

PHASE ONE HERITAGE IMPACT ASSESSMENT OF THE PROPOSED AFRICA LIME QUARRY NEAR PORT SHEPSTONE, HIBISCUSS COAST LOCAL MUNICIPALITY, KZN



ACTIVE HERITAGE cc.

For: EnviroPro

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Frans received his MA (Archaeology) from the University of Stellenbosch and is presently a PhD candidate on social anthropology at Rhodes University. His PhD research topic deals with indigenous San perceptions and interactions with the rock art heritage of the Drakensberg.

Frans was employed as a junior research associate at the then University of Transkei, Botany Department in 1988-1990. Although attached to a Botany Department he conducted a palaeoecological study on the Iron Age of northern Transkei - this study formed the basis for his MA thesis in Archaeology. Frans left the University of Transkei to accept a junior lecturing position at the University of Stellenbosch in 1990. He taught mostly undergraduate courses on World Archaeology and research methodology during this period.

From 1991 – 2001 Frans was appointed as the head of the department of Historical Anthropology at the Natal Museum, Pietermaritzburg. His tasks included academic research and publication, display conceptualization, and curating the African ethnology collections of the Museum. He developed various displays at the Natal Museum on topics ranging from Zulu material culture, traditional healing, and indigenous classificatory systems. During this period Frans also developed a close association with the Departments of Fine Art, Psychology, and Cultural and Media Studies at the then University of Natal. He assisted many post-graduate students with projects relating to the cultural heritage of South Africa. He also taught post-graduate courses on qualitative research methodology to honours students at the Psychology Department, University of Natal. During this period he served on the editorial boards of the *South African Journal of Field Archaeology* and *Natalia*.

Frans left the Natal Museum in 2001 when approached by a Swiss funding agency to assist an international NGO (Working Group for Indigenous Minorities) with the conceptualization of a San or Bushman museum near Cape Town. During this period

he consulted extensively with various San groupings in South Africa, Namibia and Botswana. During this period he also made major research and conceptual contributions to the Kamberg and Didima Rock Art Centres in the Ukhahlamba Drakensberg World Heritage Site.

Between 2003 and 2007 Frans was employed as the Cultural Resource Specialist for the Maloti Drakensberg Transfrontier Project – a bilateral conservation project funded through the World Bank. This project involved the facilitation with various stakeholders in order to produce a cultural heritage conservation and development strategy for the adjacent parts of Lesotho and South Africa. Frans was the facilitator for numerous heritage surveys and assessments during this project. This vast area included more than 2000 heritage sites. Many of these sites had to be assessed and heritage management plans designed for them. He had a major input in the drafting of the new Cultural Resource Management Plan for the Ukhahlamba Drakensberg World Heritage site in 2007/2008. A highpoint of his career was the inclusion of Drakensberg San indigenous knowledge systems, with San collaboration, into the management plans of various rock art sites in this world heritage site. He also liaised with the tourism specialist with the drafting of a tourism business plan for the area.

During April 2008 Frans accepted employment at the environmental agency called Strategic Environmental Focus (SEF). His main task was to set-up and run the cultural heritage unit of this national company. During this period he also became an accredited heritage impact assessor and he is rated by both Amafa and the South African Heritage Resources Agency (SAHRA). He completed almost 50 heritage impact assessment reports nation-wide during an 18th month period.

Frans left SEF and started his own heritage consultancy called “Active Heritage cc” in July 2009. Although mostly active along the eastern seaboard his clients also include international companies such as Royal Dutch Shell through Golder Associates, and UNESCO. He has now completed almost 1000 heritage conservation and management reports for various clients since the inception of “Active Heritage cc”. Amongst these was a heritage study of the controversial fracking gas exploration of the Karoo Basin and various proposed mining developments in South Africa and proposed developments adjacent to various World Heritage sites. Apart from heritage impact assessments (HIA's) Frans also assist the National Heritage Council (NHC) through Haley Sharpe Southern Africa', with heritage site data capturing and analysis for the proposed National Liberation Route World Heritage Site and the national intangible heritage audit. In addition, he is has done background research and conceptualization of the proposed Dinosaur Interpretative Centre at Golden Gate National Park and the proposed Khoi and San Interpretive Centre at Camdeboo, Eastern Cape Province. During 2009 he also produced the first draft dossier for the nomination of the Sehlabathebe National Park, Lesotho as a UNESCO inscribed World Heritage Site.

Frans was appointed as temporary lecturer in the department of Heritage and Tourism, UKZN in 2011. He is also a research affiliate at the School of Cultural and Media Studies in the same institution.

Frans's research interests include African Iron Age, paleoecology, rock art research, San ethnography, traditional healers in South Africa, and heritage conservation. Frans has produced more than forty publications on these topics in both popular and academic publications. He is frequently approached by local and international video and film productions in order to assist with research and conceptualization for programmes on African heritage and culture. He has also acted as presenter and specialist for local and international film productions on the rock art of southern Africa. Frans has a wide experience in the fields of museum and interpretive centre display and made a significant contribution to the conceptual planning of displays at the Natal Museum, Golden Horse Casino, Didima Rock Art Centre and !Khwatsha San Heritage Centre. Frans is also the co-founder and active member of "African Antiqua" a small tour company who conducts archaeological and cultural tours world-wide. He is a Thetha accredited cultural tour guide and he has conducted more than 50 tours to heritage sites since 1992.

Declaration of Consultants independence

Frans Prins is an independent consultant to EnviroPro and has no business, financial, personal or other interest in the activity, application or appeal in respect of which he was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances whatsoever that compromise the objectivity of this specialist performing such work.



Frans Prins

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LIST OF ABBREVIATIONS AND ACRONYMS

EIA	Early Iron Age
ESA	Early Stone Age
HISTORIC PERIOD	Since the arrival of the white settlers - c. AD 1820 in this part of the country
IRON AGE	Early Iron Age AD 200 - AD 1000 Late Iron Age AD 1000 - AD 1830
LIA	Late Iron Age
LSA	Late Stone Age
MSA	Middle Stone Age
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998 and associated regulations (2006)).
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999) and associated regulations (2000))
SAHRA	South African Heritage Resources Agency
STONE AGE	Early Stone Age 2 000 000 - 250 000 BP Middle Stone Age 250 000 - 25 000 BP Late Stone Age 30 000 - until c. AD 200

EXECUTIVE SUMMARY

A phase one heritage survey of the proposed Limestone Quarry near Port Shepstone, KZN identified no archaeological or heritage sites on the footprint. The greater area is also not part of any known cultural landscape. However, a qualified palaeontologist will need to conduct a desktop survey of both proposed development plots before development may proceed. Attention is drawn to the South African Heritage Resources Act, 1999 (Act No. 25 of 1999) and the KwaZulu-Natal Heritage Act (Act No. 4 of 2008), which requires that operations that expose archaeological or historical remains as well as graves and fossil material should cease immediately, pending evaluation by the provincial heritage agency. It is important to note that all graves in KwaZulu-Natal, including those younger than 60 years, are protected by provincial heritage legislation.

1 BACKGROUND INFORMATION ON THE PROJECT

Table 1. Background information

Consultant:	Frans Prins (Active Heritage cc) for EnviroPro
Type of development:	Proposed Limestone Quarry
Rezoning or subdivision:	Rezoning
Terms of reference	To carry out a Phase One Heritage Impact Assessment
Legislative requirements:	The Heritage Impact Assessment was carried out in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and following the requirements of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) and the KwaZulu-Natal Heritage Act, 1997 (Act No. 4 of 2008)

1.1. Details of the area surveyed:

The project area falls within topocadastral sheet 3030CB Port Shepstone. The plots identified for proposed state mining activity is situated approximately 14 km to the east of Port Shepstone (Figs 1 & 2) in an area dominated by commercial farms, communal land, and limestone mining activities. The application covers two areas, situated adjacent to each other, of approximately 4.8 ha and 4.7 ha each. These plots are situated on undeveloped land almost immediately adjacent to the existing Rossmine Mine Property. Plot 1 consists of indigenous grassland with some woody vegetation (Figs 4 & 5). Plot 2 is situated on the ridge overlooking Plot 1 (Figs 2, 6 & 7). It contains some residential dwellings and associated outbuildings (Figs 7 & 8). The GPS coordinates for the centre point of these plots are:

Plot 1: S 30° 40' 01.25" E 30° 23' 03.69".

Plot 2: S 30° 40' 00.49" E 30° 23' 01.63.54"

2 BACKGROUND TO ARCHAEOLOGICAL HISTORY OF AREA

2.1 Archaeology

The project area has never been systematically surveyed for archaeological sites in the past. However, the coastal areas of the greater Hibberdene and Port Shepstone areas to the east of the project area has been surveyed by archaeologists of the then Natal Museum in the 1970's and 1980's. Further inland the greater Oribi Gorge, situated to the south west of the project area, has also been intensively surveyed. These surveys were originally conducted by staff associated with the then Natal Parks board in the 1970's. However, more professional surveys were conducted by archaeologists such as J. H. Cable in the early 1980's (Cable 1984) and later by various archaeologists attached to the Natal Museum (Mazel 1989; Mitchell 2005). The available evidence, as captured in the KwaZulu-Natal Museum heritage site inventories, indicates that the greater Port Shepstone areas contains a wide spectrum of archaeological sites covering different time-periods and cultural traditions. These include Early, Middle and Later Stone Age sites, Early Iron Age sites, Later Iron Age sites, and some historical sites. Various buildings and farmsteads belonging to the Victorian and Edwardian periods occur in the area. These would also be protected by heritage legislation.

Stone Age sites of all the main periods and cultural traditions occur along the coastal cordon in the immediate vicinity of Hibberdene and Port Shepstone. Most of these occur in open air contexts as exposed by donga and sheet erosion. The occurrence of Early Stone Age tools in the near vicinity of permanent water resources is typical of this tradition. These tools were most probably made by early hominins such as *Homo erectus* or *Homo ergaster*. Based on typological criteria they most probably date back to between 300 000 and 1.7 million years ago. The presence of the first anatomically modern people (i.e. *Homo sapiens sapiens*) in the area is indicated by the presence of a few Middle Stone Age blades and flakes. These most probably dates back to between 40 000 and 200 000 years ago. The later Stone Age flakes and various rock painting sites identified in the area are associated with the San (Bushmen) and their direct ancestors. These most probably dates back to between 200 and 20 000 years ago.

The San were the owners of the land for almost 30 000 years but the local demography started to change soon after 2000 years ago when the first Bantu-speaking farmers

crossed the Limpopo River and arrived in South Africa. By 1500 years ago these early Bantu-speaking farmers also arrived in the project area. Due to the fact that these first farmers introduced metal technology to southern Africa they are designated as the Early Iron Age in archaeological literature. Their distinct ceramic pottery is classified to styles known as "Msuluzi" (AD 500-700), Ndongondwane (AD 700-800) and Ntshokane (AD 800-900). Most of the Early Iron Age sites in the greater Ugu District Municipality belong to these traditions (Maggs 1989:31; Huffman 2007:325-462). These sites characteristically occur on alluvial or colluvial soil adjacent to large rivers below the 1000m contour. The Early Iron Age farmers originally came from western Africa and brought with them an elaborate initiation complex and a value system centred on the central significance of cattle.

Later Iron Age sites also occur in the greater Hibberdene and Port Shepstone areas. These were Bantu-speaking agropastoralists who arrived in southern Africa after 1000 year ago via East Africa. Later Iron Age communities in KwaZulu-Natal were the direct ancestors of the Zulu-speaking people (Huffman 2007). Many African groups moved through the study area due to the period of tribal turmoil as caused by the expansionistic policies of King Shaka Zulu in the 1820's and subsequent civil wars in Zululand to the north. It is known from oral history that the greater project area was inhabited by Zulu refugees in the 19th century (Bryant 1965) especially by members of the abakwaCele and Lushaba clans. These clans arrived in the project area around 1828 soon after the murder of King Shaka when they were being pursued by supporters of King Dingane (ibid). However, it appears that the lower densely wooded valley areas, i.e. the present footprint, were only occupied later. According to oral history most of the historical settlement of the area took place on the higher altitude grassland areas.

Archaeological sites in the near environs of the project area include 2 Middle Stone Age sites and 11 Later Stone Age rock art sites situated within the greater Oribi Gorge and adjacent areas. The rock art sites form part of the eastern seaboard coastal rock art zone. Most of these occur in sandstone shelters and depict red monochrome paintings. None, however, have been recorded in the project area. No Iron Age sites were identified in the project area although there is a high probability that Early Iron Age sites could occur on the alluvial and colluvial soils adjacent to the Umzimkhulu and Umzimkhulwane Rivers. However, these areas has not been systematically surveyed as yet.

2.2 Historical Period

It was not until the late 1820's that European traders first appeared bartering beads and guns for ivory and Henry Francis Fynn, co-founder of Durban, entertained Shaka, King of the Zulu's, at Marburg near Port Shepstone in 1828. Natal became a Colony to the British Empire in 1845 and although the greater Port Shepstone saw no military action leading to this event it is nevertheless significant that the grave of Dick Kings assistant Ndogeni is located near the confluence of the Mzimkhulu to the Mzimkulwana River – a few km from the project area. The area south of the Mzimkulu River, traditionally named 'No Man's Land' was incorporated into the Colony of Natal by the Governor, Lt Col. Bisset in 1866 when the idea of establishing a township at the mouth of the river was mooted. It was to be called Shepstone after the Secretary of Native Affairs, Sir Theophilus Shepstone and was eventually laid out in 1882. Missionary work was soon launched amongst the local Zulu-speaking inhabitants and various well known Mission Stations came to be established in the greater Port Shepstone Area. These include the Maria Stella Mission (situated about 500m to the east of the footprint) (Fig), Sister Dominique Mkhize Assisi Hospital and Convent, Emanuel Mission, St Theresa Mission and St Faiths Mission Station. The colonial authorities encouraged English, German and Norwegian families to settle in the area and they grew tea, coffee and conveniently, sugar. Indentured Indian labour was introduced to work on the plantations, railways, marble and limestone quarries - still the key commercial activities in the area. They were followed by Indian traders in the 1880's. Construction on the harbour at the mouth of the Umzimkulu River, essentially to stimulate trade and commercial development was begun in the 1880's. The fact that the river was navigable for some 8km up to St Helen's Rock (also a heritage feature) was a great boon to the marble and limestone industries. Today there are various buildings and farmsteads in the area that are older than 60 years and are also protected by heritage legislation (Derwent 2006). Perhaps the best-known buildings are the Port Shepstone Light House and the Port Shepstone Hotel.

3 BACKGROUND INFORMATION OF THE SURVEY

3.1 Methodology

A desktop study was conducted of the archaeological databases housed in the KwaZulu-Natal Museum. The SAHRIS website was consulted for previous heritage surveys and heritage site data covering the project area. Various CRM surveys have been conducted in the greater Port Shepstone area. However, none of them covered the actual project area. Recent surveys by Prins (2017, 2018) covered sections of Rosmin Mine, the neighbouring property to the footprint. In addition, the available archaeological and heritage literature covering the greater Port Shepstone area was also consulted. Aerial photographs covering the area were scrutinised for potential Iron Age and historical period structures and grave sites. A ground survey, following standard and accepted archaeological procedures, was conducted on 22 March 2019. Particular attention was focused on the occurrence of potential grave sites and other heritage resources on the footprint.

3.1.1 Assumptions and limitations

- The desktop study suggests that Stone Age Sites of all periods and traditions may occur in the greater project area.
- Middle Stone Age tools have been found in dongas and erosion gullies at various locales in southern Kwa-Zulu Natal, including the coastal areas. These sites are usually out of context and of little research value. Some Middle Stone Age surface scatters occur near Southport approximately 6km to the east of the project area. However, no erosion gullies or suitable rocky outcrops that may harbour shelters with deep cave deposits occur in the project area.
- Later Stone Age sites are more prolific in the coastal areas of KwaZulu-Natal including the greater Port Shepstone area. The best known concentration of such sites occur at the Oribi Gorge approximately 10 km to the west of the project area. However, there are no suitable rocky outcrops on the footprint that may harbour shelters with Later Stone Age deposits.
- Early Iron Age Sites typically occur along major river valleys below the 700 m contour in KwaZulu-Natal. It is possible that early Iron Age sites may be located adjacent to the Mzimkhulu River in the near vicinity of the project area.

- Later Iron Age sites do occur at various localities in southern KwaZulu-Natal. Some of these have been investigated by archaeologists attached to the KwaZulu-Natal Museum (Huffman 2007; Maggs 1989). These sites were occupied by the ancestors of the first Nguni-speaking agriculturists as well as their descendants who settled in these areas (Bryant 1965). Some Later Iron Age sites occur to approximately 6km to the east of the project area. It is possible that such sites may also occur in the project area.
- Historical buildings, structures and farmsteads as well as mission stations do occur throughout southern KwaZulu-Natal. Historical era buildings and structures could occur at or near the project area.

3.2 Restrictions encountered during the survey

3.2.1 Visibility

Visibility was good. However, the grassland vegetation is dense at places and these areas may obscure potential heritage sites (Figs 5 & 6).

3.2.2 Disturbance

No disturbance of any potential heritage features was noted.

3.3 Details of equipment used in the survey

GPS: Garmin Etrek

Digital cameras: Canon Powershot A460

All readings were taken using the GPS. Accuracy was to a level of 5 m.

4 DESCRIPTION OF SITES AND MATERIAL OBSERVED

4.1 Locational data

Province: KwaZulu-Natal

Closest Towns: Port Shepstone

Municipality: Hibiscus Coast Local Municipality

4.2 Description of the general area surveyed

4.2.1 Background

The desktop study could not find any heritage sites or features on any of the proposed plots. This conclusion was supported by the ground survey of the project area. No heritage features or sites occur on Plot 1. This plot is situated near the Umzimkhulu River and is characterised by dense grassland and indigenous woody vegetation (Figs 4 – 6). Some residential buildings are situated on Plot 2 which is situated on a ridge overlooking Plot 1 (Figs 7 & 8). However, none of these residential buildings are older than 60 years old and they have no heritage value.

The desktop study indicates the presence of a Mission Station approximately 1 km to the east of Plot 2 (Fig 9). However, there is no need for mitigation as this heritage site is not threatened by the proposed development.

The footprint is not part of any known cultural landscape.

The consultant could not find evidence for any 'living heritage site' on the footprint.

4.2.2 Stakeholder Consultation

The consultant was assisted by the past landowner of the property who kindly showed him around both proposed development plots. He was not aware of any heritage sites on the property. Some local community graves do occur on the adjacent Rossmine Mine property approximately 2km to the north of the footprint (Prins 2017, 2018) but none are known to occur on the actual footprint.

4.2.3 Desktop Paleontology Assessment

A preliminary investigation suggests that the project area will need a desktop paleontological assessment by an Amafa registered palaeontologist. According to the SAHRIS fossil sensitivity map the footprint falls within a white coloured and a grey coloured zone (Fig 3). Grey coloured areas indicate no fossil sensitivity, however, no paleontological information is available for the white coloured areas. According to SAHRA guidelines these white coloured areas would need a minimum of a desktop paleontological assessment, by a qualified palaeontologist, before prospecting activity may commence.

5 STATEMENT OF SIGNIFICANCE (HERITAGE VALUE)

5.1 Field Rating

Not applicable as no heritage sites are known to occur on the footprint.

Table 2. Field rating and recommended grading of sites (SAHRA 2005)

Level	Details	Action
National (Grade I)	The site is considered to be of National Significance	Nominated to be declared by SAHRA
Provincial (Grade II)	This site is considered to be of Provincial significance	Nominated to be declared by Provincial Heritage Authority
Local Grade IIIA	This site is considered to be of HIGH significance locally	The site should be retained as a heritage site
Local Grade IIIB	This site is considered to be of HIGH significance locally	The site should be mitigated, and part retained as a heritage site
Generally Protected A	High to medium significance	Mitigation necessary before destruction
Generally Protected B	Medium significance	The site needs to be recorded before destruction
Generally Protected C	Low significance	No further recording is required before destruction

No heritage sites occur on or adjacent (within 50m) from the project area including both Plots. The footprint has no heritage value (Table 3).

Table 3. Evaluation and statement of significance.

Significance criteria in terms of Section 3(3) of the NHRA		
	Significance	Rating
1.	Historic and political significance - The importance of the cultural heritage in the community or pattern of South Africa's history.	None.
2.	Scientific significance – Possession of uncommon, rare or endangered aspects of South Africa's cultural heritage.	None.
3.	Research/scientific significance – Potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage.	None.
4.	Scientific significance – Importance in demonstrating the principal characteristics of a particular class of South Africa's cultural places/objects.	None.
5.	Aesthetic significance – Importance in exhibiting particular aesthetic characteristics valued by a community or cultural group.	None.
6.	Scientific significance – Importance in demonstrating a high degree of creative or technical achievement at a particular period.	None.
7.	Social significance – Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.	None.
8.	Historic significance – Strong or special association with the life and work of a person, group or organization of importance in the history of South Africa.	None.
9.	The significance of the site relating to the history of slavery in South Africa.	None.

6 RECOMMENDATIONS

As no heritage sites, features or graves occur on the footprint, there is no reason why the proposed development may not proceed from a general heritage perspective. Both proposed plots are equally suitable for development from a general heritage perspective. The area is also not part of any known cultural landscape. However, the phase 1 desktop paleontological assessment indicates that both plots will require a desktop paleontological assessment by a qualified paleontologist before any development may proceed. It is important to take note of the KwaZulu-Natal Heritage Act that requires that any exposing of fossils, graves and archaeological and historical residues should cease immediately pending an evaluation by the heritage authorities.

7 MAPS AND FIGURES

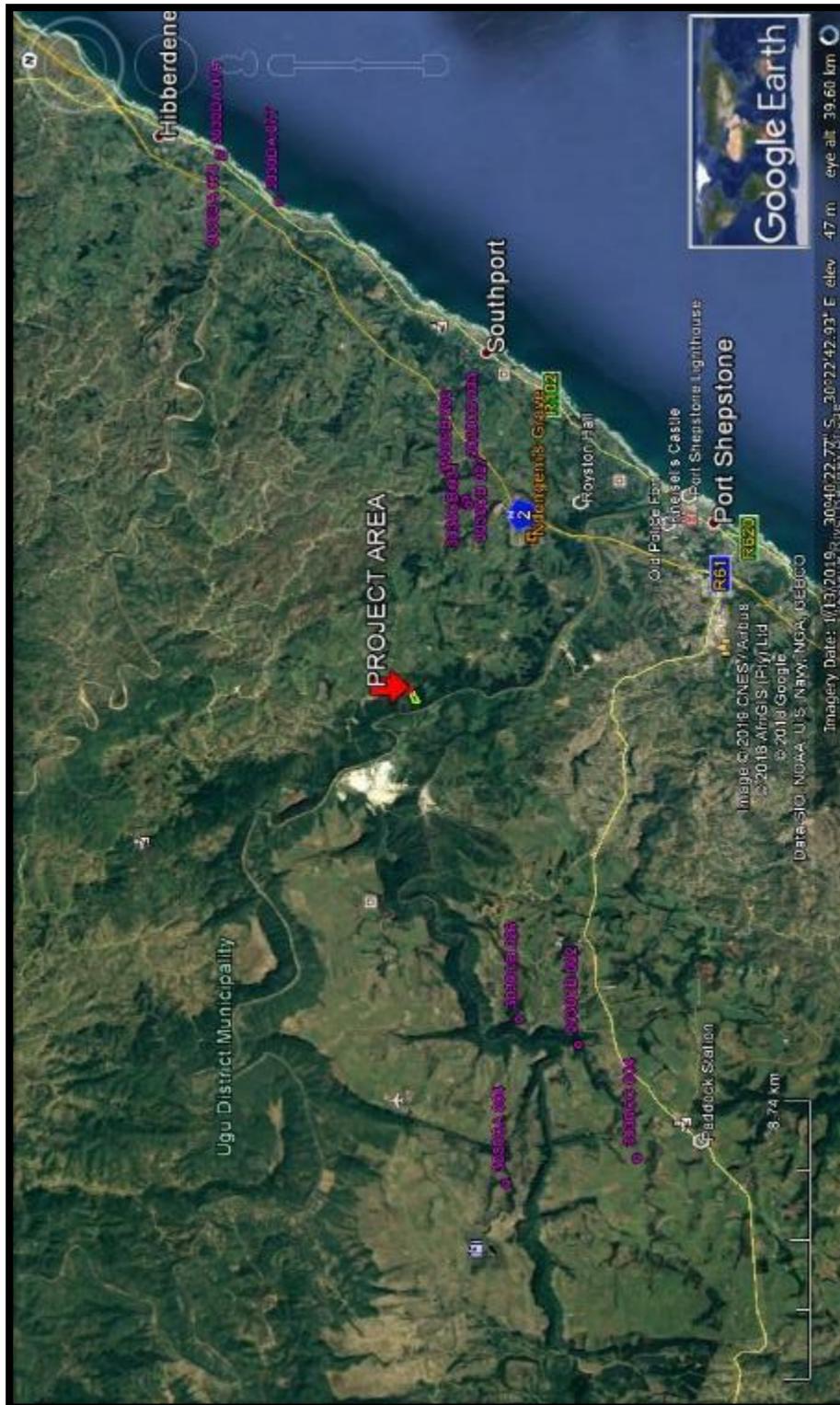


Figure 1. Google Earth Imagery the location of the project area near Port Shepstone. The purple markers indicate known archaeological sites in the greater area. None occur on the actual footprint

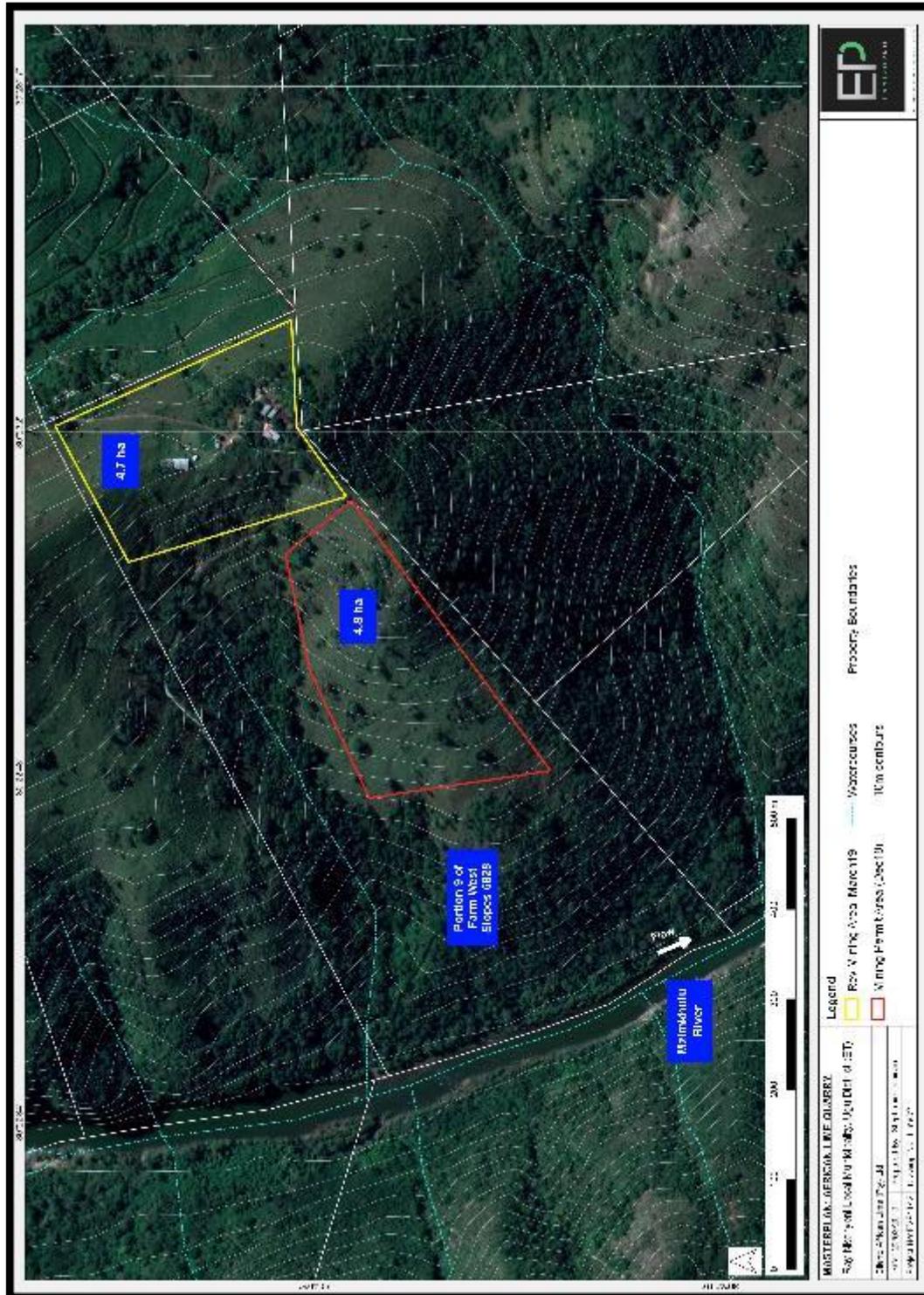
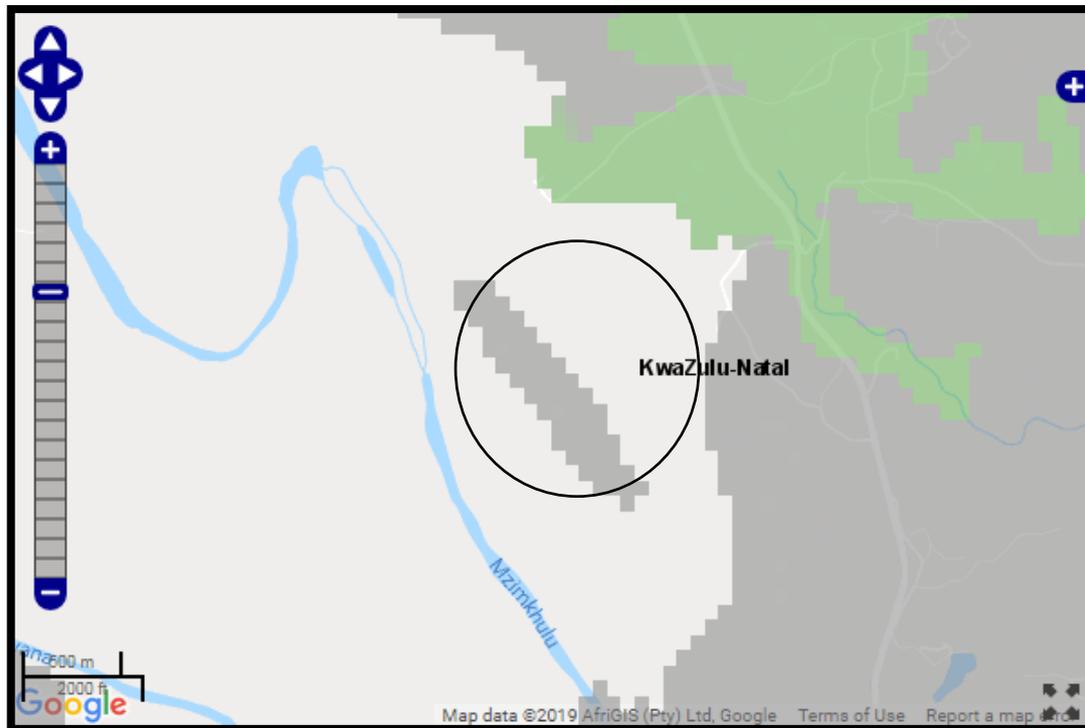


Figure 2. Map showing the two proposed plots identified for limestone mining. Plot 1 (near the Umzimkhulu River) covers an area of 4.8 ha and Plot 2 (on the ridge) covers an area of 4.7 ha (Source: EnviroPro).



1 in 250 000 geological formation layers are courtesy of the [Council for GeoScience](#)
 For more information, go to [How to Use the Palaeontological \(fossil\) Sensitivity Map](#)

Colour	Sensitivity	Required Action
RED	VERY HIGH	field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	desktop study is required
BLUE	LOW	no palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	no palaeontological studies are required
WHITE/CLEAR	UNKNOWN	these areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

Figure 3 SAHRIS Fossil Sensitivity Map of the project area (indicated by the black polygon). The white background colour indicates that these areas will require a minimum of a desktop study by a qualified palaeontologist.



Figure 4. Plot 1 situated on a lower altitude close to the Umzimkhulu River. No heritage sites or features occur on this plot.



Figure 5. Dense vegetation may have compromised heritage site visibility on Plot 1.

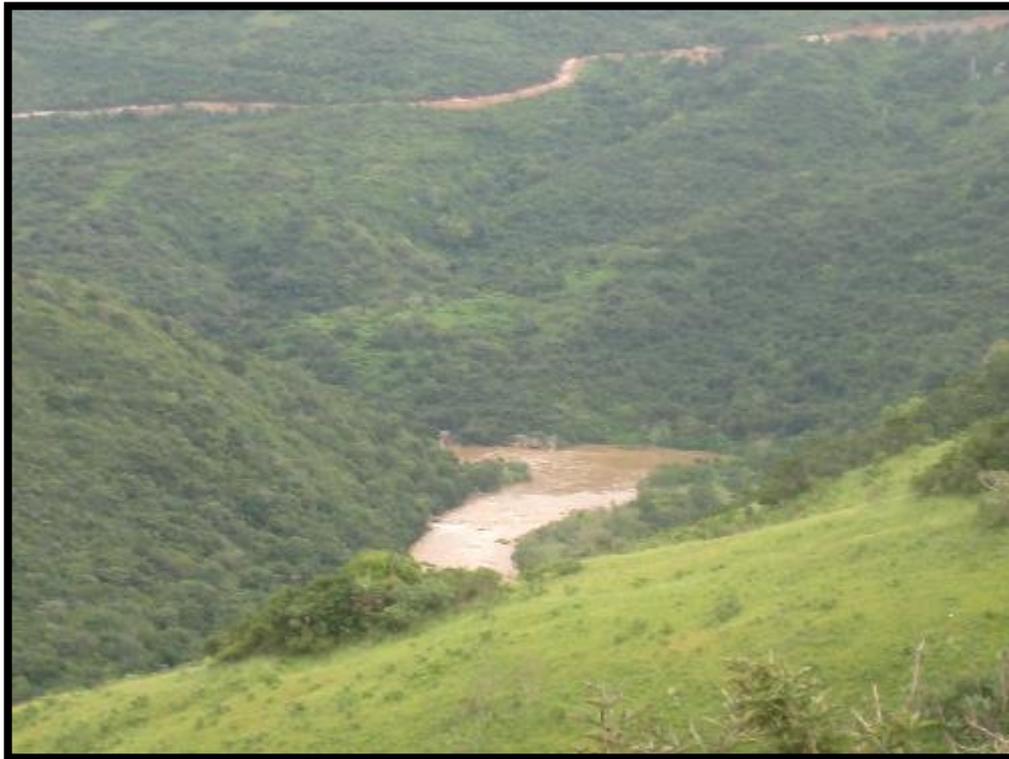


Figure 6. *View over the Mzimkhulu River as seen from Plot 1.*



Figure 7. *Plot 2 is situated on a ridge overlooking Plot 1.*



Figure 7. Residential buildings on Plot 2. None of these have any heritage value.



Figure 8. The Maris Stella Mission is situated more than 1km to the east of the proposed prospecting area at S 30° 39' 30.06" E 30° 23' 46.47". It is not threatened and there is no need for mitigation.

8 REFERENCES

Bryant, A. T. 1965. *Olden times in Zululand and Natal*. Cape Town: C. Struik.

Bulpin, T.V. 1966. *Natal and the Zulu Country*. Cape Town: Books of Africa.

Derwent, S. 2006. *KwaZulu-Natal Heritage Sites: A Guide to Some Great Places*. David Phillips: Cape Town

Huffman, T. N. 2007. *Handbook to the Iron Age: The Archaeology of Pre-colonial Farming Societies in Southern Africa*. University of KwaZulu-Natal Press. Pietermaritzburg.

Maggs, T. The Iron Age farming communities. In Duminy, A. and Guest, B. 1989. *Natal and Zululand: from Earliest Times to 1910. A New History*. Pg. 28-46. University of Natal Press. Pietermaritzburg.

Mazel, A. The Stone Ages. In Duminy, A and Guest, B. 1989. *Natal and Zululand: from Earliest Times to 1910. A New History*. Pg. 1-27. University of Natal Press. Pietermaritzburg.

Mitchell, P. 2002. *The Archaeology of Southern Africa*. Cambridge University Press: Cambridge

SAHRA, 2005. *Minimum Standards for the Archaeological and the Palaeontological Components of Impact Assessment Reports, Draft version 1.4*.

Wright, J. 1988. Before Mgungundlovu: the upper Mngeni and upper Mkhomazi region in the early nineteenth century. In Laband, J & Haswell, R. (Eds). *Pietermaritzburg, 1838-1988: A New Portrait of an African City*. University of Natal Press: Shuter & Shooter

Limestone Quarry