Archaeological Impact Assessment

For the proposed Riebs Quarry on Portion 35 (Remaining Extent) of the farm Sandford 291, KU, Mpumalanga Province

Prepared For

Greenmined Environmental

By

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I, Jaco van der Walt as duly authorised representative of Heritage Contracts and Archaeological Consulting CC, hereby confirm my independence as a specialist and declare that neither I nor the Heritage Contracts and Archaeological Consulting CC have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which the client was appointed as Environmental Assessment practitioner, other than fair remuneration for work performed on this project.

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EXECUTIVE SUMMARY

Site name and location: The proposed Riebs Quarry is located on a portion of Portion 35 (Remaining Extent) of the farm Sandford 291, KU, Mpumalanga Province

Purpose of the study: Phase 1 Archaeological Impact Assessment to determine the presence of cultural heritage sites and the impact of the proposed project on these resources within the area demarcated for the proposed quarry.

1:50 000 Topographic Map: 2531 AA

Environmental Consultant: Greenmined Environmental

Developer: Afrimat Aggregates (Trading) (Pty) Ltd
Heritage Consultant: Heritage Contracts and Archaeological Consulting CC (HCAC).

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Date of Report: 18 December 2013

Findings of the Assessment:

The proposed development area for the Riebs quarry extension was assessed for sites of archaeological significance as part of the Basic Assessment process for the project. No archaeological sites, grave sites or structures older than 60 years were identified in the quarry footprint. There are dilapidated structures younger than 60 years in the development footprint, the structures relate to the management of the quarry and are of no heritage significance, but have been recorded and described in this report. One cemetery containing a total of 7 graves has been identified outside of the development footprint. This site is of high social significance and mitigation measures to ensure the in situ preservation of the site is included in section 7 of this report.

There are no fatal flaws in terms of the archaeological component to the project; however management measures as made in section 7 of this report would need to be taken into account to avoid damage to the local heritage. Based on approval from SAHRA this project can go ahead.

Dr John Almond conducted a desktop study on the palaeontology of the area and concluded that it is recommended that exemption from further specialist palaeontological studies and mitigation be granted for this aggregate quarry development. His report is included as Annexure A.

General

Due to the subsurface nature of archaeological material and unmarked graves the possibility of the occurrence of unmarked or informal graves and subsurface finds cannot be excluded. If during construction any possible finds such as stone tool scatters, artefacts or bone and fossil remains are made, the operations must be stopped and a qualified archaeologist must be contacted for an assessment of the find.

Disclaimer: *Although all possible care is taken to identify sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. Heritage Contracts and Archaeological Consulting CC and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.*

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ABBREVIATIONS

AIA: Archaeological Impact Assessment
ASAPA: Association of South African Professional Archaeologists
BIA: Basic Impact Assessment
CRM: Cultural Resource Management
ECO: Environmental Control Officer
EIA: Environmental Impact Assessment*
EIA: Early Iron Age*
EIA Practitioner: Environmental Impact Assessment Practitioner
EMP: Environmental Management Plan
ESA: Early Stone Age
GPS: Global Positioning System
HIA: Heritage Impact Assessment
LIA: Late Iron Age
LSA: Late Stone Age
MEC: Member of the Executive Council
MIA: Middle Iron Age
MPRDA: Mineral and Petroleum Resources Development Act
MSA: Middle Stone Age
NEMA: National Environmental Management Act
PRHA: Provincial Heritage Resource Agency
SADC: Southern African Development Community
SAHRA: South African Heritage Resources Agency

**Although EIA refers to both Environmental Impact Assessment and the Early Iron Age both are internationally accepted abbreviations and must be read and interpreted in the context it is used.*

GLOSSARY

Archaeological site (remains of human activity over 100 years old)

Early Stone Age (~ 2.6 million to 250 000 years ago)

Middle Stone Age (~ 250 000 to 40-25 000 years ago)

Later Stone Age (~ 40-25 000, to recently, 100 years ago)

The Iron Age (~ AD 400 to 1840)

Historic (~ AD 1840 to 1950)

Historic building (over 60 years old)

1 BACKGROUND INFORMATION

Kind of study	Archaeological Impact Assessment
Type of development	Aggregate Mining
Developer:	**Afrimat Aggregates (Trading) (Pty) Ltd**
Consultant:	Greenmined Environmental

The Archaeological Impact Assessment report forms part of the AIA for the proposed project.

The aim of the study is to identify cultural heritage sites, document, and assess their importance within local, provincial and national context. It serves to assess the impact of the proposed project on non-renewable heritage resources, and to submit appropriate recommendations with regard to the responsible cultural resources management measures that might be required to assist the developer in managing the discovered heritage resources in a responsible manner. It is also conducted to protect, preserve, and develop such resources within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

The report outlines the approach and methodology utilized before and during the survey, which includes: Phase 1, a desktop study that includes collection from various sources and consultations; Phase 2, the physical surveying of the area on foot and by vehicle; Phase 3, reporting the outcome of the study.

During the survey no heritage significant sites were identified within the proposed footprint of the quarry, however a informal cemetery is located to the south of the study area. General site conditions and features on sites were recorded by means of photographs, GPS locations, and site descriptions. Possible impacts were identified and mitigation measures are proposed in the following report.

This report must also be submitted to the SAHRA for review.

1.1 Terms of Reference

Desktop study

Conducting a brief desktop study where information on the area is collected to provide a background setting of the archaeology that can be expected in the area.

Field study

Conduct a field study to: a) systematically survey the proposed project area to locate, identify, record, photograph and describe sites of archaeological, historical or cultural interest; b) record GPS points identified as significant areas; c) determine the levels of significance of the various types of heritage resources recorded in the project area.

Reporting

Report on the identification of anticipated and cumulative impacts the operational units of the proposed project activity may have on the identified heritage resources for all 3 phases of the project; i.e., construction, operation and decommissioning phases. Consider alternatives, should any significant sites be impacted adversely by the proposed project. Ensure that all studies and results comply with Heritage legislation and the code of ethics and guidelines of ASAPA.

To assist the developer in managing the discovered heritage resources in a responsible manner, and to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

1.2. Archaeological Legislation and Best Practice

Phase 1, an AIA or a HIA is a pre-requisite for development in South Africa as prescribed by SAHRA and stipulated by legislation. The overall purpose of a heritage specialist input is to:

- Identify any heritage resources, which may be affected;
- Assess the nature and degree of significance of such resources;
- Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance;
- Assess the negative and positive impact of the development on these resources;
- Make recommendations for the appropriate heritage management of these impacts.

The AIA or HIA, as a specialist sub-section of the EIA, is required under the National Heritage Resources Act NHRA of 1999 (Act 25 of 1999), Section 23(2)(b) of the NEMA and section s.39(3)(b)(iii) of the MPRDA.

The AIA should be submitted, as part of the EIA, BIA or EMP, to the PHRA if established in the province or to SAHRA. SAHRA will be ultimately responsible for the professional evaluation of Phase 1 AIA reports upon which review comments will be issued. 'Best practice' requires Phase 1 AIA reports and additional development information, as per the EIA,

BIA/EMP, to be submitted in duplicate to SAHRA after completion of the study. SAHRA accepts Phase 1 AIA reports authored by professional archaeologists, accredited with ASAPA or with a proven ability to do archaeological work.

Minimum accreditation requirements include an Honours degree in archaeology or related discipline and 3 years post-university CRM experience (field supervisor level).

Minimum standards for reports, site documentation and descriptions are set by ASAPA in collaboration with SAHRA. ASAPA represents professional archaeology in the SADC region. ASAPA is primarily involved in the overseeing of ethical practice and standards regarding the archaeological profession. Membership is based on proposal and secondment by other professional members.

Phase 1 AIAs are primarily concerned with the location and identification of sites situated within a proposed development area. Identified sites should be assessed according to their significance. Relevant conservation or Phase 2 mitigation recommendations should be made. Recommendations are subject to evaluation by SAHRA.

Conservation or Phase 2 mitigation recommendations, as approved by SAHRA, are to be used as guidelines in the developer's decision making process.

Phase 2 archaeological projects are primarily based on salvage/mitigation excavations preceding development destruction or impact on a site. Phase 2 excavations can only be conducted with a permit, issued by SAHRA to the appointed archaeologist. Permit conditions are prescribed by SAHRA and includes (as minimum requirements) reporting back strategies to SAHRA and deposition of excavated material at an accredited repository.

In the event of a site conservation option being preferred by the developer, a site management plan, prepared by a professional archaeologist and approved by SAHRA, will suffice as minimum requirement.

After mitigation of a site, a destruction permit must be applied for from SAHRA by the client before development may proceed.

Human remains older than 60 years are protected by the National Heritage Resources Act, with reference to Section 36. Graves older than 60 years, but younger than 100 years fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act), as well as the Human Tissues Act (Act 65 of 1983), and are the jurisdiction of SAHRA. The procedure for Consultation Regarding Burial Grounds and Graves (Section 36[5]) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority. Graves in this age category, located inside a formal cemetery administrated by a local authority, require the same authorisation as set out for graves younger than 60 years, in addition to SAHRA authorisation. If the grave is not situated inside a formal cemetery, but is to be relocated to one, permission from the local authority is required and all regulations, laws and by-laws, set by the cemetery authority, must be adhered to.

Human remains that are less than 60 years old are protected under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), as well as the Human Tissues Act (Act 65 of 1983), and are the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning; or in some cases, the MEC for Housing and Welfare.

Authorisation for exhumation and reinterment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. To handle and transport human remains, the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

1.3 Description of Study Area

1.3.1 Location Data

Riebs Quarry is located on a portion of Portion 35 (Remaining Extent) of the farm Sandford 291KU. The study area falls within the Ehlanzeni District Municipality within Mpumalanga Province. The area has been mined in the past with a sharp ridge to the north and north east. The site is easily accessible from the R535 to the south. The area is located within the Pretoriuskop Sour Bushveld veld type. This is characterized by open tree Savanna with relatively few low shrubs and a dense grassy layer dominated by sour grasses. (Mucina & Rutherford 2006).

1.3.2. Location Map

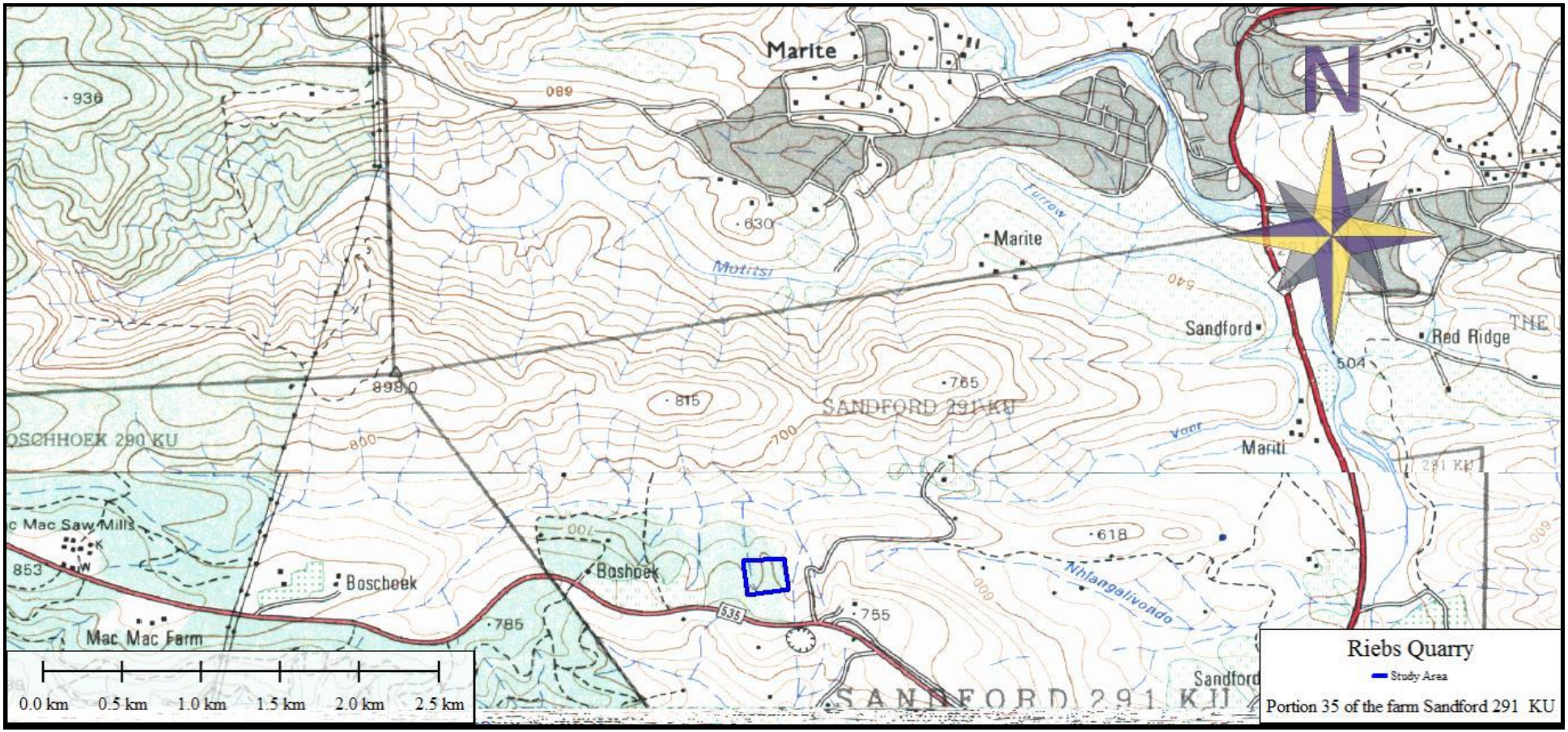

Figure 1: Location map showing the study area in blue.

2. APPROACH AND METHODOLOGY

The aim of the study is to cover archaeological databases to compile a background of the archaeology that can be expected in the study area followed by field verification; this was accomplished by means of the following phases.

2.1 Phase 1 - Desktop Study

The first phase comprised a desktop study scanning existing records for archaeological sites, historical sites, graves, architecture (structures older than 60 years) of the area.

2.1.1 Literature Search

Utilising data for information gathering stored in the archaeological database at Wits and previous CRM reports done in the area. The aim of this is to extract data and information on the area in question.

2.1.2 Information Collection

The SAHRA report mapping project (Version 1.0) was consulted to collect data from previously conducted CRM projects in the region to provide a comprehensive account of the history of the study area.

2.1.3 Consultation

No consultation was conducted since no one resides in the study area.

2.1.4 Google Earth and Mapping Survey

Google Earth and 1:50 000 maps of the area were utilised to identify possible places where sites of heritage significance might be located.

2.1.5 Genealogical Society of South Africa

The database of the Genealogical Society was consulted to collect data on any known graves in the area.

2.2 Phase 2 - Physical Surveying

Due to the nature of cultural remains, the majority of which occurs below surface, a field survey of the study area of 1.5 Ha was conducted. The study area was surveyed by means of vehicle and extensive surveys on foot by a professional archaeologist on in December 2013.

No heritage sites were discovered inside the proposed development area but a cemetery containing 7 graves was recorded outside the development area as well as some modern structures in the development area.

2.3. Restrictions

Due to the fact that most cultural remains may occur below surface, the possibility exists that some features or artefacts may not have been discovered/ recorded during the survey. Low ground visibility of parts of the study area is due to high vegetation, and the possible occurrence of unmarked graves and other cultural material cannot be excluded. Only the surface infrastructure footprint area was surveyed as indicated in the location map, and not the entire farm. Although HCAC surveyed

the area as thoroughly as possible, it is incumbent upon the developer to stop operations and inform the relevant heritage agency should further cultural remains, such as stone tool scatters, artefacts, bones or fossils, be exposed during the process of development.

3. NATURE OF THE DEVELOPMENT

The mining activities will consist of the following:

- Stripping and stockpiling of topsoil (although very little is available)
- Blasting
- Excavating
- Crushing
- Stockpiling and transporting
- Sloping and landscaping
- Replacing the topsoil and vegetating the disturbed area

The mining site will contain the following:

- Drilling Equipment
- Excavating Equipment
- Earth Moving Equipment

4. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND OF THE STUDY AREA

4.1 Databases Consulted

SAHRA Report Mapping Project and SAHRIS

The SAHRA Report Mapping project (version 1) and SAHRIS has several reports on record for the greater study area. The following reports were consulted: van Schalkwyk (2007) and Cilliers (2009) as well as Cilliers (2011) and Cilliers (2012). Van Schalkwyk (2007) documented the grave of Mr Perry, original owner of the farm. Cilliers (2009) recorded nine sites of which three were gravesites and one a site with a surface scatter of Late Iron Age pottery, the remainder of the sites were buildings and structures of no heritage significance. In the 2011 heritage study Cilliers documented two possible San sites of low significance. The 2012 study recorded 7 sites of low to medium significance relating to the Iron Age.

Genealogical Society and Google Earth Monuments

Neither the Genealogical Society nor the monuments database at Google Earth (Google Earth also include some archaeological sites and historical battlefields) have any recorded sites in the study area.

4.2 Archaeological and Historical Information Available on the Study Area

4.2.1. Palaeontology

A paleontological desktop study was conducted on the area by Dr John Almond. He concluded:

"It is recommended that exemption from further specialist palaeontological studies and mitigation be granted for this aggregate quarry development.

Should any substantial fossil remains (e.g. vertebrate bones and teeth, petrified wood, plant fossil assemblages) be encountered during excavation, however, these should be reported to SAHRA."

4.2.2 Stone Age sites

The Later phases of the Stone Age began at around 20 000 years BP (Before Present). This period was marked by numerous technological innovations and social transformations within these early hunter-gatherer societies. Hunting tools now included the bow and arrow. More particularly, the link-shaft arrow which comprises a poisoned bone tip loosely linked to a shaft which fell away when an animal was shot and left the arrow tip embedded in the prey animal. Other innovations included bored stones used as digging –stick weights to help with uprooting of tubers and roots, small stone tools, normally less than 25mm long, which was used for cutting meat and scraping hides. There were also polished bone needles, twine made from plant fibers, tortoiseshell bowls, fishing equipment including bone hooks and stone sinkers, ostrich eggshell beads and other decorative artwork (Delius, 2007).

These people may be regarded as the first modern inhabitants of Mpumalanga, known as the San or Bushmen. They were a nomadic people who lived together in small family groups and relied on hunting and gathering of food for survival. Evidence of their existence is to be found in numerous rock shelters throughout the Eastern Mpumalanga where some of their rock paintings are still visible. A number of these shelters have been documented throughout the Province (Bornman, 1995; Schoonraad in Barnard, 1975; Delius, 2007). These include areas such as Witbank, Ermelo, Barberton, Nelspruit, White River, Lydenburg and Ohrigstad.

Two Late-Holocene (Later Stone Age) sites near Hazyview in the Kruger National Park date to the last 2500 years and are associated with pottery and microlith stone tools (Bergh, 1999: 95). This is contemporary to typical hunter-gatherer lifestyle and may also have been sites frequented by San. 14

San paintings in Mpumalanga are characterized by representations of animals and human figures and are normally fine-lined paintings which are produced by using brushes made of plant material, sticks and quills. The colours are usually red and black or sometimes white. It has been argued that the red ochre source for some of these paintings is to be found at Dumaneni, near Malelane (Bornman, 1995).

At Honingklip near Badplaas in the Carolina District, two LSA rock shelters with four panels of rock art was discovered and archaeologically investigated. The site was used between 4870 BP and as recently as 200 BP. Stone walls at both sites date to the last 250 years of hunter-gatherer occupation and they may have served as protection against intruders and predators. Pieces of clay ceramic and iron beads found at the site indicates that there was early social interaction between the hunter-gatherer (San) communities and the first farmers who moved into this area at around 500 AD. Evidence from Welgelegen Shelter on the banks of the Vaal River near Ermelo suggests that the early farming (Bantu) and hunter-gatherer (San) communities coexisted (Delius, 2007; Bergh, 1999).

The farmers, who used metal tools, occupied the shelter while an independent hunter-gatherer group who made typical LSA (Late Stone Age) stone tools and used pottery, occupied the overhang area of the shelter. Similar “symbiotic” relationships existed between the Batwa San from the Chrissiesmeer area and the Swazi well into the 20th century (Delius, 2007).

4.2.3. Early Iron Age Remains

The period referred to as the Early Iron Age (AD 200-1500 approx.) started when presumably Karanga (north-east African) herder groups moved into the north eastern parts of South Africa. It is believed that these people may have been responsible for making of the famous Lydenburg Heads, ceramic masks dating to approximately 600AD.

Ludwig von Bezing was a boy of more or less 10 years of age when he first saw pieces of the now famous Lydenburg heads in 1957 while playing in the veld on his father’s farm near Lydenburg. Five years later von Bezing developed an interest in archaeology and at 15 years of age he went back to where he first saw the shards. Between 1962 and 1966 he frequently visited the Sterkspruit valley to collect pieces of the seven clay heads. Von Bezing joined the archaeological club of the University of Cape Town when he studied medicine at this institution. He took his finds to the university at the insistence of the club. He had not only found the heads, but potsherds, iron beads, copper beads, ostrich eggshell beads, pieces of bones and millstones. Archaeologists of the University of Cape Town and WITS Prof. Ray Innskeep and Dr Mike Evers excavated the site where von Bezing found the remains. This site and in particular its unique finds (heads, clay masks) instantly became internationally famous and was henceforth known as the Lydenburg Heads site.

Two of the clay masks are large enough to probably fit over the head of a child, the other five heads are approximately half that size. The masks have both human and animal features, a characteristic that may explain that they had symbolic use during initiation- and other religious ceremonies. Carbon dating proved that the heads date to approximately 600 AD and were made by Early Iron Age people. These people were Bantu herders and agriculturists and probably populated Southern Africa from areas north-east of the Limpopo river. Similar ceramics were later found in the Gustav Klingbiel Nature Reserve and researchers believe that they are related to the ceramic wares (pottery) of the Lydenburg Heads site in form, function and decorative motive. This sequence of pottery is formally known as the Klingbiel type pottery. No clay masks were found in similar context to this pottery sequence.

Two larger heads and five smaller ones make up the Lydenburg find. The heads are made of the same clay used in making household pottery. It is also made with the same technique used in the manufacture of household pottery. The smaller heads display the modelling of a curved forehead and the back neck as it curves into the skull. Around the neck of each of the heads, two or three rings are engraved horizontally and are filled in with hatching marks to form a pattern. A ridge of clay over the forehead and above the ears indicates the hairline. On the two larger heads a few rows of small clay balls indicate hair decorations. The mouth consists of lips – the smaller heads also have teeth. The seventh head has the snout of an animal and is the only head that represents an animal.

Some archaeological research was done during the 1970’s at sites belonging to the EIA (Early Iron Age), location Plaston, a settlement close to White River (Evers, 1977). This site is located on a spur between the White River and a small tributary. It is situated on holding 119 at Plaston. The site was discovered during house building operations when a collection of pottery shards was excavated. The finds consisted of pottery shards both on the surface and excavated.

Some of the pottery vessels were decorated with a red ochre wash. Two major decoration motifs occurred on the pots:

- Punctuation, using a single stylus and
- Broadline incision, the more common motif

A number of Early Iron Age pottery collections from Mpumalanga and Limpopo may be compared to the Plaston sample. They include Silver Leaves, Eiland, Matola, Klingbiel and the Lydenburg Heads site. The Plaston sample is distinguished from samples of these sites in terms of rim morphology, the majority of rims from Plaston are rounded and very few beveled. Rims from the other sites show more beveled rims (Evers, 1977:176).

Early Iron Age pottery was also excavated by archaeologist, Prof. Tom Huffman during 1997 on location where the Riverside Government complex is currently situated (Huffman, 1998). This site known as the Riverside site is situated a few kilometers north of Nelspruit next to the confluence of the Nelspruit and Crocodile River. It was discovered during the course of an environmental impact assessment for the new Mpumalanga Government complex/ offices. A bulldozer cutting exposed storage pits, cattle byres, a burial and midden on the crest of a gentle slope. Salvage excavations conducted during December 1997 and March 1998 recovered the burial and contents of several pits.

One of the pits contained among other items, pottery dating to the eleventh century (AD 1070 ± 40 BP) this relates the pottery to the Mzonjani and Broederstroom phases. The early assemblage belongs to the Kwale branch of the Urewe tradition.

During the early 1970's Dr Mike Evers of the University of the Witwatersrand conducted fieldwork and excavations in the Eastern Transvaal. Two areas were studied, the Letaba area south of the Groot Letaba River, west of the Lebombo Mountains, east of the great escarpment and north of the Olifants River. The second area was the Eastern Transvaal escarpment area between Lydenburg and Machadodorp.

These two areas are referred to as the Lowveld and escarpment respectively. The earliest work on Iron Age archaeology was conducted by Trevor and Hall in 1912. This revealed prehistoric copper-, gold- and iron mines. Schwelinus (1937) reported smelting furnaces, a salt factory and terraces near Phalaborwa. In the same year D.S. van der Merwe located ruins, graves, furnaces, terraces and soapstone objects in the Letaba area.

Mason (1962, 1968) started the first scientific excavation in the Lowveld which was followed by N.J. van der Merwe and Scully. M. Klapwijk (1974) also excavated an Early Iron Age (EIA) site at Silverleaves and Evers and van den Berg (1974) excavated at Harmony and Eiland, both EIA sites.

Recent research by the National Cultural History Museum resulted in the excavation of an Early Iron Age site in Sekhukuneland, known as Mototolong (Van Schalkwyk, 2007). The site is characterized by four large cattle kraals containing ceramics which may be attributed to the Mzonjani and Doornkop occupational phases.

4.2.4. Late Iron Age remains

The later phases of the Iron Age (AD 1600-1800's) is represented by various tribes including Ndebele, Swazi, BaKoni, Pedi and smaller tribes such as the Pai, Pulana and marked by extensive stonewalled settlements. These are found throughout the Highveld and particularly around Lydenburg, Badfontein, Sekhukuneland, Roossenekal and Steelpoort. The Swazi were particularly active in the Lowveld during the difaqane period (1820's) and it is well-known that they frequently attacked and ousted smaller herder groups like the Pai and Pulana, especially in the area today known as Low's Creek. They were however prevented from settling in the low-lying areas due to the presence of the 18

tsetse fly and malaria. Consequently there is little evidence of large scale settlement in the Crocodile River valley until the time of colonial settlement (1890's) and later.

4.2.5. Early History

The first inhabitants of the eastern Lowveld were probably the San or Bushmen. They were a nomadic people who lived together in small family groups and relied on hunting and gathering of food for survival. Evidence of their existence is to be found in numerous rock shelters throughout the Lowveld where some of their rock paintings are still visible. A number of these shelters have been documented in the Nelspruit area (Bornman, 1995; Schoonraad in Barnard, 1975). It has been argued that the red ochre source for these paintings is to be found at Dumaneni, near Malelane (Bornman, 1995).

Two Late-Holocene (Later Stone Age) sites near Hazyview in the Kruger National Park date to the last 2500 years and are associated with pottery and microlith stone tools (Bergh, 1999: 95). This is contemporary to typical hunter-gatherer lifestyle and may also have been sites frequented by San.

It was only later that Bantu-speaking tribes moved into this area from the northern parts of Southern Africa and settled here. This period is referred to as the Early Iron Age (AD 200-1500 approx.). These were presumably Sotho-Tswana herder groups.

Various historians and ethnographers describe that the Lowveld was frequented by Swazi and Sotho-Tswana groups during historic times i.e. Late Iron Age times during the period AD 1500-1800. (Barnard, 1975; Bergh, 1999; Bornman, 1995).

Old trade routes was well established before the period of Colonial expansion and these routes mainly existed as a direct consequence of metallurgy and mining for iron, tin, copper and some gold to make weapons, agricultural equipment and ornaments (Bergh, 1999:103). The earliest signs of iron mining and working in the old Transvaal dates to 11
approximately 300 AD and copper mining and working in Southern Africa may have been practiced as early as 620 AD (Bergh, 1999:103).

These people were responsible for the establishment of large centrums like Monomtapa the Zimbabwe Complex and also the famed Mapungubwe in the Limpopo valley. At around 900 AD Arab merchants established a trade post at Sofala (Beira). Since the start of the 11th century, these Arabs had trade relations with the people of Zimbabwe. Textiles, porcelain and glass beads were traded for gold, ivory and other minerals.

An ancient trade route passed close-by the current Nelspruit and started from Delagoabay in a westward direction through the Lowveld towards the gold fields of Lydenburg, by passing through Malalapoort, the Nkhomati and Crocodile Rivers to Skipberg in the current Kruger National Park close-by the place where Pretoriuskop Rest Camp is located. From here onwards there were two possible routes up the mountains to reach the goldfields. The first one passed by Spitskop (Sabie) and from there on to Lydenburg. The second passed south of the “Devils Knuckles” to Lydenburg. The Voortrekkers used this route in 1845 when making the wagon route between Ohrigstad and Delagoabay (Berg, 1998: 104). There were also several linking routes to existing main routes, one of which started from Sabie or Lydenburg to the route which linked Delagoabay to the Soutpansberg via Pilgrim’s Rest. It is also believed that a footpath existed at the foothills of the (Transvaal) Drakensberg which led around the mountain to link again with a major route alongside the Olifants River (Bergh, 1999:104).

In 1721 Dutch sailors reached Delagoa Bay and settled there for nine years, during this time they launched a number of expeditions inland. During August 1723 lieutenant Jan Steffler and 17 men launched the first of these expeditions but they were ambushed by natives shortly after crossing the Lebombo Mountains. Exactly where they crossed the mountains is uncertain but it is possible that they were actually in northern Swaziland when they were attacked. Steffler succumbed as a result of this ambush and his followers returned to Delagoa Bay (Bergh, 1999:116).

A second attempt to create an inland route took place two years later in June 1725 when Francois de Cuiper and 34 men departed from Delagoa Bay and travelled in a north western direction. They reached Gomondwano in the current Kruger National Park where they were also attacked by a local tribe. This resulted in them also having to return to Delagoa Bay. Altough this attempt was also not successful; it is seen as the first European intrusion into this northern area (Bergh, 1999:116).

In the (Eastern Transvaal) Lowveld a sub-group of the Northen Sotho, known as the eastern Sotho, were present nearby the eastern escarpment. They are known as the Pulana, Pai and Kutswe, these people moved from northern Swaziland further northwards when Swazi expanded into this area during the *mfecane* (Bergh, 1999:107-108). One of the recorded events relates to the attack of the Ndwande under Zwide on the Pedi in 1825 (Bergh, 1999:114-115). This seems to have started from the Lowveld in the region of the Pretoriuskop area towards Steelpoort.

Before the *mfecane* period (1820's) small farmer groups including the Pai and Pulana resided in the mountainous area surrounding Barberton and Nelspruit. The conflict during the *mfecane,* when the Swazi under Mswati II raided these smaller groups, resulted in scattered settlement of those who managed to escape the Swazi onslaught. Evidence of these scattered settlements is sometimes found in the form of small stone walled enclosures in and around Barberton, Nelspruit and onwards to the Schoemanskloof.

4.2.6. Voortrekkers

The Groot Trek of the Voortrekkers started with the Tregardt- van Rensburg trek in 1835. The two men met where Tregardt and his followers crossed the Orange River at Buffelsvlei (Aliwal North). Here van Rensburg joined the trek northwards. On August 23, 1837 the Tregardt trek left for Delagoabay from the Soutpansberg. They travelled eastwards alongside the Olifants River to the eastern foothills of the Drakensberg. From here they travelled through the Lowveld and the current Kruger National Park where they eventually crossed the Lebombo mountains in March 1838. They reached the Fortification at Lourenço Marques on 13 April 1838 (Bergh, 1999:124-125). 13

The Republic of Lydenburg was established on 17 December 1856. This was a vast area and stretched from the northern Strydpoort mountains to Wakkerstroom in the south and Bronkhortsspruit in the west to the Swazi border and the Lebombo mountains east.

4.2.7. History of Hazyview

The settlement of Hazyview is located about 34 miles north of Nelspruit on the road to Bushbuckridge on the farm De Rust 12JU. On a meeting of the Transvaal Board for the Development of Peri-Urban Areas held on 5 December 1969, it was decided that in accordance to Article 14(2) of the ordinance of the Transvaal Board for the Development of Peri-Urban Areas, this settlement should be taken up in the legal jurisdiction of the board and thus be granted urban status. This was due to the fact that the eastern Transvaal was increasingly becoming a choice tourist destination and there were also significant developments of citrus farming in the area. It was thus assumed that in future there would be a greater influx of people into the area. To ensure that the necessary municipal services could be delivered, the settlement would need a local council to coordinate these developments. (CDB, 1721, PB: 3/2/3/111/3). Mention was made that in 1969 the existing developments on the farm De Rust consisted of a garage and a restaurant where the Burger's Hall district road link up with the Bosbokrand/Nelspruit road. A mile north from this intersection on the Bosbokrand/Nelspruit road there was a hotel, motel and a caravan park with recreational facilities such as a swimming pool and tennis courts, a café, primary school, liquor store, post office, dairy, garage, general dealer, estate agent, a farmers' cooperative and citrus cooperative and six residential houses (CDB, 1721, PB: 3/2/3/111/3) (Cilliers 2011).

5. HERITAGE SITE SIGNIFICANCE AND MITIGATION MEASURES

The presence and distribution of heritage resources define a ‘heritage landscape’. In this landscape, every site is relevant. In addition, because heritage resources are non-renewable, heritage surveys need to investigate an entire project area, or a representative sample, depending on the nature of the project. In the case of the proposed quarry extension the local extent of its impact necessitates a representative sample and only the footprint of the areas demarcated for development were surveyed. In all initial investigations, however, the specialists are responsible only for the identification of resources visible on the surface.

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The following criteria were used to establish site significance:

- The unique nature of a site;
- The integrity of the archaeological/cultural heritage deposits;
- The wider historic, archaeological and geographic context of the site;
- The location of the site in relation to other similar sites or features;
- The depth of the archaeological deposit (when it can be determined/is known);
- The preservation condition of the sites;
- Potential to answer present research questions.

Furthermore, The National Heritage Resources Act (Act No 25 of 1999, Sec 3) distinguishes nine criteria for places and objects to qualify as ‘part of the national estate’ if they have cultural significance or other special value. These criteria are:

- Its importance in/to the community, or pattern of South Africa’s history;
- Its possession of uncommon, rare or endangered aspects of South Africa’s natural or cultural heritage;
- Its potential to yield information that will contribute to an understanding of South Africa’s natural or cultural heritage;
- Its importance in demonstrating the principal characteristics of a particular class of South Africa’s natural or cultural places or objects;
- Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- Its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- Its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa;
- Sites of significance relating to the history of slavery in South Africa.

5.1. Field Rating of Sites

Site significance classification standards prescribed by SAHRA (2006), and acknowledged by ASAPA for the SADC region, were used for the purpose of this report. The recommendations for each site should be read in conjunction with section 7 of this report.

FIELD RATING	***GRADE***	***SIGNIFICANCE***	***RECOMMENDED MITIGATION***
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

6. BASELINE STUDY-DESCRIPTION OF SITES

It is important to note that the entire farm Sandford 291, KU was not surveyed but only the footprint of the proposed quarry as indicated in Figure 1. During the survey (Figure 2) no sites of heritage significance were identified inside the quarry footprint. Some structures related to the previous management of the quarry have been identified in the area. These sites are modern and of no heritage significance. To ensure a comprehensive report on site conditions the structures are recorded and described in this report.

The following features have been identified:

Cemetery

There are 7 graves in total, 2 graves are marked (fig see photos). It is recommended that the graves are demarcated and fenced off during construction and operation of the development with a 15 m buffer zone. The site is of high social significance.

Structure 1

Ruined remains of a building or possibly dwelling. The structure is derelict and looted. It is built in a rectangular shape, (East and West walls 6m, South and North walls 9m). The structure has windows (east and north). Informant and owner Riebs Khoza explained that all the buildings on-site were offices and related buildings used by the previous quarry owner. Not significant.

Structure 2

Vertical structure associated with large volume water supply.

Structure 3

Square structure with a concrete roof, entrance and window on the south, approx. 6m x 6m. Probably a pump house associated with Structure 2. Not significant.

Structure 4

This structure is possibly the ruined remains of offices. It is hard to determine function as the building is largely demolished and the remains overgrown and full of weeds. Not significant.

Structure 5 A

Large building, derelict and looted. Eastern and western walls measure approximately 12m and the length (North /south) is approx. 25 m. There is a large concrete slab on the northern side which is also approx. 12m x 25 m. Windows on the northern side, entrances on the southern side. Not significant.

Structure 6

Large building which is derelict and looted to a large extent. Possibly functioned as offices or living quarters. The building measures approximately 40m at the northern and southern walls and 12m on the east and western walls. There are four entrances/ doors on the northern side. Not significant.

Figure 2: Google Image of the study area (in blue) with track logs of the area covered in black

Figure 3. General site conditions – North .

Figure 4. General site conditions in the north eastern portion of the study area.

Figure 5. Quarry to North .

Figure 6: Grave stones of cemetery outside development footprint

Figure 7. Graves in a southern direction.

Figure 8. Grave from a Western direction.

Figure 9. Grave in a western direction.

Figure 10. Graves viewed in a North West direction .

Figure 11: Structure 1 viewed from the North.

Figure 12: Structure 1 viewed from the West

Figure 13: Structure 1 Interior.

Figure 14: Structure 2 viewed in a westerly direction

Figure 15: Structure 3 viewed in a northerly direction

Figure 16: Structure 4 viewed in an easterly direction

Figure 17: Structure 4 viewed from the North.

Figure 18: Structure 5 A in a North Westerly direction

Figure 19: Structure 5A, picture taken in a western direction.

Figure 20: Structure 5 A, picture taken in a south eastern direction.

Figure 21: Structure 6 in a western direction.

Figure 22: General view of structure 6.

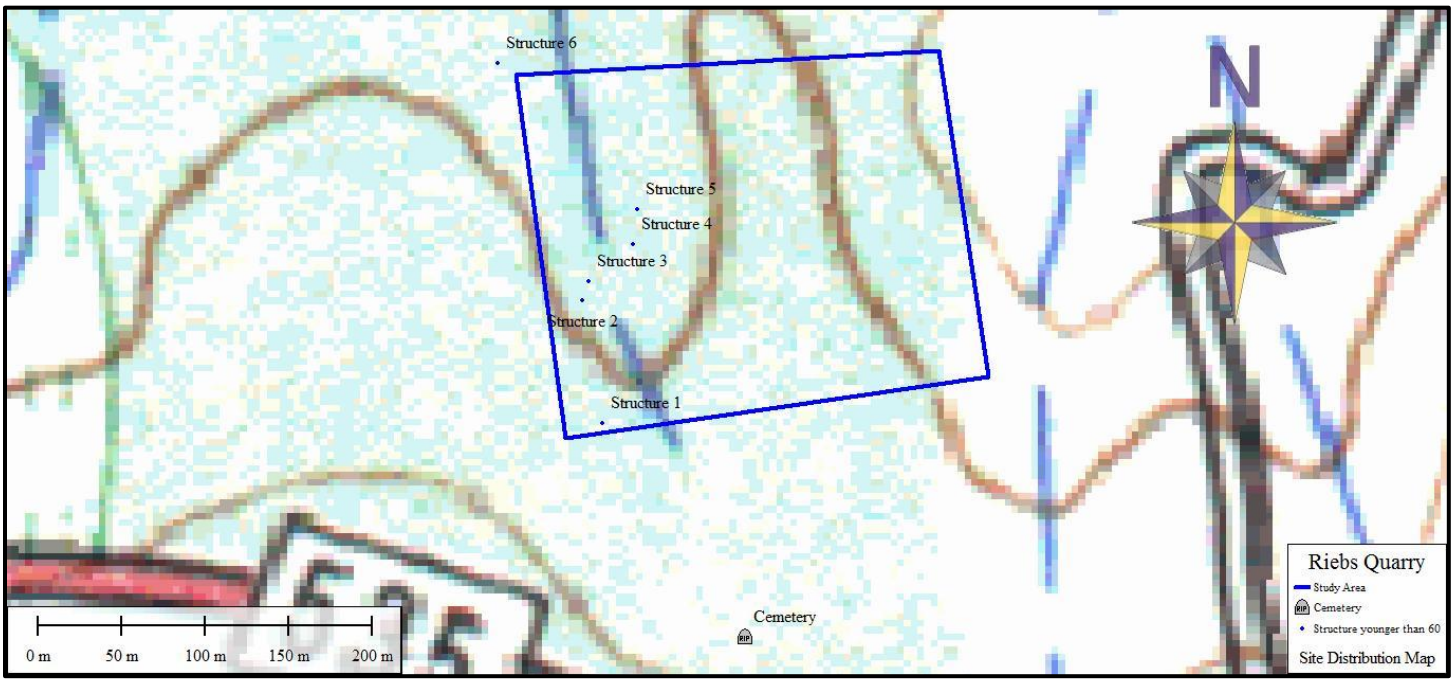

Figure 23: Location of the identified structures relation to the quarry

7. RECOMMENDATIONS AND CONCLUSIONS

No sites of heritage significance were found in the development footprint during the survey and from an archaeological point of view there is no reason why the development cannot commence work provided that the recommendations made in the AIA and PIA are adhered by and based on approval from SAHRA.

A cemetery containing 7 graves was identified south of the study area and it is recommended that the developer should implement measures to ensure that the site is protected from accidental impact as described in the table below:

OBJECTIVE: Prevent unnecessary disturbance and/or destruction of archaeological sites or features that has not been mitigated for the development.

Project component/s	All phases of construction.		
Potential impact	Damage/disturbance to cemetery.		
Activity risk/source	Construction workers and staff might unknowingly damage graves.		
Mitigation: target/objective	To retain cemetery site in undisturbed condition.		
Mitigation: Action/control		Responsibility	Timeframe
Ensure that workers and construction vehicles remain away from the cemetery by fencing of the site with an access gate for family members and a 15 m buffer zone.		Riebs Quarry Management and ECO	Construction and Operation
Performance indicator	Cemetery remains undamaged.		
Monitoring	No pedestrians or construction vehicles allowed inside the demarcated area.		

If during construction, any archaeological finds are made (e.g. stone tools, skeletal material), the operations must be stopped, and the archaeologist must be contacted for an assessment of the finds. Please refer to the full PIA for recommendations regarding the palaeontology of the study area.

8. PROJECT TEAM

Jaco van der Walt, Project Manager

JP Cilliers, Archaeologist

9. STATEMENT OF COMPETENCY

I (Jaco van der Walt) am a member of ASAPA (no 159), and accredited in the following fields of the CRM Section of the association: Iron Age Archaeology, Colonial Period Archaeology, Stone Age Archaeology and Grave Relocation. This accreditation is also valid for/acknowledged by SAHRA and AMAFA.

Currently, I serve as Council Member for the CRM Section of ASAPA, and have been involved in research and contract work in South Africa, Botswana, Zimbabwe, Mozambique, Tanzania and the DRC; having conducted more than 300 AIAs since 2000.

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