



REPORT

PHASE 1 HERITAGE IMPACT ASSESSMENT

PROPOSED WATER PIPELINE ROUTES, MAGALAKWENA DISTRICT, LIMPOPO
PROVINCE

PREPARED FOR
AGES ENVIRONMENTAL DIVISION

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EXECUTIVE SUMMARY

Purpose

This report represents the results of a Phase 1 Heritage Impact Assessment of potential heritage resources that may be affected by the construction of a water pipeline for Pruisen Mine in the Magalakwena District near Mokopane in the Limpopo Province. Three of four possible routes of approximately 20-40 km were surveyed.

Limitations

- The most obvious is the fact that the majority of heritage resources are usually found below ground. Although no middens, dung deposits or burials were identified, these cannot be ruled out.
- Certain areas in mountainous topography made access difficult and limited surveys were done in these areas.
- Intangible heritage, such as places or features that may have special significance to one or more communities in the area, was also not identified.
- Large parts of the pipeline passed through or close to urban areas (Mokopane) or rural villages (Tsamahansi, Mawhelereng). These areas were heavily impacted and disturbed. Where heritage resources did occur in these areas, the context and integrity of the sites could not be ascertained. Sites in these areas were generally given a field rating of Generally Protected A: Field Rating IV C and no mitigation recommended or proposed.

Results

No heritage resources were identified.

Recommendations

It is recommended that only two of the available four routes be considered for the pipeline.

General recommendations include:

- It is the Client's responsibility to notify all relevant parties, including SAHRA, the PHRA and an archaeologist of any heritage resource inadvertently found during any of the development phases.
- Any burial, or suspected burial, must be reported to SAHRA's Burial Grounds and Graves unit based in Johannesburg (contact number 011 403-2460).
- The Client should consult local communities prior to any development taking place to determine possible sites/area of intangible significance, such as sacred places, initiation sites and burial grounds.

Stakeholders

The only stakeholders identified by AGES are Pruisen Mine. However, other stakeholders may include:

- local communities who may have traverse/grazing rights in the area
- residents of Mokopane, Tsamahansi, Mawhelereng
- Limpopo Province in terms of the Witvlag Nature Reserve.

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INTRODUCTION

WHO WE ARE: Archaic HPM – a private company – manages the Archaeological Contracts Office for the Department of Anthropology and Archaeology, University of Pretoria. We specialise in management of heritage projects in southern Africa and beyond. Our expertise includes the generation of desktop surveys, scoping surveys, Heritage Impact Assessments and/or Specialist reports, Phase 2 Mitigation of archaeological and/or heritage sites, and Phase 3 Site Management Plans.

Archaic HPM operates within parameters provided by the National Heritage Resources Act 25 of 1999 (NHRA) and associated minimum standards provided by the South African Heritage Resources Agency (SAHRA). Further, we comply with the code of ethics and standards of the Association of Southern African Professional Archaeologists (ASAPA). Complementary national and provincial legislation such as the National Environmental Management Act No. 107 of 1998 (NEMA), the Environment Conservation Act No. 73 of 1989 (ECA), and Environmental Management Plans (EMPs) form key components of every project we undertake.

Our management of the Archaeological Contracts Office creates a unique environment within which heritage resources management may be undertaken. We have access to professional staff who may assist with projects. In addition, as part of our commitment to the training of young heritage practitioners, a percentage of all project turnover is allocated to a Research and Development Fund that enables the Department of Anthropology and Archaeology to assist students and staff in their studies, research and professional growth.

OUR HISTORY: Archaic's ancestry dates back to 2003 when Johan Nel started using that name during contracts and research projects undertaken as an Archaeology undergraduate student. *Archaic* means that which is old, ancient and belonging to or characteristic of a much earlier period, and the name has stayed with Johan and the company ever since.

Archaic Heritage Project Management was officially founded in August 2005 by partners Johan Nel and Gerard de Kamper as a heritage resource management concern that caters to the wider needs of heritage professionals in South Africa. Since February 2007, Archaic HPM manages the Archaeological Contracts Office for the Department of Anthropology & Archaeology, University of Pretoria (UP).

OUR BUSINESS: The principle business interest of Archaic HPM is the assessment and management of projects that impact on or concern southern African heritage resources. Heritage, in all its various forms, constitutes a complex and vital part of the past, present and future. Thus the professional management, conservation and preservation thereof are of the utmost importance. Archaic HPM aims to promote South Africa's heritage (natural, cultural, and 'intangible') through undertaking heritage projects. These projects include: legally required actions such as environmental and heritage impact assessments (EIA's and HIA's), curation, collections management, identifying, recording and documenting intangible, historical and archaeological heritage and related field activities.

Further aims are to involve local and affected communities as far as possible, teaching and training them in the importance of heritage, as well as learning from them. This is achieved partly through the dissemination of knowledge via the commercial and academic media. Archaic HPM endeavours to publish our projects and research findings and provide access to information at little or no cost for *bona fide* researchers, students, and schools. Student training forms a large part of the Archaic HPM's focus and students from UP and beyond are regularly used in projects to expose them to available work opportunities and experience within the heritage and cultural resource management field. Through the Research and Development Fund, these students have further opportunities to further their studies, qualifications and professional growth.

Archaic provides competitive and professional service of the highest standards and quality. We aim to achieve service excellence through the punctual submission of comprehensive and comprehensible reports and by operating within allocated budgets. As project managers, we utilise the best consultants and resources available to ensure that our detailed and well-researched projects meet the expectations of our clients and relevant authorities.

FIELDS OF INTEREST

- ✓ Advice, consultation and implementation of heritage resources management;
- ✓ Professional research related to archaeological, historical, and socio-cultural ; heritage resources;
- ✓ Archaeological, Heritage and Social Impact Assessments (AIA, HIA, SIA);
- ✓ Cultural Resource Management (CRM);
- ✓ Grave relocation and Social Consultation ;
- ✓ Training and experience education;
- ✓ Liaison between specialist consultants;
- ✓ Local and international archaeological field schools.

PROJECT BACKGROUND, SCOPE OF WORK & METHODOLOGY

Project background and scope of work

Archaic HPM was appointed by Africa Geo-Environment Services' (AGES) Environmental Division to undertake a Phase 1 Heritage Impact Assessment on three proposed routes for a water pipeline from Pruissen Mine to the current N11 national road. The distance of the proposed routes ranged from approximately 20 to 40 km. The working brief included:

- survey of the proposed water pipeline route
- desktop research
- identification of possible archaeological, historical and socio-cultural heritage resources within the proposed development area
- evaluation of possible impacts, risks and/or threats on identified heritage resources
- recommendations in terms of possible mitigation in the event of any possible negative impacts of heritage resources in the area.

Geographical background

Four possible routes were identified for the construction of the pipeline and these routes fall within the municipal boundaries of the town of Mokopane in the Limpopo Province. All areas under question are surrounded by informal homesteads, developments and farm land.

Most areas are situated within the footprints of existing provincial / local roads. The surface areas on the routes have, in most cases, been extensively disturbed and are covered in litter and sparse vegetation. Long grass and sickle bush constitute most of the vegetation on the demarcated areas.

Methodology

Vehicular surveys were undertaken along most of the proposed route where it passed through intense impacted areas such as settlements and roads. Where the potential for the occurrence of heritage resources was greater, pedestrian surveys were conducted as part of the scoping process. In all areas under question standard archaeological procedures for observation were followed. As most archaeological material occur in single or multiple stratified layers beneath the soil surface, special attention was given to disturbances, both man-made such as roads and clearings, as well as those made by natural agents such as burrowing animals and erosion. The physical location of possible sites and archaeological / historical material (if any were found) were recorded by means of a Garmin E-trex GPS (average accuracy 5 to 10 meters). General landscape conditions were photographed with a Canon 450 D Digital camera.

The survey was undertaken over two days. Johan Nel and Gerard Jordaan surveyed routes 2 and 4 on Thursday 13 November 2008. Neels Kruger and Gerard Jordaan undertook surveys on routes 1 and 3 on Thursday 20 November 2008.

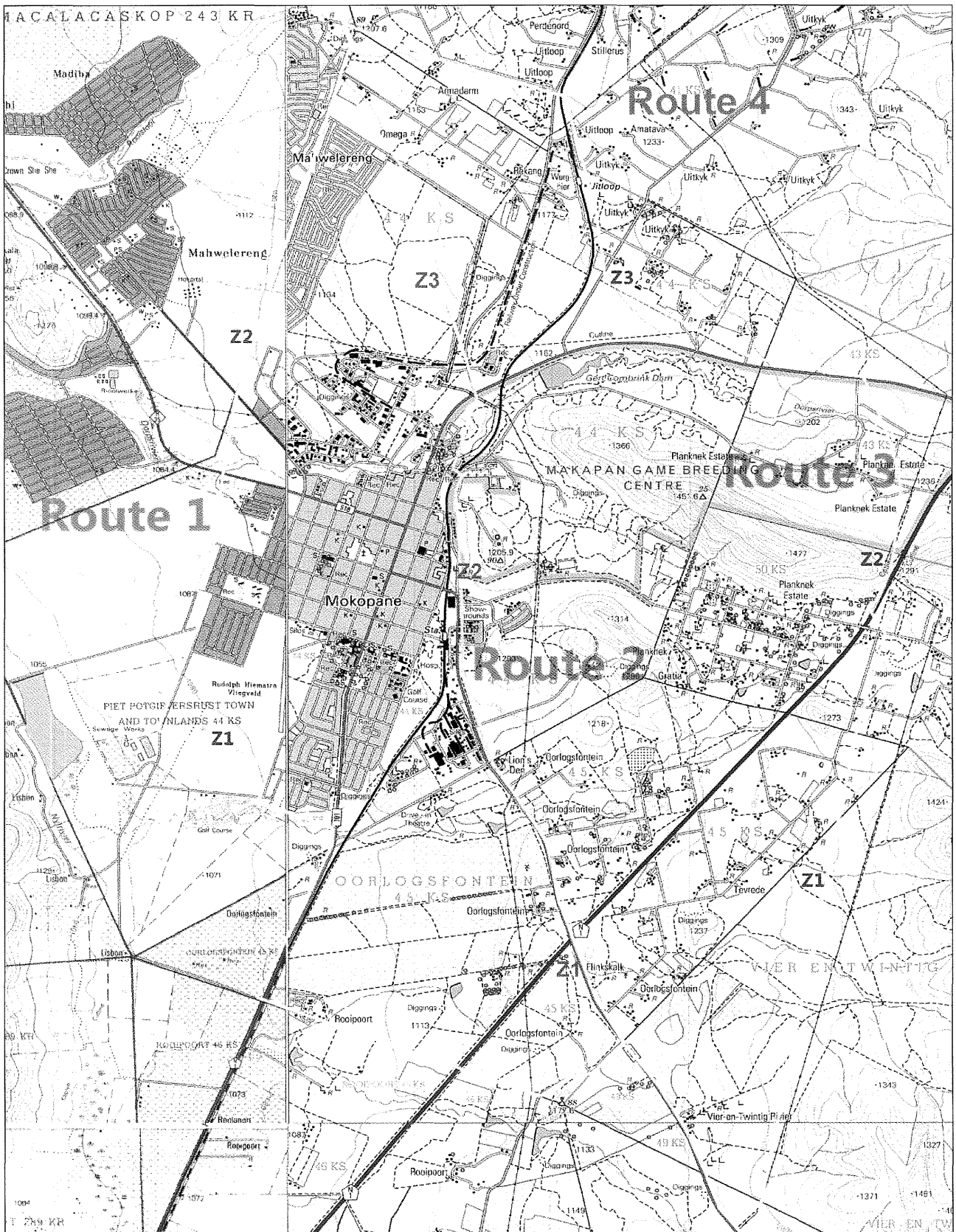


Figure 1: 2428 BB, 2429 AA and 2429 AC 1: 50000 topographical maps showing proposed routes

LEGAL REQUIREMENTS

Archaic HPM bound itself to all relevant legislation and Minimum Standards for archaeological reports as set by the South African Heritage Resources Agency (SAHRA). Specific references are made to the following:

- National Heritage Resources Act No. 25 of 1999 (NHRA), with specific reference to Sections 32, 35, 36 and 38;
- National Environment Management Act No. 107 of 1998 (NEMA);
- List of Activities and Regulation for Environmental Impact Assessments (EIA), Government Notice Nos. R385, R386 and 387;
- SAHRA minimum standards for Impact Assessment Reports.

LIMITATIONS

The most obvious is the fact that the majority of heritage resources are usually found below ground. Although no middens, dung deposits or burials were identified, these cannot be ruled out.

Intangible heritage, such as places or features that may have special significance to one or more communities in the area, was also not identified.

Large parts of the pipeline passed through or close to urban areas (Mokopane) or rural villages (Tsamahansi, Mawhelereng). These areas were heavily impacted and disturbed. Where heritage resources did occur in these areas, the context and integrity of the sites could not be ascertained. Sites in these areas were generally given a field rating of Generally Protected A: Field Rating IV C and no mitigation recommended or proposed.

Access to portions of "Planknek Estate" is restricted and even though these restricted areas probably does not fall within the planned footprint of Route 3; these areas could not be surveyed and assessed.

The surrounding vegetation in the areas under question was disturbed and mostly consisted out of a combination of scattered bush, trees and grass (figure 2). The general visibility of surroundings at the time of the survey (November 2008) was good and in single cases during the survey sub-surface inspection was possible but this revealed no apparent archaeological deposits. Large portions of the demarcated routes fall within, or on the outskirts of formal and informal settlements and have been disturbed by both natural and human intervention such as rain, flooding, digging, erosion and pollution (figure 3).

It should be noted that undetected heritage remains may still be present in sub-surface deposits, in which case it must be reported to the Heritage Resources Authority or the archaeologist and may require further mitigation measures.

SITE DESCRIPTIONS

Four possible routes were identified for the construction of the pipeline and these routes fall within the municipal boundaries of the town of Mokopane in the Magalakwena District of the Limpopo Province. All areas under question are surrounded by informal homesteads, developments and farm land. Most areas are situated within the footprints of existing provincial / local roads. The surface areas on the routes have, in most cases, been extensively disturbed and are covered in litter and sparse vegetation. Long grass and sickle bush constitute most of the vegetation on the demarcated areas. No archaeological or historical sites in the *immediate* footprint of any of the four routes were found. These immediate footprints included the routes as identified by AGES and at least 50 m to either side of the route to allow for access routes and other potential impacts.

ROUTE 1

Route 1 which is situated on the western residential boundary of Mokopane, have been divided into two zones. *Zone 1* is indicated by sections of Route 1 to the south and south-west of Mokopane. This zone follows the south-western residential boundary of Mokopane. Most of the surface areas on this zone have been disturbed and is covered in litter and building rubble. Vegetation is mostly constituted out of grasses and sickle bush. *Zone 2* is the north-western section of Route 1. This zone trails through informal settlements to the west of Mokopane. Sections of this zone have already been excavated for, what seems to be the construction of a sewage line. The rest of this zone leads through erosion gullies and donghas and the surroundings have been extensively disturbed and developed.

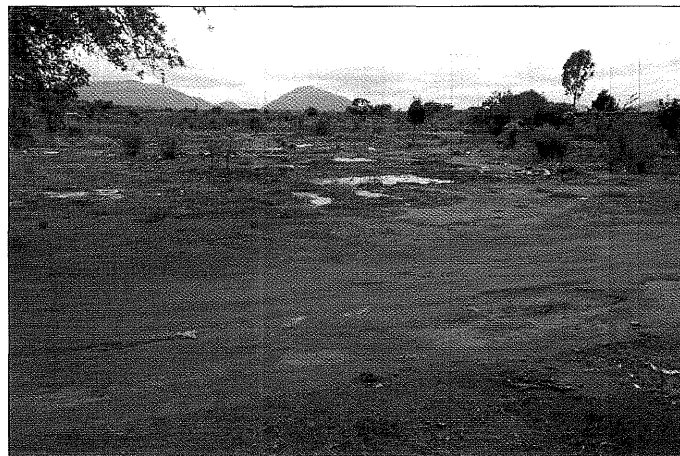


Figure 2: General landscape in Route 1

Route 1: Register of Heritage Resources

a) Stone Age Remains:

No Stone Age archaeological material was identified.

b) Iron Age Remains:

No Iron Age archaeological material was identified.

c) Historical / Colonial Remains:

No Historical / Colonial archaeological material was identified.

d) Graves:

No indication of graves were identified.

ROUTE 2

Route 2 is situated on the eastern boundary of Mokopane and mainly follows local and provincial roads in the town. Route 2 has been divided into three zones. *Zone 1* is indicated by sections of Route 1 south of Mokopane, following the R518 into Mokopane from Pruisen. This zone covers the footprint of the R518 and and sections of developed property. Surface areas in this zone has been disturbed throughout the route. Vegetation mostly constituted tall roadside *Eragrostis* grass, *Dichrostachys* and *Acacia spp.*

Zone 2 is demarcated by a section of Route 2 that passes through Mokopane. The entire landscape here is built-up and/or disturbed.

Zone 3 is indicated by the northern section of Route 2 that passes from Mokopane into Mawhelereng village, mostly on existing dirt roads. In one part, it passes through denuded veld where there are potential for possible *in situ* heritage resources to exist, although none were identified.



Figure 3: General landscape on route 2

Route 2: Register of Heritage Resources

b) Iron Age Remains:

No Iron Age archaeological material was identified.

c) Historical / Colonial Remains:

No Historical / Colonial archaeological material was identified.

d) Graves:

No indication of informal graves were identified anywhere on the route. This route did however pass close to the Mokopane Cemetery.

ROUTE 3

Route 3 which is situated to the east of Mokopane near the N1 freeway, have been divided into three zones. *Zone 1* is indicated by sections of Route 3 to the south and south-east of Mokopane, trailing mostly in the vicinity of the N1 freeway. This zone covers farm land, the footprint of a dirt road and sections of developed property as well as the footprint of the N1. In most areas of this zone surface areas have been disturbed, except for areas on farm land which is mostly used for grazing. Vegetation is mostly constituted out of grasses, sickle bush and thorn trees.

Zone 2 is demarcated by a small section of Route 3 that, along with the N1 freeway and a power line, passes through a small neck in the adjacent Maribashoek Mountain range. A farmstead is located directly south of the neck at the foot of the mountain and the largest part of the neck is traversed by a large power line and its cleared footprint, as well as the N1 highway. Consequently, large parts of the surface areas on the neck where Route 3 will pass through has been disturbed and altered. It is however important to note that a large number of Euphorbia trees (*Euphorbia cooperi*) is present in and around this mountain neck. These trees are very often indicative of disturbance in soils and surfaces as a result of historical (and often archaeological) activities. Thus, one would frequently find archaeological sites where these plants grow and undetected heritage remains might be present in sub-surface deposits. Access to portions of "Planknek Estate" is restricted and even though these restricted areas probably does not fall within the planned footprint of Route 3; these areas could not be surveyed and assessed.

Zone 3 is indicated by the north-western section of Route 3 that leads from the Maribashoek Mountains to the northern municipal boundary of Mokopane. This zone passes though the "Planknek Estate" and then joins up with a provincial railway line north of Mokopane. It then follows the footprint of the railway line where after it trails through a section of farm land to intersect Route 1 & Route 2. Sections of the surface areas in "Planknek Estate" have been disturbed and developed and in other places open fields are covered in long grass, Acacia trees and sickle bush in places. The section of the zone that follows the railway line has been disturbed as a result of the railway and an adjacent maintenance road. The final section of this zone passes through farm land that is used mostly for cattle grazing. Vegetation on this area is constituted out of long grasses, scrubs and trees.



Figure 4: General landscape in Zone 1, Route 3

Route 3: Register of Heritage Resources

a) Stone Age Remains:

No Stone Age archaeological material was identified.

b) Iron Age Remains:

No Iron Age archaeological material was identified.

c) Historical / Colonial Remains:

No Historical / Colonial archaeological material was identified.

d) Graves:

No indication of graves were identified.

ROUTE 4

Route 4 was not surveyed as it did not form part of the scope of this project, and according to Mr Johan Botha of AGES, had been surveyed prior.

RECOMMENDATIONS & CONCLUSION

The aim of this Scoping Survey and Preliminary Assessment was to assess the potential heritage resources located in the survey area, and indicate which of three possible routes would be the least problematic in terms of potential impact on heritage resources.

It is recommended that only Routes 1 and 2 should be considered in terms of the development of the pipeline. Of these, Route 2 would be the preferred option as the entire route follows existing servitudes and roads. This will facilitate access to the pipeline during construction and minimise potential impact on any subsurface heritage resources.

Route 3 should be avoided, especially as it passes through fairly undisturbed landscapes where the possibility of heritage resources increases exponentially. This is especially the case where the route passes through the Maribashoek Mountain.

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