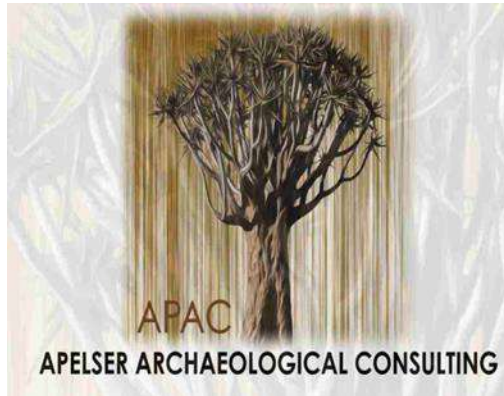




Appendix D: Heritage Impact Assessment



Comprehensive and Professional Solutions for all Heritage Related Matters
CK 2006/014630/23 **VAT NO.: 4360226270**

**PHASE 1 HIA REPORT FOR THE NATAL-EAST PROSPECTING PROJECT
LOCATED ON VARIOUS FARMS EAST OF ESTCOURT
IN THE PROVINCE OF KWAZULU-NATAL**

For:

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REPORT: **APAC019/68**

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June 2019

Amended Version: August 2019

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SUMMARY

A Pelser Archaeological Consulting (APAC) was appointed by Shango Solutions to undertake a Phase 1 HIA for the Natal East Prospecting Project. The applicant in the Prospecting Program is WRE Base Metals (Pty) Ltd. The study area is located on portions of the farms Klip River Location 4665GT (previously Bomvu 17485); Reserve No.19 15839GU (previously Ngono 17521) and Tugela Location 4674GT. The area is situated between Ladysmith and Greytown in the Msinga, Nkandla and Kranskop Districts of KwaZulu-Natal.

Background research indicates that there are a number of cultural heritage (archaeological & historical) sites and features in the larger geographical area within which the study area falls. A number of cultural heritage (archaeological and/or historical) sites were identified in the area during the field assessment. This report discusses the results of the Desktop research undertaken as well as the physical field assessment that was conducted in June 2019. Recommendations on the way forward are provided in this Phase 1 HIA Report.

Subsequent to the June 2019 field assessment, following a review of the report by the client, it was necessary that the original trench locations be relocated given the environmental and cultural/heritage sensitivity of these locations. In order to determine new trench locations, geological mapping was conducted to ensure that the trenches are relocated to areas (i) with low environmental sensitivity and (ii) where mineralization occurs. Ten (10) new trench locations were identified.

The positions of the new trench locations, as well as heritages features that were identified in the vicinity of the proposed trenches by the client and the geologists were provided to the heritage specialist. This included a description and pictures of each trench location.

From a Cultural Heritage point of view it is recommended that the Prospecting Application can continue once the recommended mitigation measures have been implemented in full. From a Cultural Heritage perspective the area is Highly sensitive and care should be taken to not impact negatively on any cultural heritage sites, features or material that are present in the area. It should be added that an assessment of the heritage features found at or close to the new prospecting trenches by the Heritage Specialist was not undertaken and that the age, significance and extent of these resources cannot be determined. The impact of the proposed trenching on these sites is unclear, but it is recommended that detailed assessment of these sites be undertaken as part of a Phase 2 mitigation program prior to the prospecting commencing.

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1. INTRODUCTION

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The client indicated the location and boundaries of the study area and the assessment concentrated on this portion.

2. TERMS OF REFERENCE

The Terms of Reference for the study was to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the portion of land that will be impacted upon by the proposed development;

2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions;
4. Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources;
5. Review applicable legislative requirements;

3. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

3.1. The National Heritage Resources Act

According to the above-mentioned act the following is protected as cultural heritage resources:

- a. Archaeological artifacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites of scientific or technological value.

The National Estate includes the following:

- a. Places, buildings, structures and equipment of cultural significance
- b. Places to which oral traditions are attached or which are associated with living heritage
- c. Historical settlements and townscapes
- d. Landscapes and features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Sites of Archaeological and palaeontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment (AIA) only looks at archaeological resources. An HIA must be done under the following circumstances:

- a. The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length
- b. The construction of a bridge or similar structure exceeding 50m in length
- c. Any development or other activity that will change the character of a site and exceed 5 000m² or involve three or more existing erven or subdivisions thereof
- d. Re-zoning of a site exceeding 10 000 m²
- e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

Section 34 (1) of the mentioned act states that no person may demolish any structure or part thereof which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

A structure means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

Alter means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

Archaeology, palaeontology and meteorites

Section 35(4) of this act deals with archaeology, palaeontology and meteorites. The act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial)

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- c. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- d. bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

Human remains

Graves and burial grounds are divided into the following:

- a. ancestral graves
- b. royal graves and graves of traditional leaders
- c. graves of victims of conflict
- d. graves designated by the Minister
- e. historical graves and cemeteries
- f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

- a. destroy, damage, alter, exhume or remove from its original position of otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- b. destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- c. bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated to) before exhumation can take place.

Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act (Act 65 of 1983 as amended)**.

3.2. The National Environmental Management Act

This act states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be

undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

4. METHODOLOGY

4.1. Survey of literature

A survey of available literature was undertaken in order to place the development area in an archaeological and historical context. The sources utilized in this regard are indicated in the bibliography.

4.2. Field survey

The field assessment section of the study is always conducted according to generally accepted HIA practices and aims at locating all possible objects, sites and features of heritage significance in the area of the proposed development. The location/position of all sites, features and objects is determined by means of a Global Positioning System (GPS) where possible, while detail photographs are also taken where needed.

4.3. Oral histories

People from local communities are sometimes interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography.

4.4. Documentation

All sites, objects, features and structures identified during the field assessment are documented according to a general set of minimum standards. Co-ordinates of individual localities are determined by means of the Global Positioning System (GPS). The information is added to the description in order to facilitate the identification of each locality.

5. DESCRIPTION OF THE AREA

The study area is located on Portion 26 of the farm Klip River Location 4665GT (previously Bomvu 17485); Sub 18 of Reserve No.19 15839GU (previously Ngono 17521); Portion 7 of Tugela Location 4674GT and the Remainder of Tugela Location 4674GT. The proposed prospecting area (comprising 34 474.53ha) is situated between Ladysmith & Greytown in the Msinga, Nkandla and Kranskop Districts of the province of KwaZulu-Natal. Other towns

in the larger geographical region include Estcourt, Colenso and Weenen, Muden and Mooi River.

The topography of the study area is very hilly and mountainous with deep valleys and gorges present. Some sections are more flat and open, especially closer to the many rural villages found throughout the study area. Some of these areas have also been impacted on and altered by extensive subsistence farming over the years. Large portions of the area are densely vegetated and made access and visibility on the ground difficult. The Tugela River flows through the area (west-east) and cuts the study area roughly in half. The Tugela, and many of its tributaries and smaller streams has cut deep valleys and ravines into the landscape here. Roads into and in the area does exist, but consists of dirt roads and sometimes single tracks up to certain points where many of the roads end. In some case there are no roads leading to the various proposed prospecting trenches and vehicular access is impossible.

Although an assessment of the total study area forms part of the Phase 1 HIA, individual proposed prospecting trenches and drill holes, located across the prospecting area, also needed to be assessed for the possible location of significant cultural heritage (archaeological and/or historical) sites, features and material that could be impacted on by the proposed prospecting activities.

The aim of the Desktop-based research was to provide an understanding of the possible range of both known and unknown cultural heritage sites, features and material that could be located in the larger area and to provide recommendations on the way forward regarding mitigating the possible impacts of the prospecting and future mining on the area.

The fieldwork that was undertaken aimed at assessing the individual prospecting trenches proposed as part of the Prospecting Program for the presence of any cultural heritage (archaeological & historical) sites, features or material that could be negatively impacted by the proposed prospecting activities. There were 10 of these (named BR1, CR1, GE1&2, MF1&2 and PT1 to PT4). The larger area was also to be assessed for the presence of any of these sites, features or material.

Subsequent to the June 2019 field assessment, following a review of the report by the client, it was necessary that the original trench locations be relocated given the environmental and cultural/heritage sensitivity of these locations. In order to determine new trench locations, geological mapping was conducted to ensure that the trenches are relocated to areas (i) with low environmental sensitivity and (ii) where mineralization occurs. Ten (10) new trench locations were identified.

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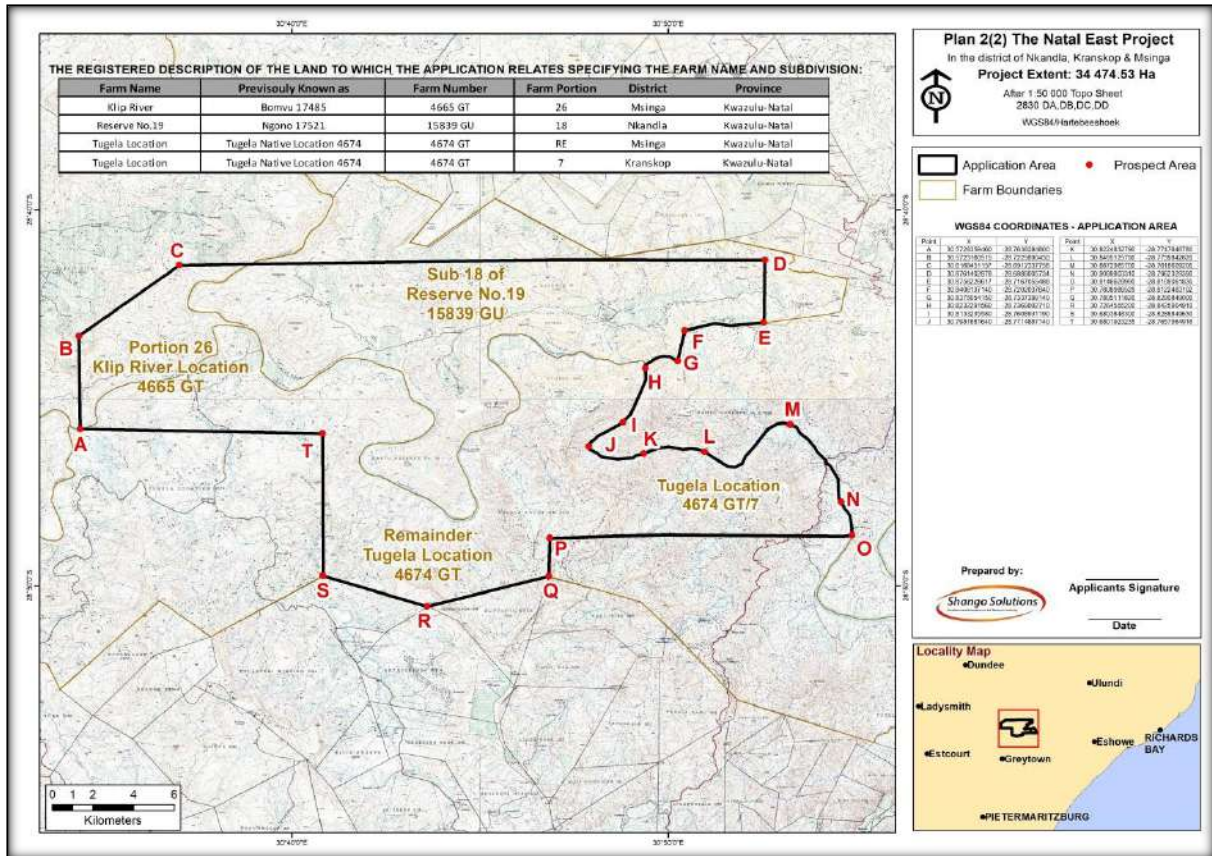


Figure 1: Study Area Location Map (courtesy Shango Solutions).

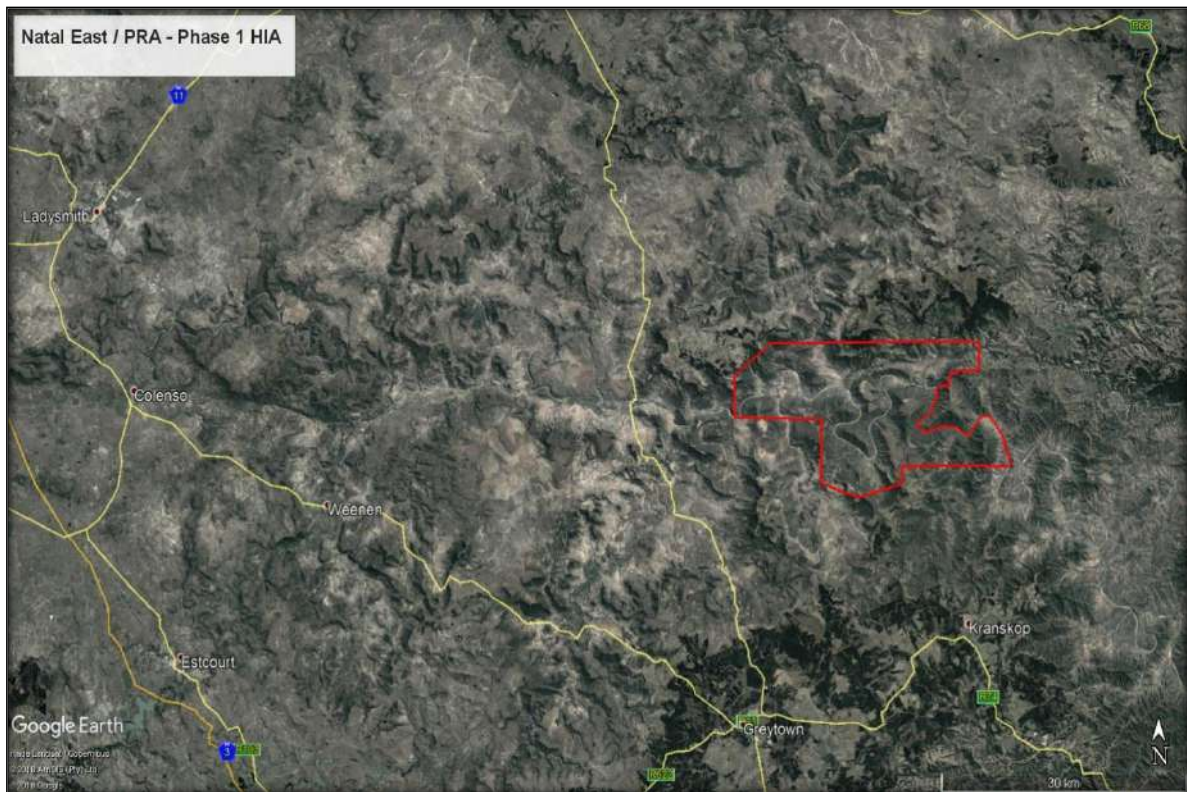


Figure 2: General location of study area (Google Earth 2019).



Figure 3: Closer view of study area location (Google Earth 2019).



Figure 4: Aerial view of study area showing the location of the proposed prospecting trenches (Google Earth 2019).



Figure 5: New Trench Positions in relation to the old locations (Google Earth 2019).



Figure 6



Figure 7

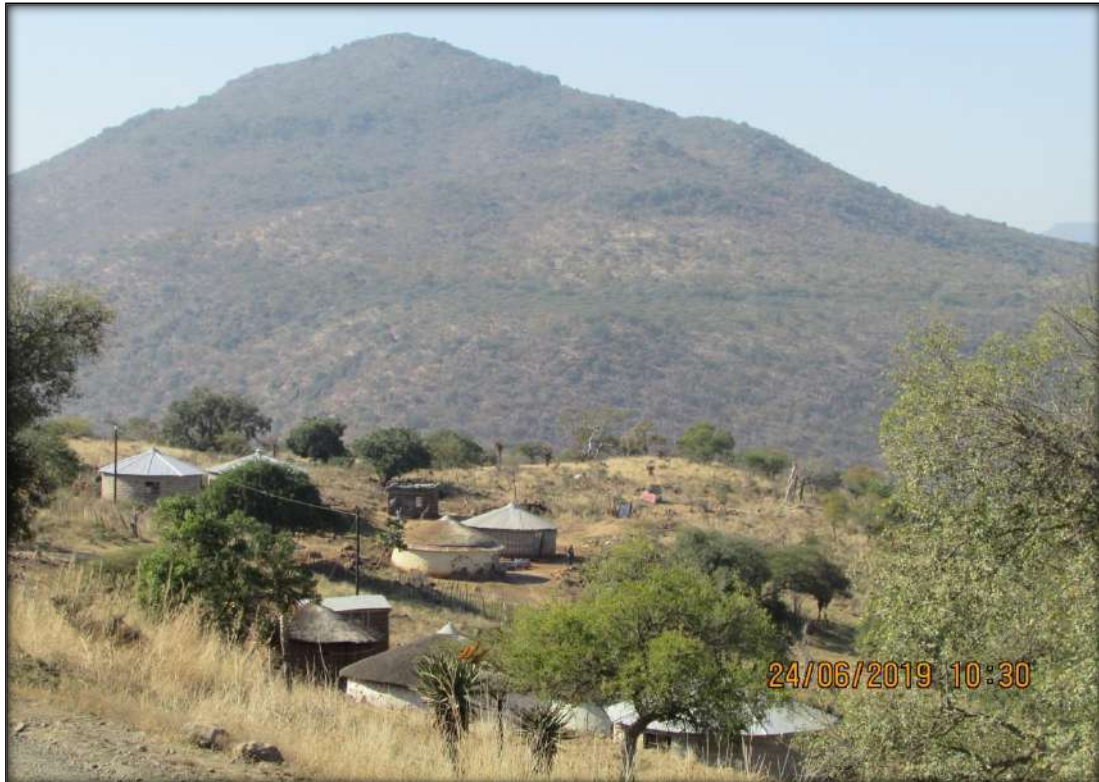


Figure 8



Figure 9



Figure 10

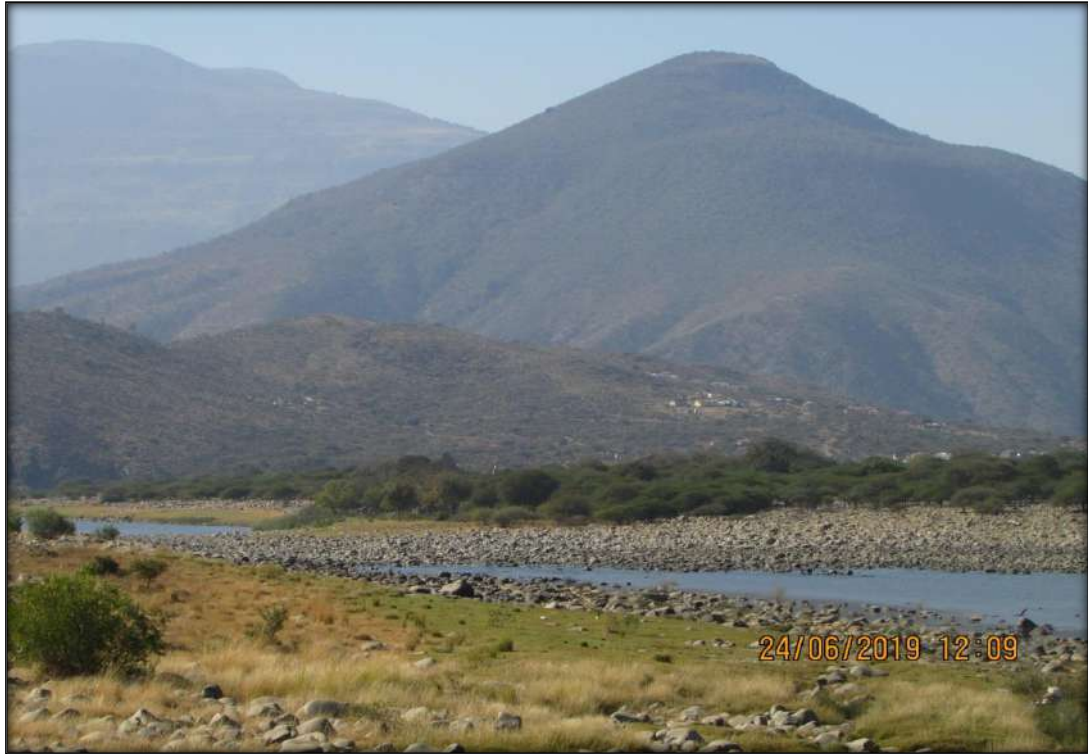


Figure 11

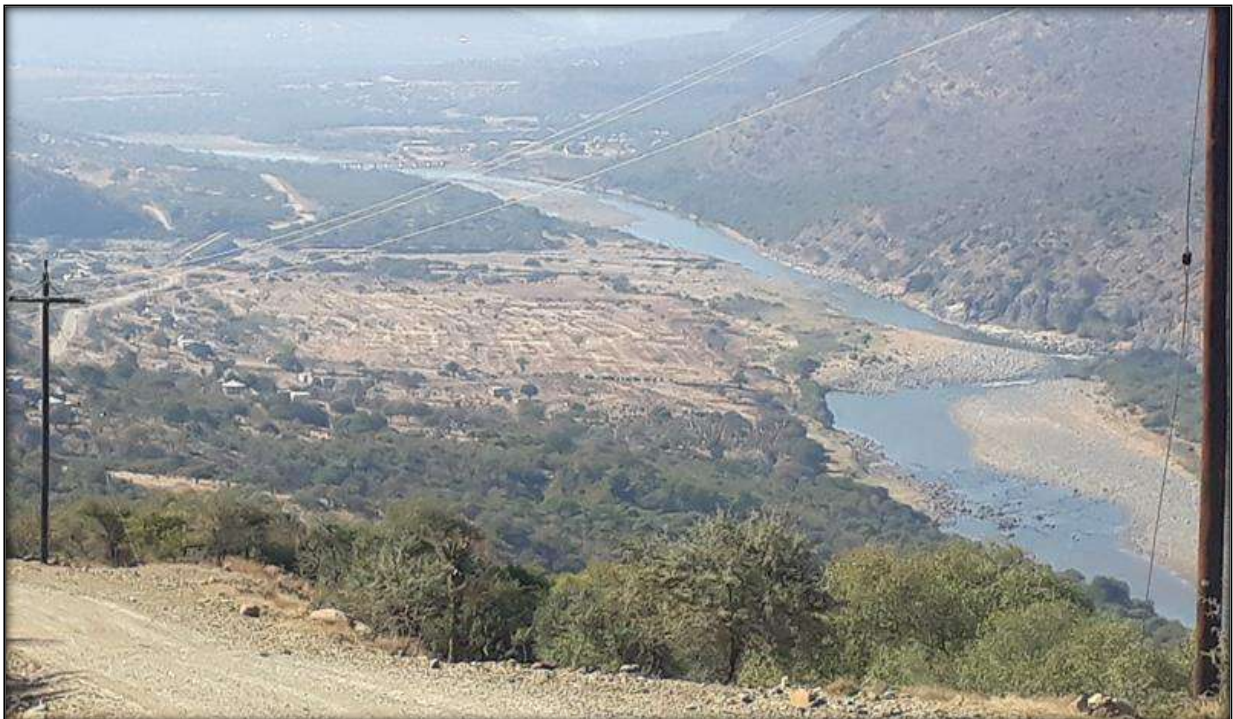


Figure 12



Figure 13



Figure 14



Figure 15

Figures 6 to 15 shows an overview of the landscape, topography and general location of the study area.

6. DISCUSSION

The Stone Age is the period in human history when lithic (stone) material was mainly used to produce tools. In South Africa the Stone Age can be divided into basically three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. A basic sequence for the South African Stone Age (Lombard et.al 2012) is as follows:

Earlier Stone Age (ESA) up to 2 million – more than 200 000 years ago

Middle Stone Age (MSA) less than 300 000 – 20 000 years ago

Later Stone Age (LSA) 40 000 years ago – 2000 years ago

It should also be noted that these dates are not a neat fit because of variability and overlapping ages between sites (Lombard et.al 2012: 125).

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts. In South Africa it can be divided into two separate phases (Bergh 1999: 96-98), namely:

Early Iron Age (EIA) 200 – 1000 A.D

Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now seem to be widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D.

Middle Iron Age (MIA) 900 – 1300 A.D.

Late Iron Age (LIA) 1300 – 1840 A.D.

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write.

“Archaeological evidence from KwaZulu-Natal shows that, similar to elsewhere in southern Africa, the region was occupied exclusively by Stone Age hunter-gatherers until the early centuries of the first millennium AD. The Later Stone Age (LSA) is associated with Khoesan people. In KwaZulu-Natal the earliest evidence of agriculturalist communities appears in the early centuries of the first millennium AD. Calibrated dates of c. 400 AD identify Mzonjani as the earliest known farming settlement in KwaZulu-Natal. Although evidence from the first phase of the Iron Age in KwaZulu-Natal is still relatively sparse, it is already apparent from southern Africa in general that the significant aspects of what has been called the Early Iron Age ‘package’ - including crop cultivation, livestock herding, iron production, settled village life and distinctive styles of ceramics - were already established. In KwaZulu-Natal the first, or Mzonjani, phase appears to be restricted to coastal areas, extending from the Mozambique border to the area south of Durban. People chose living sites in positions favorable for a range of economic activities, including slash-and-burn agriculture, small stock herding and iron smelting, while shellfish collecting seems to have contributed a significant part of the diet.

In the second half of the first millennium AD, Iron Age settlement extended further south along the coast, as well as inland up the valleys of major rivers such as the Thukela system, reaching altitudes of around 1000 m but remaining in wooded, savanna environments. The first interactions between hunter-gatherers and agriculturalists in Kwazulu Natal took place in coastal or near-coastal settings, but became more widespread during the latter part of the first millennium AD. On Iron Age settlements many shell disc beads, a large proportion of ostrich-egg shell, which must have been introduced from grassland regions, well inland of the area settled by Iron Age people at that time, have been found. Later Stone Age-style bone arrow-points and link-shafts, and on some sites, LSA stone artefacts, have also been found, possible evidence for hunter-gatherer presence at some of these sites. Likewise, in LSA deposits in rock shelters, pottery fragments of typical Early Iron Age style occur, sometimes far inland of Early Iron Age settlement.

Early in the second millennium AD, Late Iron Age settlement had extended into some grasslands of the KwaZulu-Natal interior. Some of these sites are in naturally defensible positions and have surrounding walls, while the associated material culture no longer includes LSA elements. This may reflect a period of greater competition or conflict. Later in the second millennium, Iron Age settlements become quite dense in these lower-altitude grassland areas, yet even with the arrival of white colonists in the nineteenth century,

Khoesan groups still living a hunter-gatherer lifestyle survived in the interior at higher altitude, where the environment was unfavorable for Iron Age farming.

During the second millennium AD we begin to see archaeological evidence for the material culture associated with ethnic/linguistic groups known today as Nguni-speaking people in KwaZulu-Natal. These patterns can be traced back to the beginning of the second millennium AD. The evidence becomes compelling in the second half of the millennium when ceramics, settlement pattern and historical sources confirm continuity into recent times”

The above section comes from Ribot et al 2010:90-91.

“Most of the Stone Age sites in the near vicinity of the study area occur in shelters and in open air contexts as exposed by donga and sheet erosion. Some Middle Stone Age flakes, probably dating back to ca. 40 000 – 200 000 years ago, occur in disturbed context in dongas and road cuttings. The majority of Later Stone Age sites as well as rock art sites occur further west in the foothills of the Drakensberg.

The areas of Muden and Weenen have been well surveyed for archaeological sites. These low altitude and densely wooded areas have been intensely occupied by Iron Age farmers since the Early Iron Age around 500 AD. Some of these sites have also been excavated by Dr. Tim Maggs of the Natal Museum in the 1980’s. The study area is centrally located between the Drakensberg with its abundance of Later Stone Age rock art sites to the east and the low altitude river valleys that were favored by Iron Age farmers, to the west.

The available evidence, as captured in the KwaZulu-Natal Museum heritage site inventories, indicates that the general geographical area in which the study area falls contains a wide range of archaeological sites covering different time-periods and cultural traditions. These include Early Stone Age site, Middle Stone Age, Later Stone Age sites, Later Iron Age sites and numerous historical sites dating back to the colonial period. Some of the farms in the area contain graves and structures relating to early Voortrekker settlement. However, the majority of older buildings on farmsteads were erected by British colonists after 1850 who occupied farms previously inhabited by Voortrekker pioneers.

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. European settlement of the area started soon after 1838 when the first Voortrekker settlers marked out large farms in the area. However, most of these farms were abandoned in the 1840’s when Natal became a British colony only to be reoccupied again by British immigrants”.

The above section taken from Prins 2013: 6-9.

Work undertaken by the author of this report in the larger geographical area during a study for the proposed Ariadne-Venus 400 KV Transmission Line between Estcourt and Pietermaritzburg identified a number of archaeological & historical sites in the larger geographical area. This included Stone Age, Iron Age and more recent historical sites (Pelsler

2010). Sites, based on decorated pottery, dating to between AD 750 and 1050, are known to occur in the larger geographical area. These sites, including Ndongondwane and Ntsekane belong to the so-called Kalundu Tradition of the EIA (Huffman 2007: 309 & 313). Late Iron Age sites, belonging to the Moor Park facies of the Urewe Tradition, and dating to between AD 1350 and 1750 can also be expected (Huffman 2007:159).

The first Europeans in the Estcourt area were the Voortrekkers, who camped close to the area on the banks of the Bushmans River. The town was apparently named after Thomas Estcourt, a member of the British parliament, in 1863. From the Ariadne-Venus study (Pelser 2010) it was determined that by far the largest number and range of cultural heritage sites in the larger geographical area date to the more recent historical period (early 19th to mid-20th century). This includes graves and graveyards, old farmsteads, Anglo-Boer War (1899 – 1902) sites, railway stations and bridges.

Although, based on the desktop research, there are no known sites in the Natal-East study area, this is more likely an indication of a lack of detailed archaeological research rather than no presence. Based on Huffman's research the so-called Moor Park facies of the Urewe Tradition could possibly be found in the area. Moor Park is dated to around AD1350 to AD1750 (Huffman 2007: 159). Sites in KZN where Moor Park has been found include the Moor Park type-site, iGujwana, Mhlopheni, Ntomdadlane and Sewula Gorge. It is possible that the Nqabeni facies of the same tradition could also be found. This facies dates to between AD1700 and AD1820 (p.163). Moor Park was first recorded in the Estcourt midlands by Davies and Whitelaw, while Moor Park stonewalling, the first type associated with the so-called Central Cattle Pattern, extends across the midlands (Huffman 2007: 444). Historical information on the larger geographical area and towns such as Estcourt that is located in relative close proximity is also available, and the range of sites and features located during previous surveys could be taken as indication of what might be expected in the larger study area. This could include graves and graveyards, old railway bridges and lines, possible Anglo-Boer War (1899-1902) sites, farmsteads and other historical features and structures.

With a fairly large number of informal and more formal village and settlements located in the study area, the high likelihood of graves and cemeteries being present should be kept in mind. Graves always carry a High Significance Rating in terms of Cultural Heritage and should be avoided during any development activities where possible. If graves and cemeteries cannot be avoided then the option of exhumation and relocation do exist. This do however entail the conducting of intensive and detailed social consultation in order to obtain consent from local communities and descendants and permissions from various local, provincial and national authorities.

To conclude the following cultural heritage (archaeological and/or historical) sites, features and material could possibly be located in the study area:

1. Rock Art Sites: in possible rock shelters or overhangs that might occur in the higher-lying sections of the study area.

2. Stone Age sites and material: in possible rock shelters. It is very likely that open-air scatters of Middle and Later Stone Age stone tools will occur in and along drainage lines and river banks, as well as erosion dongas created by the streams, tributaries and the Tugela River that is visible on aerial images of the study area.
3. Iron Age sites and remains, including evidence of earlier settlement features and cultural material such as pottery in the area.
4. Recent historical sites, features and material. This could include old homestead and farmstead remains, farm laborer structures, Anglo-Boer War (1899-1902) sites and graves and cemetery sites.

Results of Fieldwork: June 2019

As indicated earlier 10 proposed Prospecting Trench locations (over and above the larger footprint/study area) had to be assessed for the presence of possible cultural heritage (archaeological and/or historical) sites, features or material. If there were any sites of cultural heritage origin or significance located at these locations the impacts of the proposed prospecting activities and possible future mining actions on them had to be assessed and suitable mitigation measures to negate or minimize the impacts had to be recommended.

A number of proposed locations could be accessed during the assessment, while others could not be due to various factors such as lack of roads leading to or close to them, the physical location of the points on high/steep elevations and hills/mountainous areas. A number of trench positions were also “eliminated” from a cultural heritage perspective as these positions would most likely not have been favored by and utilized by human populations during prehistoric or recent historic time-periods. A number of sites and features of cultural heritage origin and significance were also identified and recorded in the general study area and while it was impossible to cover the total area during the fieldwork it can be safely assumed that more similar resources would be present in the larger landscape covered by the study area footprint.

The ten individual Prospecting Trench positions that had to be assessed were as follows:

1. GE1 & GE2
2. BR1
3. CR1
4. PT1, 2, 3 & 4
5. Mf1 & Mf2.

They will be discussed separately in the next section.

GE1 & GE2

These two trench positions are located at **S28 43 55.25 E30 36 43.18 (GE1)** & **S28 43 55.25 E30 36 38.10 (GE2)** respectively. A number of cultural heritage (archaeological and/or recent historical sites, features and material were identified and recorded at these positions and mitigation measures will have to be implemented to minimize or negate the potential negative impacts of the prospecting and possible future mining here.

The site found at and around the area of GE1 & GE2 includes the remains of an old homestead and kraal (including hut foundations), cultural material such as pottery and broken grinding stones, as well as a number of stone-packed graves probably associated with the old homestead. The age of this site and the remains is difficult to determine but it probably dates to the later Iron Age and more recent Colonial Period. From a cultural heritage point of view the site and material is of Medium to High Significance and mitigation measures to minimize the impacts of the proposed prospecting and possible future mining activities on these resources will have to be implemented. The impact will be direct. A single Later Stone Age (LSA) stone tool was also identified on the site.

The following is applicable to the sites at GE1 & GE2:

Cultural significance:

Medium: Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.

High: Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

Heritage significance:

Grade III: Other heritage resources of local importance and therefore worthy of conservation

Field ratings:

General protection A (IV A): site should be mitigated before destruction (high/medium significance)

GPS Location of Site and Material

Site 1: **S28 43 56.20 E30 36 38.50**

Site 2: **S28 43 57.20 E30 36 42.00**

Determination of Environmental Risk

The impact assessment methodology is guided by the requirements of the NEMA EIA Regulations (2014). The broad approach to the significance rating methodology is to determine the environmental risk (ER) by considering the consequence (C) of each impact (comprising Nature, Extent, Duration, Magnitude, and Reversibility).

For sites GE1 and GE2 the following scores are applicable:

Nature = -1: Likely to result in a negative impact
 Extent = 2: Site (i.e. within the development property boundary)
 Duration = 5: Permanent
 Magnitude = 5: Very high
 Reversibility = 5: Irreversible Impact
 This leads to a score of -4.25 for the consequence of the impact.

The probability scoring is 5 (definite), which leads to an environmental risk score of -21.25. This puts the environmental risk score in a high significance class and a very high negative significance rating.

TABLE: Environmental Impact Assessment

Nature	Likely to result in a negative/ detrimental impact (-1)
Spatial extent	Site (2)
Duration	Permanent (5)
Magnitude	Very High (5)
Reversibility	Irreversible Impact (5)
Probability	Definite (5)
Environmental Risk (ER)	Consequence (C) = -4,25 Environmental Risk = -21,25 High
Public response (PR)	High (3)
Cumulative impact (CI)	High (3)
Irreplaceable loss of resources (LR)	High (3)
Prioritisation Factor (PF)	Priority = 9 Prioritisation Factor = 2 (high)
Significance Rating (SR - WOM) Pre-mitigation	Impact significance = -42,5 High Negative

The following mitigation measures for the sites at GE1 & GE2 are recommended before prospecting:

- A. Detailed mapping of the homestead (kraal & hut) remnants to provide a layout map and extent of the site
- B. Limited archaeological excavations in order to recover cultural material such as pottery and other artifacts and remains of the settlement here. This will assist in reconstruction of time-frame of settlement; cultural identity of the occupants and material and social economy
- C. For the graves there are Two (2) options.
 - Fencing the graves in order to protect them against any impacts
 - Exhumation & Relocation of the graves after detailed social consultation and obtaining consent from the community and family members of the deceased buried there.

These proposed mitigation measures need to be implemented before the proposed prospecting is undertaken and if the proposed location of the GE1 & GE2 Prospecting Trenches cannot be altered in order to avoid the cultural heritage sites at all. The high possibility of unmarked burials being present at these locations should also be kept in mind.



Figure 16: The location of GE1 & GE2 and the cultural heritage sites identified (Google Earth 2019).



Figure 17: The general topography and landscape around GE1 & GE2.



Figure 18: Broken lower and upper grinding stones at Site 1.



Figure 19: The homestead (kraal & hut) area at Site 2.



Figure 20: One of the hut foundations at Site 2.



Figure 21: A piece of pottery from the area.



Figure 22: A quartz Stone Age tool from the site.



Figure 23: An unknown number of stone-packed graves occur in and around the Site 1 & 2 homestead area between GE1 & GE2.

With most of the other proposed Prospecting Trench positions not possible to be reached due to a variety of factors mentioned earlier, assessing the impacts of the prospecting and possible future mining on any cultural heritage (archaeological and/or historical) sites, features or material at these specified points is not possible. However, based on the identification and recording of other sites in the general study area, it is possible to predict to some degree of probability whether or not there would be sites located at some of these positions or not. This is based additionally on aspects such as topography, natural elevation, location close to riverbeds and streams and proximity to villages. The sites found at GE1 & GE2 also assisted here, as some of the other Prospecting Trench locations are situated in similar positions, while aerial views (Google Earth) of these positions also confirmed the possibility of sites being present here or not.

Sites found in general area

Although the total footprint area (study area) of more than 34 000ha could not be assessed and only a small sample-size of it could be traversed and surveyed in some detail, it is believed that the sites found is indicative of what is present throughout the area at certain locations. This includes the remains of earlier homesteads (kraals) as well as informal graveyards and cemeteries in close proximity to these older and current homesteads and villages in the larger area.

Site 3

This is the location of another homestead/kraal located not far from GE1 & GE2.

GPS Location: S28 44 02.70 E30 36 52.00.



Figure 24: The location of Site 3 (Google Earth 2019).



Figure 25: Site 3.

Site 4 & Site 5

Site 4 is another old homestead/kraal area, with Site 5 an informal cemetery with mostly stone-packed graves located in relative close proximity to it.

GPS Locations: **S28 44 14.50 E30 37 01.60 (Site 4) & S28 44 16.50 E30 36 57.90 (Site 5)**



Figure 26: The location of Sites 4 & 5 (Google Earth 2019).

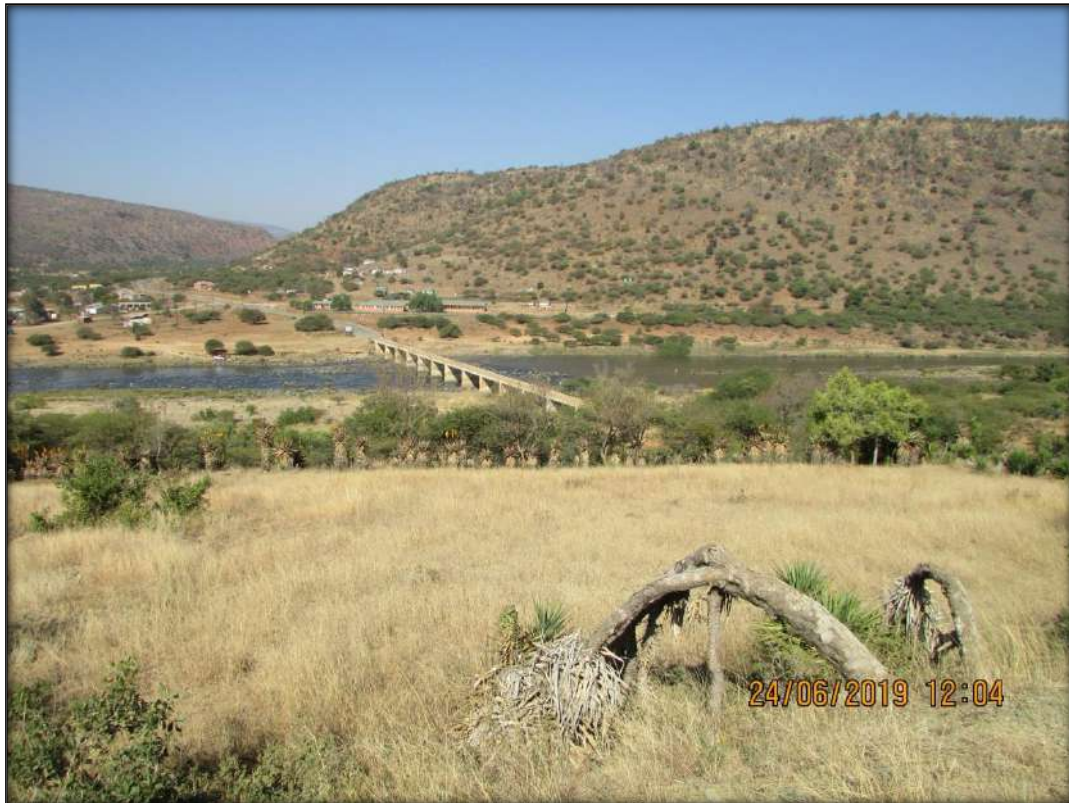


Figure 27: Site 5 Homestead/kraal area.



Figure 28: Site 5 informal cemetery with stone-packed graves.

The other possible Prospecting Trench locations will be discussed briefly below

BR1

Based on an aerial image (Google Earth) of the position the possibility of any recent (Iron Age & historical) cultural heritage sites being present here is slim. This is due to the relatively high elevation in the current landscape. However, the possibility of finding scatters of earlier Stone Age material (stone tools) and open-air Stone Age sites cannot be excluded due to the location of the site close to the confluence of the Buffelsrivier and the Tugela.



Figure 29: The location of BR1 (top right corner) close to the confluence of the Buffelsrivier & the Tugela (Google Earth 2019).



Figure 30: A closer view of the BR1 trench location (Google Earth 2019).

CR1

CR1 is situated in a similar position as the GE1 & GE2 trench locations, on a relatively flat and open elevation and the possibility of the presence of older homestead/kraal remnants here is a distinct possibility. An aerial image (Google Earth) of the location does also seem to indicate evidence of an open space and some remnants. Similar mitigation measures as those for the sites at GE1 & GE2 need to be implemented should any sites of cultural origin be found here.



Figure 31: The location of CR1, with possible cultural heritage remnants (Google Earth 2019).

PT1 to PT4

The positioning of these proposed Prospecting Trenches on very high/steep slopes does not lend it towards likelihood for the presence of any cultural heritage sites or features. Possible cultural heritage (archaeological and/or historical) sites, features or material could however be present closer to the river and in the valley below close to Sokheni Village.



Figure 32: The location of PT1 – PT4 (Google Earth 2019).



Figure 33: The location of PT1 – PT4 (Google Earth 2019).

Mf1 & Mf2

The possible Trench Locations are situated in a similar position as those at GE1 & GE2. It is on a relatively flat open area and an aerial image (Google Earth) of the location does seem to indicate a fairly large open space around Mf1 that could indicate an old homestead/kraal area. Similar mitigation measures as those for the sites at GE1 & GE2 need to be implemented should any sites of cultural origin be found here.



Figure 34: The location of Mf1 & Mf2 (Google Earth 2019).



Figure 35: A closer view of Mf1 & Mf2. A large open-space around Mf1 could indicate a homestead/kraal area here (Google Earth 2019).

Although providing an Environmental Risk Score for these sites (BR1; CR1, PT1-4 and Mf1 & Mf2) would be difficult seeing that the points were not assessed physically, based on the above observations in the field (in the general area and at points GE1 & GE2) and on aerial images of the locations it is possible to say the following:

1. For points CR1 and Mf1 & Mf2 the Environmental Risk Score would be the same as for GE1 & GE2, putting them in a High Significance Class
2. For BR1, although there is a possibility of finding scatters of stone tools and open-air Stone Age sites it would be difficult to provide a Score/Impact rating without a physical assessment
3. For PT1 – PT4 there is a Low Risk rating

New Trench Locations & Heritage Sites identified

As indicated earlier subsequent to the June 2019 field assessment, and following a review of the Phase 1 HIA report by the client, the original trench locations had to be relocated given the environmental and cultural/heritage sensitivity of these locations. In order to determine new trench locations, geological mapping was conducted to ensure that the trenches are relocated to areas (i) with low environmental sensitivity and (ii) where mineralization occurs. Ten (10) new trench locations were identified.

The GPS locations and information/descriptions of these locations and the heritage sites found in close proximity to them were provided by Shango Solutions and are as follows:

Trench 1: S28.722650° E30.603044°

The proposed trench position is situated in an open grass field with homesteads occurring 50metres (m) to the west. It is found within the degraded Bushveld habitat due to the anthropogenic impacts from the immediate surroundings. The natural vegetation has been cleared and the area is used for cattle grazing and housing. Additionally, a gravel road is present 50m south of the trench position. According to the Mining and Biodiversity Guidelines (2013), trench 1 is located in a region which is unclassified. Based on the South African Biodiversity Institute (SANBI) Technical Guidelines for Critical Biodiversity Areas (CBAs) Maps (2017), trench 1 is not located in a CBA.



Figure 36: A view of the location of Trench 1 (@Shango Solutions).

Trench 2: S28.732734° E30.606147°

The proposed trench position is situated on a grassy slope with surrounding shrubs and trees. It is found within the Mountain Bushveld habitat and the area is in pristine condition. The trench position is 80m east of the Tugela River, 120m southwest of the closest homesteads and 250m west of the closest road. **Furthermore, the trench position is 100m southwest of a historical homestead and kraal (H1) and 110m southwest of the historical Eldorado Gold Mine.** According to the Mining and Biodiversity Guidelines (2013), trench 2 is located in a region which is classified as "Highest Biodiversity Importance - Highest Risk for Mining". Based on the SANBI Technical Guidelines for Critical CBAs Maps (2017), trench 2 is located in an optimal CBA.



Figure 37: General view of the location of Trench 2 (@Shango Solutions).

Trench 3: S28.732549° E30.606369°

The proposed trench position is situated on a grassy slope with surrounding shrubs and trees. It is found within the Mountain Bushveld habitat and the area is in pristine condition. The trench position is 100m east of the Tugela River, 100m southwest of the closest homesteads and 210m west of the closest road. **Furthermore, the trench position is 70m southwest of a historical homestead and kraal (H1) and 90m southwest of the historical Eldorado Gold Mine.** According to the Mining and Biodiversity Guidelines (2013), trench 3 is located in a region which is classified as "Highest Biodiversity Importance - Highest Risk for Mining". Based on the SANBI Technical Guidelines for CBAs Maps (2017), trench 3 is located in an optimal CBA.



Figure 38: View of the location of Trench 3.

Trench 4: S28.731957° E30.607555°

The proposed trench position is situated on a grassy slope with surrounding shrubs and trees. It is found within the degraded Bushveld habitat. The trench position is 200m east of the Tugela River, 80m east of the closest homesteads and 60m west of the closest road. **Furthermore, the trench position is 80m east of a historical homestead and kraal (H1) and 40m east of the historical Eldorado Gold Mine.** According to the Mining and Biodiversity Guidelines (2013), trench 4 is located in a region which is classified as "Highest Biodiversity Importance - Highest Risk for Mining". Based on the SANBI Technical Guidelines for CBAs Maps (2017), trench 4 is located in an optimal CBA.



Figure 39: General view of the location of Trench 4 (@Shango Solutions).

Trench 5: S28.731957° E30.608252°

The proposed trench position is situated on a grassy slope with surrounding shrubs and trees. It is found within the degraded Bushveld habitat. The trench position is 270m east of the Tugela River, 150m east of the closest homesteads and 15m west of the closest road. **Furthermore, the trench position is 150m east of a historical homestead and kraal (H1) and 110m east of the historical Eldorado Gold Mine.** According to the Mining and Biodiversity Guidelines (2013), trench 5 is located in a region which is classified as "Highest Biodiversity Importance - Highest Risk for Mining". Based on the SANBI Technical Guidelines for CBAs Maps (2017), trench 5 is located in an optimal CBA.



Figure 40: General view of the location of Trench 5 (@Shango Solutions).

Trench 6: S28.729175° E30.628397°

The proposed trench position is situated in the degraded Bushveld habitat. The area has been severely impacted by anthropogenic activities, specifically the clearing of vegetation, littering of domestic waste and grazing of cattle. The trench position is located 210m west of the Tugela River, 50m southwest of the closest homesteads and 60m from the closest gravel road. **Furthermore, the trench position is 180m north of the historical Golden Dove Gold Mine and 60m north of a historical homestead (H2).** According to the Mining and Biodiversity Guidelines (2013), trench 6 is located in a region which is unclassified. Based on the SANBI Technical Guidelines for CBAs Maps (2017), trench 6 is not located in a CBA.



Figure 41: General view of the location of Trench 6 (@Shango Solutions).

Trench 7: S28.726502° E30.626027°

The proposed trench position is located in the degraded Bushveld habitat and is parallel to trench 8. It is in a clear and open space enclosed by man-made tree barriers demarcating existing homesteads. The patchy vegetation in this clearing is used for cattle grazing. **The trench position is 60m north-west of the closest homestead and 120m west of the closest historical homestead (H3).** According to the Mining and Biodiversity Guidelines (2013), trench 7 is located in a region which is unclassified. Based on the SANBI Technical Guidelines for CBAs Maps (2017), trench 7 is not located in a CBA.



Figure 42: General view of the location of Trench 7 (@Shango Solutions).

Trench 8: S28.726502° E30.626027°

The proposed trench position is located in the degraded Bushveld habitat and is parallel to trench 7. It is in a clear and open space enclosed by man-made tree barriers demarcating existing homesteads. The patchy vegetation in this clearing is used for cattle grazing. **The trench position is 60m north-west of the closest homestead and 120m west of the closest historical homestead (H3).** According to the Mining and Biodiversity Guidelines (2013), trench 8 is located in a region which is unclassified. Based on the SANBI Technical Guidelines for CBAs Maps (2017), trench 8 is not located in a CBA.



Figure 43: General view of the location of Trench 8 (@Shango Solutions).

Trench 9: S28.728875° E30.623995°

The proposed trench position is located in the degraded Bushveld habitat. It has been degraded by anthropogenic impacts namely nearby homesteads and the use of the area for cattle grazing. The trench position is located 40m northeast of the closest homestead and 80m southwest of the closest gravel road. According to the Mining and Biodiversity Guidelines (2013), trench 9 is located in a region which is unclassified. Based on the SANBI Technical Guidelines for CBAs Maps (2017), trench 9 is not located in a CBA.



Figure 44: General view of the location of Trench 9 (@Shango Solutions).

Trench 10: S28.730280° E30.629008°

The proposed trench position is situated in a degraded Bushveld habitat. It has been degraded due to cattle grazing. **The trench position is located 100m west of the Tugela River, 50m north east of the historical Golden Dove Mine and 70m southeast of the closest heritage feature (H2).** According to the Mining and Biodiversity Guidelines (2013), trench 10 is located in a region which is unclassified. Based on the SANBI Technical Guidelines for CBAs Maps (2017), trench 10 is not located in a CBA.



Figure 45: General view of the location of Trench 10 (@Shango Solutions).

Historical homestead and kraal (H1): S28.732064° E30.606750°

This historical homestead and kraal are in close proximity to trenches 2, 3, 4 and 5.



Figure 46: Historical Homestead H1 (@Shango Solutions).

Historical homestead (H2): S28.729767° E30.628477°

This historical homestead is in close proximity to trenches 6 and 10.



Figure 47: A view of historical homestead H2 (@Shango Solutions).

Historical homestead (H3): S28.726769° E30.624780°

This historical homestead is in close proximity to trenches 7 and 8.



Figure 48: A view of historical homestead H3 (@Shango Solutions).



Figure 49: Map showing locations of new trenches & historical sites in relation to them (Google Earth 2019).

Determination of Environmental Risk

For sites H1, H2 and H3 the following scores are applicable:

Nature = -1: Likely to result in a negative impact

Extent = 2: Site (i.e. within the development property boundary)

Duration = 5: Permanent

Magnitude = 5: Very high

Reversibility = 5: Irreversible Impact

This leads to a score of -4.25 for the consequence of the impact.

The probability scoring is 5 (definite), which leads to an environmental risk score of -21.25. This puts the environmental risk score in a high significance class and a very high negative significance rating.

TABLE: Environmental Impact Assessment

Nature	Likely to result in a negative/ detrimental impact (-1)
Spatial extent	Site (2)
Duration	Permanent (5)
Magnitude	Very High (5)
Reversibility	Irreversible Impact (5)
Probability	Definite (5)
Environmental Risk (ER)	Consequence (C) = -4,25 Environmental Risk = -21,25 High
Public response (PR)	High (3)
Cumulative impact (CI)	High (3)
Irreplaceable loss of resources (LR)	High (3)
Prioritisation Factor (PF)	Priority = 9 Prioritisation Factor = 2 (high)
Significance Rating (SR - WOM) Pre-mitigation	Impact significance = -42,5 High Negative

A physical assessment of the heritage features found at or close to the new prospecting trenches by the Heritage Specialist was not undertaken and the exact age, significance and extent of these resources cannot be determined. The direct impact of the proposed trenching on these sites is unclear, but it is recommended that detailed assessment of these sites be undertaken as part of a Phase 2 mitigation program prior to the prospecting

commencing. The following mitigation measures for Sites H1, H2 & H3 are recommended before prospecting:

- A. Detailed mapping of the homestead (kraal & hut) remnants to provide a layout map and extent of the sites
- B. Limited archaeological excavations in order to recover cultural material such as pottery and other artifacts and remains of the settlement here. This will assist in reconstruction of time-frame of settlement; cultural identity of the occupants and material and social economy

Finally, taking the limitations of the initial field assessment into consideration (such as difficult or no access to some areas and trench locations), it would be difficult to determine the impacts of any proposed prospecting and future mining on any potential cultural heritage (archaeological and/or historical) sites, features or material at these locations. Also, doing a detailed assessment on such a large study area of over 34 000 hectares is not possible given the scope of the work and the time available. The number of cultural heritage (archaeological and/or historical) sites and features in the area could therefore be untold with many of high cultural significance. What is clear however is that there are sites present in the larger area and at many of the proposed prospecting trench locations and that there will be negative impacts on these sites and on the cultural heritage resources of the area as a result of the proposed prospecting and possible future mining in the study area. Mitigation measures will therefore have to be implemented as recommended to minimize or negate these impacts before prospecting commences and before future mining activities are undertaken. Detailed Phase 2 Archaeological and Heritage assessments and mitigation work will form part of this work.

It is always important to note that although all efforts are made to cover a total area during any assessment and therefore to identify all possible sites or features of cultural (archaeological and/or historical) heritage origin and significance, that there is always the possibility of something being missed. This will include low stone-packed or unmarked graves. This aspect should be kept in mind when development work commences and if any sites, features or material (including graves) are identified then an expert should be called in to investigate and recommend on the best way forward.

7. CONCLUSIONS AND RECOMMENDATIONS

A Pelsers Archaeological Consulting (APAC) was appointed by Shango Solutions to undertake a Phase 1 HIA for the Natal East Prospecting Project. The applicant in the Prospecting Program is WRE Base Metals (Pty) Ltd. The study area is located on portions of the farms Klip River Location 4665GT (previously Bomvu 17485); Reserve No.19 15839GU (previously Ngono 17521) and Tugela Location 4674GT. The area is situated between Ladysmith and Greytown in the Msinga, Nkandla and Kranskop Districts of KwaZulu-Natal.

Background research indicates that there are a number of cultural heritage (archaeological & historical) sites and features in the larger geographical area within which the study area

falls. This report discusses the results of the Desktop research undertaken, while a physical field assessment will be conducted at a later stage.

The following cultural heritage (archaeological and/or historical) sites, features and material could possibly be located in the study area:

1. Rock Art Sites: in possible rock shelters or overhangs that might occur in the higher-lying sections of the study area.
2. Stone Age sites and material: in possible rock shelters. It is very likely that open-air scatters of Middle and Later Stone Age stone tools will occur in and along drainage lines and river banks, as well as erosion dongas created by the streams, tributaries and the Tugela River that is visible on aerial images of the study area.
3. Iron Age sites and remains, including evidence of earlier settlement features and cultural material such as pottery in the area.
4. Recent historical sites, features and material. This could include old homestead and farmstead remains, farm laborer structures, Anglo-Boer War (1899-1902) sites and graves and cemetery sites.

With a fairly large number of informal and more formal village and settlements located in the study area, the high likelihood of graves and cemeteries being present should be kept in mind. Graves always carry a High Significance Rating in terms of Cultural Heritage and should be avoided during any development activities where possible. If graves and cemeteries cannot be avoided then the option of exhumation and relocation do exist. This do however entail the conducting of intensive and detailed social consultation in order to obtain consent from local communities and descendants and permissions from various local, provincial and national authorities.

The physical fieldwork focused on determining whether or not these types and range of Cultural Heritage sites, features and material does occur in the larger study area and possibly at the specific prospecting trench and borehole positions.

It is clear that a range of sites, features and material exists in the area. These include the remains of older homesteads and kraals (including huts), upper and lower grinding stones, pottery, stone tools, as well as informal cemeteries with stone-packed graves associated with these remnants. Some sites and features were physically identified and recorded at Prospecting Trenches GE1 & GE2, while potentially similar sites were also identified at CR1, Mf1 & Mf2. At BR1 the possibility of the presence of scatters of Stone Age material and open-air surface sites was also determined.

Mitigation measures to minimize or negate the impacts of the proposed prospecting on sites at GE1 & GE2, as well as CR1 & Mf1 and Mf2, will have to be implemented. This will include detailed mapping and limited archaeological excavations as part of Phase 2

Archaeological and Heritage Assessments before the Prospecting work is conducted and before potential future mining activities are undertaken.

As indicated earlier subsequent to the June 2019 field assessment, and following a review of the Phase 1 HIA report by the client, the original trench locations had to be relocated given the environmental and cultural/heritage sensitivity of these locations. In order to determine new trench locations, geological mapping was conducted to ensure that the trenches are relocated to areas (i) with low environmental sensitivity and (ii) where mineralization occurs. Ten (10) new trench locations were identified.

A physical assessment of the heritage features found at or close to the new prospecting trenches by the Heritage Specialist was not undertaken and the exact age, significance and extent of these resources cannot be determined. The direct impact of the proposed trenching on these sites is unclear, but it is recommended that detailed assessment of these sites be undertaken as part of a Phase 2 mitigation program prior to the prospecting commencing. The following mitigation measures for Sites H1, H2 & H3 are recommended before prospecting:

- A. Detailed mapping of the homestead (kraal & hut) remnants to provide a layout map and extent of the sites
- B. Limited archaeological excavations in order to recover cultural material such as pottery and other artifacts and remains of the settlement here. This will assist in reconstruction of time-frame of settlement; cultural identity of the occupants and material and social economy

From a Cultural Heritage perspective the area is Highly sensitive and care should be taken to not impact negatively on any cultural heritage sites, features or material that are present in the area. It should be added that an assessment of the heritage features found at or close to the new prospecting trenches by the Heritage Specialist was not undertaken and that the age, significance and extent of these resources cannot be determined. The impact of the proposed trenching on these sites is unclear, but it is recommended that detailed assessment of these sites be undertaken as part of a Phase 2 mitigation program prior to the prospecting commencing.

Finally, taking the limitations of the field assessment into consideration (such as difficult or no access to some areas and trench locations), it would be difficult to determine the impacts of any proposed prospecting and future mining on any potential cultural heritage (archaeological and/or historical) sites, features or material at these locations. Also, doing a detailed assessment on such a large study area of over 34 000 hectares is not possible given the scope of the work and the time available. The number of cultural heritage (archaeological and/or historical) sites and features in the area could therefore be untold with many of high cultural significance. What is clear however is that there are sites present in the larger area and at many of the proposed prospecting trench locations and that there will be negative impacts on these sites and on the cultural heritage resources of the area as a result of the proposed prospecting and possible future mining in the study area.

It should be noted that although all efforts are made to locate, identify and record all possible cultural heritage sites and features (including archaeological remains) there is always a possibility that some might have been missed as a result of grass cover and other factors. The subterranean nature of these resources (including low stone-packed or unmarked graves) should also be taken into consideration. Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward.

8. REFERENCES

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APPENDIX A: DEFINITION OF TERMS:

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artifacts, found on a single location.

Structure: A permanent building found in isolation or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B: DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE

Historic value: Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.

Aesthetic value: Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.

Scientific value: Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period

Social value: Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.

Rarity: Does it possess uncommon, rare or endangered aspects of natural or cultural heritage.

Representivity: Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or 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.

APPENDIX C: SIGNIFICANCE AND FIELD RATING:

Cultural significance:

- Low: A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.
- Medium: Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.
- High: Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

Heritage significance:

- Grade I: Heritage resources with exceptional qualities to the extent that they are of national significance
- Grade II: Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate
- Grade III: Other heritage resources of local importance and therefore worthy of conservation

Field ratings:

- i. National Grade I significance: should be managed as part of the national estate
- ii. Provincial Grade II significance: should be managed as part of the provincial estate
- iii. Local Grade IIIA: should be included in the heritage register and not be mitigated (high significance)
- iv. Local Grade IIIB: should be included in the heritage register and may be mitigated (high/medium significance)
- v. General protection A (IV A): site should be mitigated before destruction (high/medium significance)
- vi. General protection B (IV B): site should be recorded before destruction (medium significance)
- vii. General protection C (IV C): phase 1 is seen as sufficient recording and it may be demolished (low significance)

APPENDIX D: PROTECTION OF HERITAGE RESOURCES:

Formal protection:

National heritage sites and Provincial heritage sites – Grade I and II

Protected areas - An area surrounding a heritage site

Provisional protection – For a maximum period of two years

Heritage registers – Listing Grades II and III

Heritage areas – Areas with more than one heritage site included

Heritage objects – e.g. Archaeological, palaeontological, meteorites, geological specimens, visual art, military, numismatic, books, etc.

General protection:

Objects protected by the laws of foreign states

Structures – Older than 60 years

Archaeology, palaeontology and meteorites

Burial grounds and graves

Public monuments and memorials

APPENDIX E: HERITAGE IMPACT ASSESSMENT PHASES

1. Pre-assessment or Scoping Phase – Establishment of the scope of the project and terms of reference.
2. Baseline Assessment – Establishment of a broad framework of the potential heritage of an area.
3. Phase I Impact Assessment – Identifying sites, assess their significance, make comments on the impact of the development and makes recommendations for mitigation or conservation.
4. Letter of recommendation for exemption – If there is no likelihood that any sites will be impacted.
5. Phase II Mitigation or Rescue – Planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.
6. Phase III Management Plan – For rare cases where sites are so important that development cannot be allowed.