and after completion of the proposed development

If permission is granted for development to proceed, the client is reminded that the Act requires that a developer cease all work immediately and notify Amafa should any heritage resources, as defined in the Act, be discovered during the course of development activities.

Conclusion

We recommend that this project may proceed with the recommended heritage resource mitigation and have submitted this report to Amafa aKwaZulu-Natali in fulfilment of the requirements of the KwaZulu-Natal Heritage Act. According to Section 27(4) of the Act:

The report shall be considered timeously by the Council which shall, after consultation with the person proposing the development, decide -

- (a) whether or not the development may proceed;
- (b) any limitations or conditions are to be applied to the development;
- (c) what general protections in terms of this Act apply, and what formal protections may be applied to such heritage resources;
- (d) whether compensatory action shall be required in respect of any heritage resources damaged or destroyed as a result of the development; and
- (e) whether the appointment of specialists is required as a condition of approval of the proposal.

The client may contact Ms Elize Becker at Amafa's Pietermaritzburg office (telephone 033 3946 543) in due course to enquire about the Council's decision.

References

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Mazel, A. 1989. The Stone Age peoples of Natal. In Duminy, A. and Guest, B. (eds) Natal and Zululand from earliest times to 1910. A new history pp. 1-27. Pietermaritzburg: University of Natal Press.

APPENDIX A

SIGNIFICANCE AND VALUE OF HERITAGE RESOURCE SITES

The following guidelines for determining site significance were developed by the South African Heritage Resources Agency in 2003. We use them in conjunction with tables of our own formulation (see that for the Southern African Iron Age, below) when considering intrinsic site significance and significance relative to development activities, as well as when recommending mitigatory action.

Type of Resource Place Structure Archaeological Site Palaeontological Site Geological Feature Grave

Type of Significance

1. Historical Value

It is important in the community, or pattern of history

- Importance in the evolution of cultural landscapes and settlement patterns
- Importance in exhibiting density, richness or diversity of cultural features illustrating the human occupation and evolution of the nation, Province, region or locality.
- Importance for association with events, developments or cultural phases that have had a significant role in the human occupation and evolution of the nation. Province, region or community.
- Importance as an example for technical, creative, design or artistic excellence, innovation or achievement in a particular period

It has strong or special association with the life or work of a person, group or organisation of importance in history

- Importance for close associations with individuals, groups or organisations whose life, works or activities have been significant within the history of the nation, Province, region or community.

It has significance relating to the history of slavery

- Importance for a direct link to the history of slavery in South Africa.

2. Aesthetic Value

It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group

- Importance to a community for aesthetic characteristics held in high esteem or otherwise valued by the community.
- Importance for its creative, design or artistic excellence, innovation or achievement.
- Importance for its contribution to the aesthetic values of the setting demonstrated by a landmark quality or having impact on important vistas or otherwise contributing to the identified aesthetic qualities of the cultural environs or the natural landscape within which it is located.
- In the case of an historic precinct, importance for the aesthetic character created by the individual components which collectively form a significant streetscape, townscape or cultural environment.

3. Scientific Value

It has potential to yield information that will contribute to an understanding of natural or cultural heritage

- Importance for information contributing to a wider understanding of natural or cultural history by virtue of its use as a research site, teaching site, type locality, reference or benchmark site.
- Importance for information contributing to a wider understanding of the origin of the universe or of the development of the earth.
- Importance for information contributing to a wider understanding of the origin of life; the development of plant or animal species, or the biological or cultural development of hominid or human species.
- Importance for its potential to yield information contributing to a wider understanding of the history of human occupation of the nation, Province, region or locality.

It is important in demonstrating a high degree of creative or technical achievement at a particular period

- Importance for its technical innovation or achievement.

4. Social Value

It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons

- Importance as a place highly valued by a community or cultural group for reasons of social, cultural, religious, spiritual, symbolic, aesthetic or educational associations.
- Importance in contributing to a community's sense of place.

Degrees of Significance Rarity

It possesses uncommon, rare or endangered aspects of natural or cultural heritage

- Importance for rare, endangered or uncommon structures, landscapes or phenomena.

Representivity

It is important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects

Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class.

Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, Province, region or locality.

Sphere of Significance International National Provincial Regional Local Specific Community	High	Mediui	m Low	
What other similar sites may I	be compared	to this si	te?	

Southern African Iron Age

	Significance		
	- low	- medium	- high
Unique or type site			Yes
Sinque of type one			100
Formal protection			Yes
Spatial patterning	?Yes	?Yes	?Yes
Degree of disturbance	75 – 100%	25 – 74%	0 – 24%
Organic remains (list types)	0 – 5 / m²	6 – 10 / m²	11 + / m ²
Inorganic remains (list types)	0 – 5 / m²	6 – 10 / m²	11 + / m ²
Ancestral graves			Present
Horizontal extent of site	< 100m²	101 – 1000m²	1000 + m ²
Depth of deposit	< 20cm	21 – 50cm	51 + cm
Spiritual association			Yes
Oral history association			Yes
> Research potential			High
> Educational potential			High

Please note that this table is a tool to be used by qualified cultural heritage managers who are also experienced site assessors.

APPENDIX B

The American National Parks Services sets out various criteria for the identification and management of cultural landscapes:

'Cultural landscapes are complex resources that range from large rural tracts covering several thousand acres to formal gardens of less than an acre. Natural features such as landforms, soils and vegetation are not only part of the cultural landscape, they provide the framework within which it evolves. In the broadest sense, a cultural landscape is a reflection of human adaptation and use of settlement, land use, systems of circulation and the natural resources and is often expressed in the way land is organised and divided, patterns of types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls and vegetation, and by use reflecting cultural values and traditions.

'Identifying the character-defining features in a landscape and understanding them in relation to each other and to significant historic events, trends and persons allows us to read the landscape as a cultural resource. In many cases, these features are dynamic and change over time. In many cases, too, historical significance may be ascribed to more than one period in a landscape's physical and cultural evolution.

'Cultural landscape management involves identifying the type and degree of change that can occur while maintaining the character-defining features. The identification and management of an appropriate level of change in a cultural landscape is closely related to its significance. In a landscape significant for its association with a specific style, individual, trend or event, change may diminish its integrity and needs to be carefully monitored and controlled. In a landscape significant for the pattern of use that has evolved, physical change may be essential to the continuation of the use. In the latter case, the focus should be on perpetuating the use while maintaining the general character and feeling of the historic period(s), rather than on preserving a specific appearance.

'A cultural landscape is a geographic area, including both natural and cultural resources, associated with a historic event, activity or person. The National Park Services recognises four cultural landscape categories: historic designed landscapes, historic vernacular landscapes, historic sites and ethnographic landscapes. These categories are helpful in distinguishing the values that make landscapes cultural resources and in determining how they should be treated, managed and interpreted...

'The four cultural landscape categories are not mutually exclusive. A landscape may be associated with a significant event, include designed or vernacular characteristics and be significant to a specific cultural group.'

APPENDIX C

AGREEMENT

between

INKOSI PHIKUBUXOKI ROY BELE

Identity number 6909175771087 ("the Inkosi")

and

THE QIKO OR BELE TRIBAL AUTHORITY

("the tribal authority")

and

SAPPI SAICCOR (PTY) LIMITED

Registration number:1989/001135/07 ("Saiccor")

1. INTRODUCTION

- 1.1 The Inkosi is the Inkosi of the Qiko or Bele tribe ("the tribe"), recognised and appointed as such in terms of section 12 of the Kwazulu Amakhosi and Iziphankanyiswa Act, 9 of 1990 ("the Amakhosi act").
- 1.2 The tribal authority is the tribal authority of the tribe, a juristic person established in terms of section 5(1) of the Amakhosi act.
- 1.3 The Inkosi and the tribal authority administer the land, other property and affairs of the tribe.
- The tribe's land ("the tribe's land") is held in trust by the Ingonyama Trust in terms of the KwaZulu-Natal Ingonyama Trust Act 3KZ of 1994 ("the act"). The Inkosi and the tribal authority, on behalf of the tribe, have agreed to the sale or lease to Saiccor of that portion of the tribe's land outlined in red on the attached diagram marked "A" ("the dam site") or the grant of a servitude of submersion in favour of Saiccor over the dam site and, in each case, the grant of associated servitudes over that portion of the tribe's land identified on "A" to or in favour of Saiccor. On 23rd November 2005, the Inkosi and the tribal authority signed a written traditional authority consent to the sale or lease or the granting of submersion and associated servitudes of or over the dam site and that portion of the tribe's land identified on "A" ("the traditional authority consent"). The Ingonyama Trust is in the process of negotiating with Saiccor the sale, lease or grant of submersion and associated servitudes over the dam site and that portion of the tribe's land identified on "A" to or in favour of Saiccor.
- 1.5 Saiccor intends to establish a dam on the dam site ("the dam").
- 1.6 All the people who live on the tribe's land are subject to the authority of, and are duly represented by, the Inkosi and the tribal authority.
- 1.7 The parties wish to regulate some issues arising from the proposed construction of the dam on the dam site in this agreement.
- 1.8 The parties wish to regulate the tribe's access to the dam and use of the water in the dam on the terms and conditions of this agreement.
- 1.9 The parties also wish to regulate some issues associated with the purchase or lease or use in terms of the submersion and associated servitudes by Saiccor of the dam site and the remainder of the tribe's land in terms of this agreement.

2. CONDITION AND DURATION

- 2.1 This agreement will be of no force and effect unless and until:
- 2.1.1 within 5 years of the date of signature of this agreement or such longer period as is agreed between the parties, the Ingonyama Trust agrees to sell or lease or grant submersion and associated servitudes over the dam site to or in favour of Saiccor;
- 2.1.2 Saiccor obtains any authorisations of any nature required from any relevant authority for or in connection with the construction and use of the dam and its water and any of Saiccor's other obligations in terms of the traditional authority consent;
- 2.1.3 this agreement is approved by the board of directors of Sappi Limited.
- 2.2 The Inkosi and the tribal authority hereby consent to the assignment by Saiccor of any of Saiccor's rights and/or obligations in terms of this agreement to any other person. Neither the Inkosi nor the tribal authority may cede, delegate, assign or sub-contract any of their or the tribe's rights or obligations in terms of this agreement to any other person without the prior written consent of Saiccor, which consent shall not be unreasonably withheld.

3. ACCESS TO THE DAM AND USE OF THE WATER IN THE DAM

- 3.1 Saiccor undertakes to take reasonable precautions when operating the dam and releasing water from it. Despite any of the provisions contained in this agreement, Saiccor's rights in and to the dam and to use the dam and its water, are unrestricted to the extent permitted by law. Nothing contained in this agreement limits in any way any of Saiccor's rights in respect of the dam and the Inkosi and/or the tribal authority's obligations in terms of clause 3.3 shall not apply to the use of the dam by any person other than the tribe, the members thereof and/or any person who is in any way associated with the tribe or any member thereof.
- 3.2 Saiccor agrees that the tribe may, free of any charge:
- 3.2.1 draw water from the dam for domestic use; water its cattle at the dam;
- 3.2.2 fish from the dam using fishing rods and lines only;
- 3.2.3 use water from the dam for its market gardens, provided that these market gardens are reasonable in size and in this regard it is recorded that a total area of about 1 hectare of the tribe's land surrounding the dam is presently used by the tribe for market gardens;
- 3.2.4 use any water craft or flotation device on or in the dam only with the prior written consent of Saiccor.
- 3.3 In consideration for the compensation paid by Saiccor in terms of this agreement in respect of the dam site and for the access and use rights granted by Saiccor in terms of clause 3.2, the Inkosi and the tribal authority agree:
- 3.3.1 that only the tribe may exercise the rights described in clause 3.2;
- 3.3.2 not to permit the use of more than a total of 2 hectares of the tribe's land surrounding the dam for market gardens without Saiccor's prior consent, which consent will not be unreasonably withheld;
- 3.3.3 to ensure that the tribe exercises its rights in terms of clause 3.2 safely;
- that for practical reasons and in order to allow the exercise of the rights in clause 3.2, the dam will not be fenced:

- 3.3.5 that Saiccor will not be liable for any claims made by any member of the tribe or any person who is in any way associated with the tribe or any member thereof, for any loss or damage (including legal costs) suffered in connection with the dam or any roads or other facilities developed in connection with the dam including but not limited to any injury to or illness contracted by or death of, any person or animal except for claims which are caused solely and directly by Saiccor's gross negligence ("claims"); to indemnify Saiccor against any claims: 3.3.6 to ensure that anyone who fishes the dam, does so using only a fishing rod and line; 3.3.7 subject to clause 3.2.3 and 3.3.2, to ensure that the dam water is not used for irrigation purposes; 3.3.8 that Saiccor does not guarantee the supply of water and that no claims may be made against Saiccor if the dam is dry;
- 3.3.9 that the tribe uses the water in the dam at its own risk and that Saiccor will not be obliged to purify or treat that water in any way;
- 3.3.10 not to permit the establishment of a water treatment plant drawing water from the dam by or on behalf of the tribe or any member thereof or any other person who is in any way associated with the tribe or any member thereof;
- 3.3.11 to obtain Saiccor's prior written consent (which consent shall not be unreasonably withheld) before changing the use of that portion of the tribe's land surrounding the dam which falls within a 200 metre radius of the floodline in any way which may lead to an increase in the number of people living on the tribe's land surrounding the dam.;
- 3.3.12 to ensure that, with effect from 1 June 2005, no further development of any nature (including but not limited to the building of houses or the development of farmlands) takes place on the dam site or within a 1 kilometre radius of the borders of the dam site indicated on "A".

4. WARRANTY OF AUTHORITY

- 4.1 The Inkosi warrants that he is duly authorised and empowered to sign this agreement.
- 4.2 The tribal authority warrants that it is duly authorised and empowered to sign this agreement. The Inkosi and the tribal authority sign this agreement in their respective capacity as such and this agreement shall remain binding on their successors.

5. JOINT AND SEVERAL LIABILITY

The Inkosi and the tribal authority are jointly and severally liable for the performance of their obligations in terms of this agreement.

6. ISSUES ASSOCIATED WITH THE ACQUISITION OF THE DAM SITE OR RIGHTS IN AND TO IT CO-OPERATION

6.1 The Inkosi and the tribal authority agree that, within 10 days of being asked to do so on each occasion, they will all sign any documents and do any other things necessary to enable Saiccor to purchase or lease or acquire the servitudes over the dam site and obtain any authorisation from any relevant authority for the establishment and use of the dam and for the performance by Saiccor of any of its undertakings in terms of this agreement or the traditional authority consent.

RELOCATION OF GRAVES

- 6.2 At the time this agreement was concluded, Saiccor had identified 7 graves which would have to be relocated.
- 6.3 Saiccor will relocate the graves.
- 6.4 Saiccor agrees to pay each of those families whose relatives' graves have to be moved as a consequence of the construction of the dam.
- 6.5 Saiccor will pay the affected families when the graves have been relocated and when the dam site has been surveyed and it has been established whether there are any further graves which have to be relocated.

BUILDING OF NEW CATTLE DIP

6.6 In terms of the traditional authority consent, Saiccor has agreed to build a new cattle dip to replace the cattle dip which will be flooded when the dam is filled.

DEMOLITION OF OLD HOMESTEADS, RELOCATION COMPENSATION AND MAINTENANCE

- 6.7 In terms of the traditional authority consent, Saiccor has agreed to provide 4 replacement homesteads for the Mhlongo, Mhlongo, Latha and Msane families ("the new homesteads) whose existing homesteads will be in close proximity to the dam's edge, once the dam has been filled.
- 6.8 Saiccor may demolish the Mhlongo, Mhlongo, Latha and Msane families' old homesteads upon completion of the new homesteads.
- 6.9 Saiccor shall not be responsible for the maintenance or repair of the new homesteads or for any costs of or associated with such maintenance and repair.

ROADS

- In terms of the traditional authority consent, Saiccor has agreed to provide the new access road identified on "A" as the "Mhlongwa homestead access road" to the Mhlongwa homestead as the Mhlongwa family will be deprived of access to its homestead once the dam is filled. Saiccor shall not be responsible for the maintenance and repair of the Mhlongwa homestead access road or for any costs of or associated with such maintenance and repair.
- 6.11 In the course of building the dam, Saiccor will also construct the public roads identified on "A" as "dam wall access road east" and a "dam wall access road west". Saiccor shall not be responsible for the maintenance and repair of the dam wall access road east or the dam wall access road west.

NKOSI MANYENYEZA'S GRAVE

- Within 30 days of this agreement becoming unconditional, Saiccor agrees to pay to Nkosi Manyenyeza's family an amount to pay for a dignified exhumation, interment and ancestral ceremony for Nkosi Manyenyeza and the construction of a new homestead.
- 6.13 The exhumation, reinterment and ancestral ceremony for Nkosi Manyenyeza shall be carried out by the tribe and shall be complete by no later than the date on which Saiccor completes the relocation of the 7 other graves in terms of clause 6.3.

CULTURAL HERITAGE COMPENSATION

6.14 The dam site includes land which is of great cultural importance to the Bele family which is part of the tribe. The founder of the tribe is buried on land forming part of the dam site. When the dam is completed, the current and future Bele family will not be able, as has been their custom,

to meet at their ancestor's grave for ancestral ceremonies and prayer or to see the land where the current Inkosi was born and brought up and where Inkosi Manyenyeza died.

6.15 Saiccor must pay the cultural heritage compensation upon registration of transfer of the dam site or the lease of the dam site or registration of submersion servitude over the dam site and in each case, registration of associated servitudes over the tribe's land in Saiccor's name in the relevant deeds registry.

INGONYAMA TRUST

6.18 Saiccor must pay the purchase price of the dam site to the Ingonyama Trust.

CORPORATE SOCIAL INVESTMENT

- As compensation for the deprivation of the tribe as a whole of the dam site, Saiccor agrees to pay into the tribal treasury an amount in respect of the establishment of the dam ("EIA costs").
- 6.20 Saiccor must pay into the tribal treasury the Corporate Social Investment amount upon registration of transfer of the dam site to Saiccor or registration of the lease of the dam site to Saiccor or registration of a submersion servitude over the dam site and, in each case, registration of associated servitudes over that portion of the tribe's land identified in "A" in Saiccor's name, in the relevant deeds registry.

7. TERMINATION

The Inkosi and the tribal authority may not cancel this agreement for any breach by Saiccor if that breach can be remedied by an appropriate award of damages.

8. **DISPUTES**

- 8.1 Any dispute that arises out of or in connection with this agreement, its termination or cancellation, or the subject matter thereof, including claims in delict or for rectification of the agreement, must be dealt with in terms of this clause 8.
- 8.2 Any unresolved dispute which arises out of or in connection with this agreement may be referred by either party, in writing, to the Inkosi and Saiccor's chief executive officer or their respective nominees ("the dispute representatives") for resolution.
- 8.3 The dispute representatives must attempt to meet within 20 days of the date of the referral and should they fail to resolve the dispute or to meet or to agree on an alternative dispute resolution process (including but not limited to arbitration or mediation) within 20 days of the date of the referral, or such extended date as agreed between them, either party may approach any court having jurisdiction for appropriate relief.
- This clause 8 shall not prevent either party from applying to any court having jurisdiction for appropriate urgent relief.

9. NOTICES AND ADDRESSES FOR SERVICE

- 9.1 Unless otherwise specified any notice or communication in terms of this agreement:
- 9.1.1 must be in writing to be effective;
- 9.1.2 must be sent by hand or telefax to the addresses/telefax numbers below, which physical addresses the parties select as their respective domicilium citandi et executandi:

The Inkosi

[P O Box]

Telefax no.: the tribal authority [P O Box] Telefax no.: Saiccor [P O Box] Telefax no.: 9.2 Any party may change its address/telefax number to any other address/telefax number within South Africa. Such change will only take effect upon receipt or deemed receipt of such notice by the other parties. 9.3 Any notice or communication shall: 9.3.1 if delivered by hand during business hours to the person apparently in charge of the premises selected by the addressee for the delivery of notices, be deemed to have been received on the date of delivery: 9.3.2 if telefaxed to the selected telefax number, be deemed to have been received on the first business day following the date of transmission. 9.4 Any written notice or communication which has actually been received by a party shall be regarded as sufficient notice even if it has not been sent in the manner or to the address/telefax number provided for above. 10. **MISCELLANEOUS LEGAL PROVISIONS** 10.1 This is the whole agreement between the parties containing all of the express provisions agreed on by the parties with regard to the subject matter hereof. 10.2 No party may rely on any representation which allegedly induced that party to enter into this agreement, unless the representation is recorded herein. 10.3 No agreement varying, adding to, deleting from or cancelling this agreement and no waiver of any right under this agreement shall be effective unless in writing and signed by or on behalf of the parties. 10.4 No relaxation by a party of any of its rights in terms of this agreement at any time shall prejudice or be a waiver of its rights (unless it is a signed written waiver) and it shall be entitled to exercise its rights thereafter as if such relaxation had not taken place. 10.5 This agreement shall be governed by and construed according to the law of South Africa. 10.6 This agreement may be signed by the parties in any number of counterparts, each of which shall be deemed to be an original, but all of which shall together constitute one and the same agreement. 10.7 Since the provisions of this agreement have been settled by negotiation, the rule of construction that clauses must be interpreted against the party principally responsible for drafting will not apply.

10.8 Headings of clauses are inserted for the purpose of convenience only and must be ignored in the interpretation of this agreement. 10.9 Unless inconsistent with the context, words signifying any one gender will include the others, words signifying the singular will include the plural and vice versa and words signifying natural persons will include artificial persons and vice versa. 10.10 For the purposes of this agreement: 10.10.1 "day" means a calendar day; 10.10.2 "business day" means any day other than a Saturday, Sunday or South African Public Holiday; 10.10.3 "month" means a month calculated from a particular day in one calendar month to the day before the day numerically corresponding to it in the following calendar month; "calendar month" means one of the 12 named months of the year from the 1st to the last day 10.10.4 of such month: 10.10.5 whenever any number of days is prescribed, it excludes the first and includes the last day unless the last day falls on a Saturday, Sunday or South African public holiday in which case the last day will be the next succeeding business day.