

PHASE ONE HERITAGE IMPACT ASSESSMENT OF THE PROPOSED DRIEFONTEIN WATER SCHEME (PHASE 2A) NEAR NQUTO, KZN



ACTIVE HERITAGE cc.

For: SAT Environmental Consultants (Pty)Ltd

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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 !Khwa tu 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 SAT Environmental Consultants 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 Driefontein Water Scheme (Phase 2A) near Nquto, KZN identified no heritage sites on the footprint. Although graves occur in the greater project area none are situated closer than 50m to the proposed pipeline trajectory and associated structures. The footprint is also not part of any known cultural landscape. There is no archaeological reason why the development may not proceed from a general heritage point of view. The Phase One desktop Paleontological Assessment indicates that no further paleontological studies will be required as the area has a low fossil sensitivity. However, 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 SAT Environmental Services (Pty)Ltd
Type of development:	<ul style="list-style-type: none"> Laying of reticulation pipes with Ø ranging from 50mm to 110mm (Figs 2 & 3)
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 is located approximately 23km to the east of Nquto and 10km to the north of the R68 in the Umzinyathi District Municipality, KZN (Figs 1, 2 & 3). It is situated in a predominantly rural area dotted by rural homesteads (Figs 6 & 8). The Nguni dispersed settlement pattern, as identified in anthropological literature, still dominates portions of the area (Fig 8). Small-scale subsistence farming appears to be the dominant local economy. The Driefontein Waterworks (2A) consists of a network of interlinking reticulation pipelines that follows the trajectory of the existing roads for the most part (Figs 2 & 3). The GPS coordinates for the Water Works are:

S 28° 16' 44.21" E 30° 54' 01.65".

2 BACKGROUND TO ARCHAEOLOGICAL HISTORY OF AREA

2.1 Archaeology

Portions of the greater Nqutu area have been systematically surveyed for archaeological heritage sites in the past. These were mostly conducted by archaeologists attached to the then Natal Museum as well as by Amafa staff. Sixty sites are recorded in the data base of the KwaZulu-Natal Museum. These include fourteen Early Stone Age sites, eight Middle Stone Age sites, ten Later Stone Age sites, three rock painting sites, and forty Later Iron Age sites. The majority of the Early Stone Age sites occur in open air context in large dongas. Middle and Later Stone Age sites occur in context in four rock shelters. Two of these shelters also contain typical San fine line paintings. The majority of the known Later Iron Age sites are situated to the south east of Nquthu. They were located during a large scale survey of the area by archaeologists who were interested in the Later Iron Age ecology of Zululand (Hall 1980). They are demarcated by characteristic stone walling. Three stone walling typologies have been identified in the area namely Type A, C, and D (ibid).

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. Around 800 years ago, if not earlier, Bantu-speaking farmers also settled in the greater Nqutu area. Although some of the sites constructed by these African farmers consisted of stone walling not all of them were made from stone. Sites located elsewhere in the KwaZulu-Natal show that many settlements just consisted of wattle and daub structures. These Later Iron Age sites were most probably inhabited by Nguni-speaking groups who were the direct ancestors of the Zulu (Bryant 1965). However after 1840 some Southern Sotho-speaking Tlokwe people also settled in the area. With the expansion of the Zulu kingdom of King Shaka in the early 1820's the study area became firmly incorporated into this pre-capitalist kingdom. It is not surprising that this area played such a central part in the colonial period history of KwaZulu-Natal. The Battle of Blood River, between Boer and Zulu, took place to west of the study area in 1838, but it was the Anglo-Zulu war of 1879 that was to a large part acted out in the immediate vicinity of the project area. These battle field sites as well as associated graves and buildings of the era are proclaimed heritage sites and are protected by provincial heritage legislation (Derwent 2006).

2.2 Anglo-Zulu War

The Anglo-Zulu War was a military conflict between the British Empire and the Kingdom of Zululand, taking place from January 8 to July 4, 1879, in South Africa. The root cause of the Anglo-Zulu War was the discovery of diamonds in the region, in the land near the Vaal River, in 1867. This led to an increased British interest in the area. But there were two obstacles: the Boers (politically organized in the Orange Free State and the Republic of Transvaal), and the Kingdom of Zululand, which arose in the first half of the 19th century. During the 1870s, West Griqualand, which was the territory where diamonds had been discovered, was annexed to the British Empire. In December 1878, the British High Commissioner, Sir Henry Bartle Frere, sent an ultimatum to Cetshwayo, the King of Zululand. Having obtained no answer to the ultimatum, 15,000 British troops, under the command of Lord Chelmsford, began the invasion of Zululand by January 8, 1879.

The Anglo-Zulu War was savage and comprises a series of eight battles, beginning with the Battle of Isandlwana in the immediate environs of the study area. Here 22,000 Zulu warriors defeated 1,800 British soldiers on January 22, 1879. Isandlwana was an unexpected blow to the morale of the British empire as it was the scene of the defeat of Imperial & Colonial forces on 22 January 1879 mostly from the 24 Regiment, Natal Carbineers and Natal Native Regiments. This epic battle took place in the immediate environs of the project area and a memorial on the site commemorates the brave warriors who gave their lives on this day (Derwent 2006). The defence of Rorke's Drift on 22 January 1879, to the south of the project area, followed the defeat of the British forces at Isandlwana and commenced at 16.30 pm and went on through the night to about 4 am. The Mission Station at the foot of the Oskarberg was held by 1st & 2nd Company of the 24th Regiment. It had been left under the command of Major Henry Spalding. The battle eventually left about 370 Zulu dead (4000 under the command of Prince Dabulamanzi kaMpande), and 17 British soldiers dead out of a force of about 100 men. The Zulu's eventually withdrew. Having overcome three military defeats (Battle of Isandlwana, Battle of Intombe, and Battle of Hlobane), the British began gaining the upper hand as they obtained decisive victories in the last four battles of the war: Battle of Kambula (March 29), Battle of Gingindlovu (April 2), Battle of Eshowe (April 3), and Battle of Ulundi (July 4, 1879). After the defeat at Isandlwana, the British were determined to take revenge and defeat the Zulu's led by King Cetshwayo kaMpande, and crossed the White Umfolozi on 4 July 1879 with a force of approximately 5124 men. Led by Lord Chelmsford a battle took place that day which led to the Zulu defeat. Fort Marshall, situated to the north of the project area, was occupied between May & July

1879 by the 24th Regiment. There are 11 soldiers buried there, most dying of wounds from the battle of Ulundi. The ramparts and graves are still visible. As a result of the British victory over the Zulus, the Kingdom of Zululand lost its independence and it became part of a British Colony (ibid).

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 Nquto area in recent years. The most pertinent of these, in terms of the present study, are those conducted by Prins (2014, 2015, 2016a, 2016 b). However, none of them covered the actual footprint. In addition, the available archaeological and heritage literature covering the greater Nquto 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 15 April 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 greater Nquthu area. These sites are usually out of context and of little research value.
- Later Stone Age sites are more prolific in the coastal areas of KwaZulu-Natal and the foothills of the Drakensberg to the west of the study area. However, some do occur in the greater Nquto area as well. These may be either surface scatters as well as cave deposits with archaeological material. Some rocky outcrops with shelters suitable for Later Stone Age occupation occurs to the immediate south of the project area.

- Early Iron Age Sites typically occur along major river valleys below the 700 m contour in KwaZulu-Natal. However, the project area is located above the 900m contour and it is unlikely that Early Iron Age occupation occurred in the 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 do occur in the near vicinity of the project area.
- Historical buildings, structures and farmsteads as well as mission stations do occur throughout KwaZulu-Natal including the greater Nquto area. Historical era buildings and structures could occur at or near the project area.
- It is also possible that activities relating to the Anglo-Zulu War may occur near the project area.
- The project area is situated in a rural locale and it is also possible that 'living heritage sites' may occur in the area.

3.2 Restrictions encountered during the survey

3.2.1 *Visibility*

Visibility was good.

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: Nquthu

Municipality: Nquthu Local Municipality, uMzinyathi Regional Municipality

4.2 Description of the general area surveyed

4.2.1 Background

The desktop study could not find any archaeological sites or features on the footprint. This conclusion is supported by the ground survey of the project area. A 'Shembe Site of Worship' occurs approximately 60m to the west of the proposed pipeline trajectory at S 28° 16' 47.77" E 30° 54' 06.51". However, this heritage site is not threatened by the proposed development and there is no need for mitigation. Graves do occur in association with existing homesteads in the area, however, none occur within 50 m from the pipeline trajectory or any of the associated features. All the buildings on the footprint appears to be younger than 60 years (Fig 6). The consultant could not find any 'living heritage' sites within 50m from the footprint.

It can be argued that the dispersed Nguni settlement pattern as observed in sections of the project area (Fig 8) is part of a larger 'cultural landscape' as this settlement pattern predates European settlement of the sub-continent. However, it must be noted that the proposed pipeline trajectory follows the existing road network (Fig 5) that already exists in the project area. The impact of these pipelines on the 'cultural landscape' will be minimal – if any.

4.2.2 Stakeholder Consultation

The consultant asked local community members encountered during the survey if they had knowledge of graves or other heritage features within 50m from the proposed pipeline trajectory (Fig 6). None had knowledge of any associated heritage sites.

4.2.3 Desktop Paleontology Assessment

A first phase desktop paleontological assessment indicates that the project area falls in an area with a low fossil sensitivity. This is indicated by the predominantly grey colour underlying the project area on the SAHRIS Fossil Sensitivity Map (Fig 3). There is no need for further paleontological studies of the study area. However, a protocol of finds will have to be implemented.

Table 2:Heritage sites located during the ground survey.

No	Heritage category	Description	Significance	Type of Mitigation	GPS coordinates	Survey method
1	Shembe Site of Worship (Figs)	Stone Circle ca. 20m in diameter. The individual stones are painted white. The feature is situated approximately 30m from the proposed pipeline trajectory. This is a site of worship and is also classified as a 'living heritage site'	Medium to high locally. (see Table 3).	No need for mitigation as this Site is located more than 50m from the footprint.	S 28°16' 47.77" E 30° 54' 06.51"	Ground survey and desktop (aerial photographs)

5 STATEMENT OF SIGNIFICANCE (HERITAGE VALUE)

5.1 Field Rating

The field rating of heritage sites as defined by SAHRA (Table 3) is not relevant (Table 4) as no sites occur at or near (within 50m) from the footprint.

Table 3: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

Table 4: 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 remainder on the footprint, there is no reason why the proposed development may not proceed from a general heritage perspective.
- However, “invisible” graves may occur in association with existing homesteads. Should any graves be encountered during excavation work then all construction activities must cease and a heritage consultant or Amafa contacted for further investigation (Appendix 1).
- It is a good policy to maintain a buffer of at least 20m around all existing homesteads as this will minimise any potential encounters of grave sites.
- The phase 1 desktop paleontological assessment indicates that the footprint has a low fossil sensitivity. No further paleontological studies will be required. However a protocol of finds is required.
- 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 showing the location of the project area near Nquthu, KZN

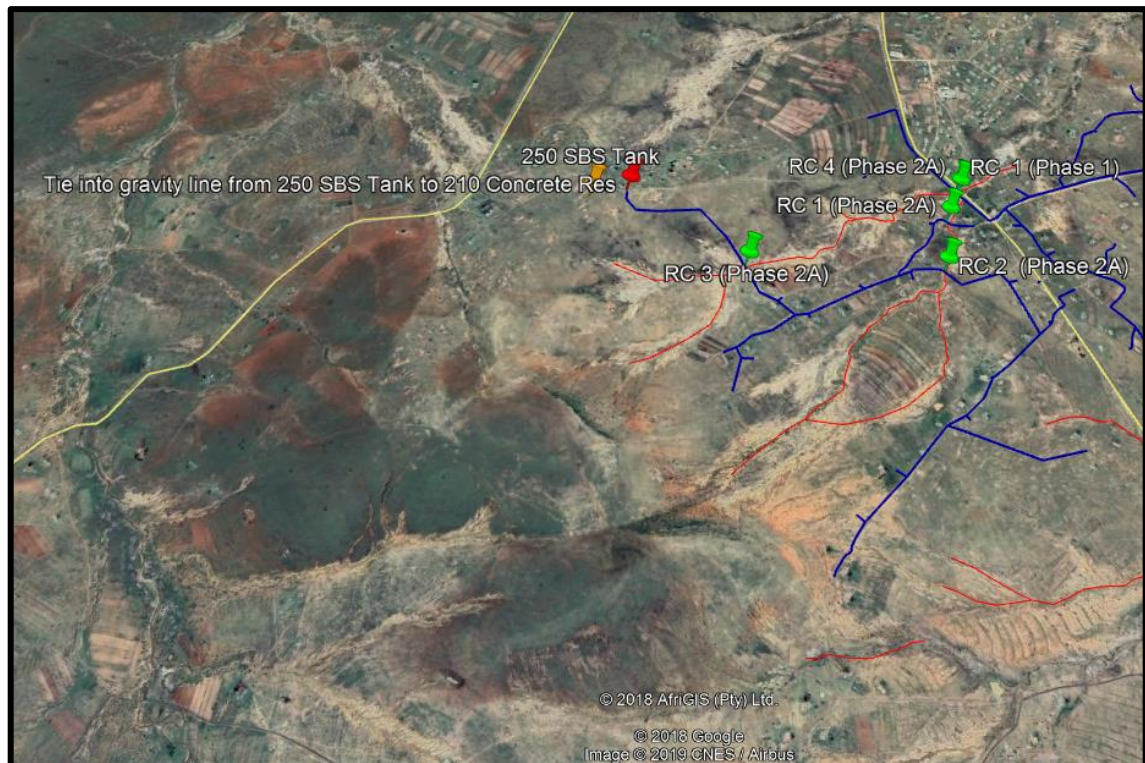


Figure 2. Google Earth Imagery showing the location of the proposed Driefontein Water Supply Project (Phase 2A). The proposed pipelines follows the existing road network of the area.

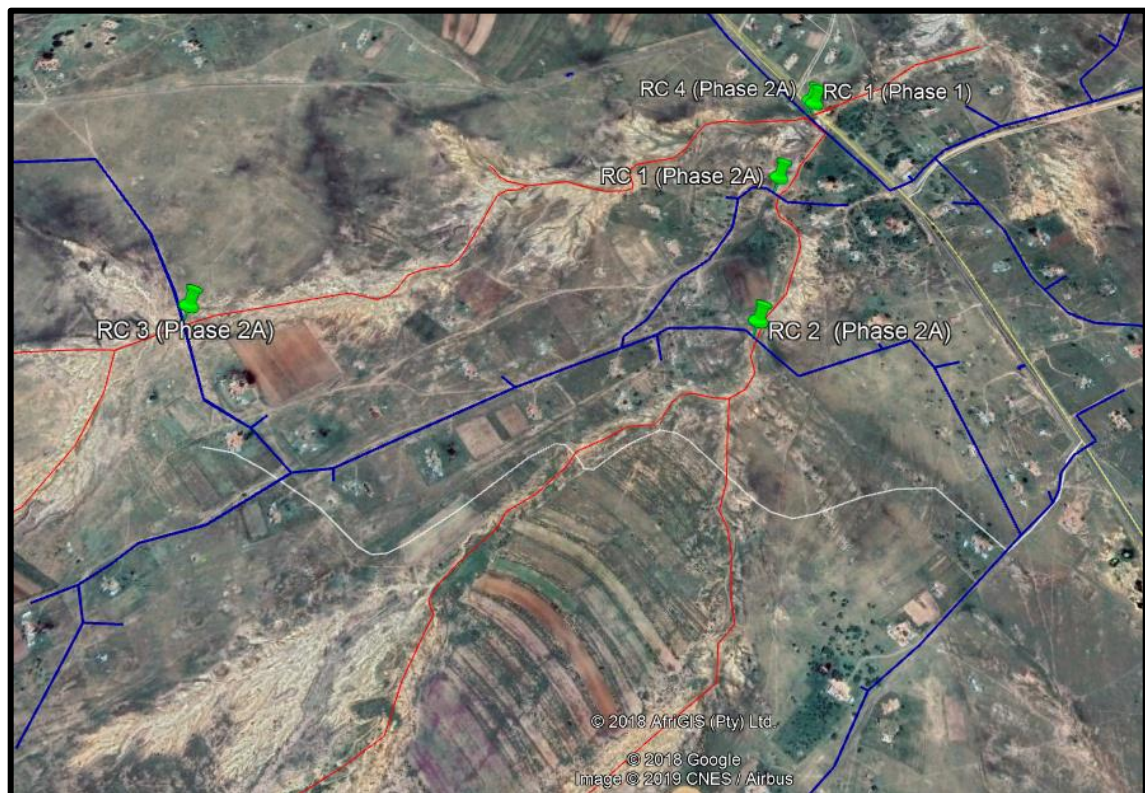


Figure 3. Google Earth Imagery: close-up of Driefontein Water Supply Scheme (Phase 2A).

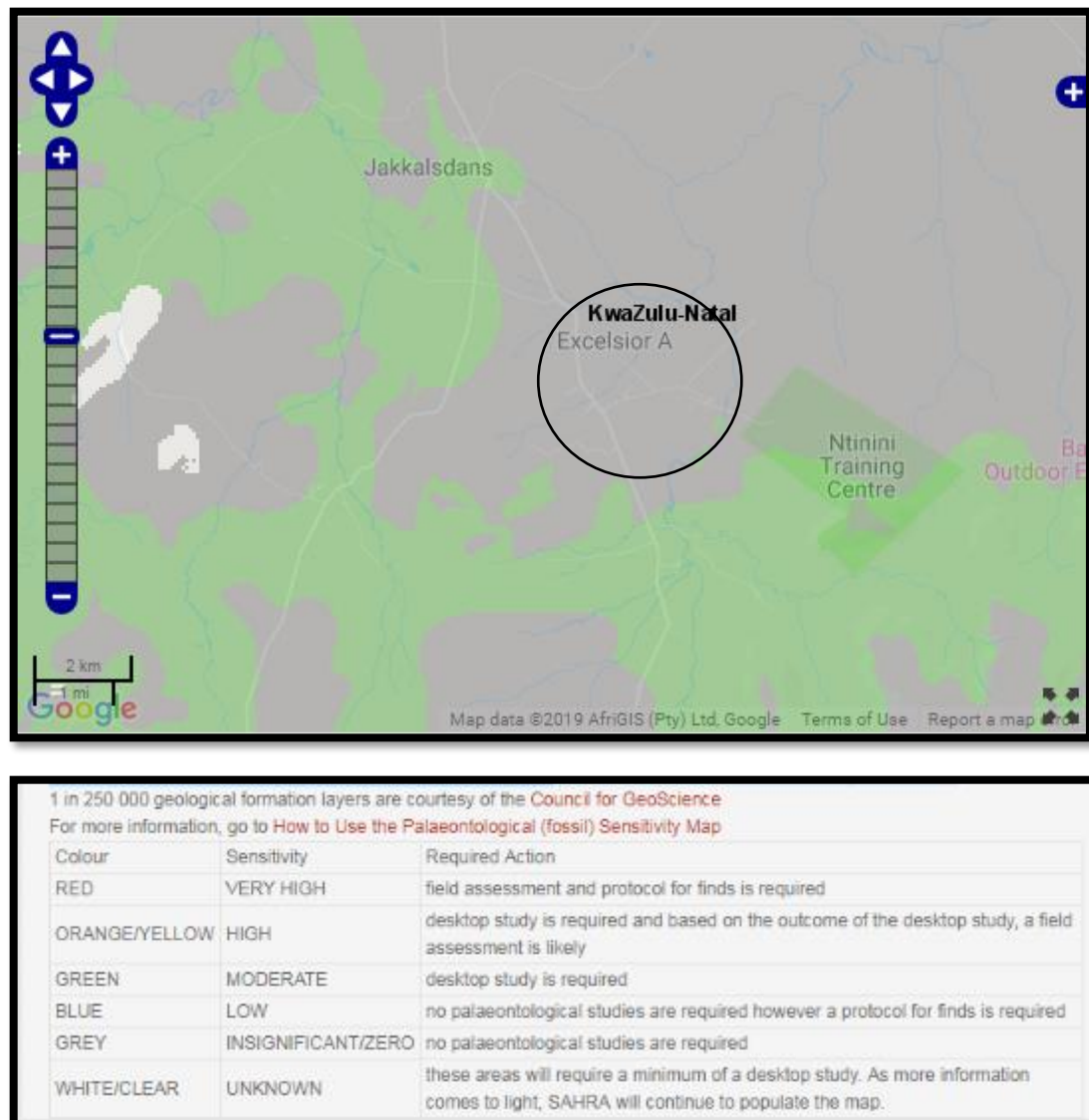


Figure 4. SAHRIS Fossil Sensitivity Map of the project area (indicated by the black polygon). No paleontological studies are required, however, a protocol of finds is required.



Figure 5. Northern section of Phase 2A: Mostly open veld with individual homesteads scattered about. The proposed pipeline follows the existing road trajectory for most of the way.



Figure 6. Rural homesteads do occur within 50m from the proposed pipeline trajectory. However, none of these had associated graves.



Figure 7. All the buildings in the project area appeared to be younger than 60 years old. Local residents in the area had no knowledge of any graves or other heritage sites on the footprint.



Figure 8. Scattered homesteads on the landscape reflects the 'Dispersed Nguni Settlement Pattern'. This was the original spatial settlement option in KZN and predates European settlement of the subcontinent by centuries.

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APPENDIX 1.

RELOCATION OF GRAVES

Burial grounds and graves are dealt with in Article 36 of the NHR Act, no 25 of 1999. Below follows a broad summary of how to deal with grave in the event of proposed development.

□ If the graves are younger than 60 years, an undertaker can be contracted to deal with the exhumation and reburial. This will include public participation, organising cemeteries, coffins, etc. They need permits and have their own requirements that must be adhered to.

□ If the graves are older than 60 years old or of undetermined age, an archaeologist must be in attendance to assist with the exhumation and documentation of the graves. This is a requirement by law.

Once it has been decided to relocate particular graves, the following steps should be taken:

□ Notices of the intention to relocate the graves need to be put up at the burial site for a period of 60 days. This should contain information where communities and family members can contact the developer/archaeologist/public-relations officer/undertaker. All information pertaining to the identification of the graves needs to be documented for the application of a SAHRA permit. The notices need to be in at least 3 languages, English, and two other languages. This is a requirement by law.

□ Notices of the intention needs to be placed in at least two local newspapers and have the same information as the above point. This is a requirement by law.

□ Local radio stations can also be used to try contact family members. This is not required by law, but is helpful in trying to contact family members.

□ During this time (60 days) a suitable cemetery need to be identified close to the development area or otherwise one specified by the family of the deceased.

□ An open day for family members should be arranged after the period of 60 days so that they can gather to discuss the way forward, and to sort out any problems. The developer needs to take the families requirements into account. This is a requirement by law.

□ Once the 60 days has passed and all the information from the family members have been received, a permit can be requested from SAHRA. This is a requirement by law.

