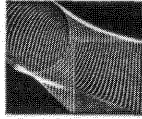


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**SPECIALIST REPORT: HERITAGE IMPACT  
ASSESSMENT REPORT IN CONNECTION WITH TWO  
ALTERNATIVE ROUTES FOR A PROPOSED RAW  
WATER PIPELINE BETWEEN VLAKLAAGTE 330 JS  
AND WATERPAN 8 IS SERVICING THE  
GOEDGEVONDEN COLLIERY NEAR OGIES,  
MPUMALANGA**

**SUBMITTED FOR APPROVAL TO:**

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PO Box 31675  
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**DATE OF SUBMISSION:  
21 November 2007**

**SUBMITTED FOR AUTHORISATION TO:**

**Mary Leslie  
Palaeontology, Archaeology and Meteorites Unit  
SAHRA Cape Town**

**DATE OF SUBMISSION:  
17 December 2007**

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# **SPECIALIST REPORT: HERITAGE IMPACT ASSESSMENT IN CONNECTION WITH TWO ALTERNATIVE ROUTES FOR A PROPOSED RAW WATER PIPELINE BETWEEN VLAKLAAGTE 330 JS AND WATERPAN 8 IS SERVICING THE GOEDGEVONDEN COLLIERY NEAR OGIES, MPUMALANGA PROVINCE**

SUBMITTED FOR APPROVAL TO: Marietjie Eksteen, Jacana Environmentals cc (by e-mail) (21 November 2007)

SUBMITTED FOR AUTHORISATION TO: Mary Leslie, SAHRA Palaeontology, Archaeology and Meteorites Unit (17 December 2007)

## **EXECUTIVE SUMMARY**

This report fulfils the requirements for a Heritage Impact Assessment (HIA) as provided for in the National Heritage Resources Act (Act 25 of 1999). In this case, a

- HIA study was conducted as part of the development of the EIA report.

Within the context of the EIA Regulations and process this report is Specialist Report, which will be summarised and included in the EIA report.

The aim of the investigation was to analyse heritage issues and how to manage them within the context of the proposed development. The objectives were to assess heritage significance (involving site inspections and basic desktop and archival research), to identify the need for further detailed inputs by heritage specialists (if necessary), to consult with local heritage groups and experts (if necessary), to review the general compatibility of the development proposals with heritage policy and to assess the acceptability of the proposed development from a heritage perspective. The result of this investigation is a heritage scoping report.

The subject of the HIA investigation was two alternative routes for a proposed raw water pipeline connecting the farms Vlaklaagte 330 JS and Waterpan 8 IS with the expanded Goedgevonden colliery in the Ogies area, Mpumalanga.

Based on the findings of the HIA investigation, both alternatives are acceptable. We therefore recommend that SAHRA authorises them both on condition of acceptance of the following recommendations:

1. Avoidance of a small cemetery (Pistorius graveyard 16) at a point where the raw water pipeline from Vlaklaagte (pipeline 1 – 39) crosses Road P 53/1 east of Ogies near a power line, depending on the exact verification of the location of the pipeline (the cemetery's co-ordinates as given in an earlier archaeological report are not accurate enough);
2. If any other (hidden) archaeological and historical sites (including graves) and objects are exposed during construction work (site clearing and excavation), it should immediately be reported to Cultmatrix cc, so that an investigation and evaluation of the finds can be made.



**R C DE JONG**  
Principal Member: Cultmatrix cc



## PART 1: REPORT ON PROJECT EXECUTION

The structure of this report is based on:

- SOUTH AFRICAN HERITAGE RESOURCES AGENCY, Heritage Impact Assessment: Notification to SAHRA of intent to develop (form)
- DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING, PROVINCIAL GOVERNMENT OF THE WESTERN CAPE, 2005, Guideline for involving heritage specialists in EIA processes (document)
- DEPARTMENT OF ENVIRONMENT AFFAIRS AND TOURISM, Integrated Environmental Management Guidelines
- SOUTH AFRICAN HERITAGE RESOURCES AGENCY, 2006, *Minimum standards: Archaeological and palaeontological components of impact assessment reports* (unpublished).
- Best-practice HIA reports submitted by Cultmatrix and other heritage consultants

### 1.1 Background

#### 1.1.1 General

The broader study entails the required environmental impact assessment investigations for the construction and operation of:

1. Raw water pipeline (GPS points 1-39) connecting Vlaklaagte 330 JS and Waterpan 8 IS with the Goedgevonden Colliery from the western side of Road 547, along the southern road reserve of the N 12, a portion of Road R 555 (P 29/1) and a line dividing the Truter surface rights from the Xstrata surface rights;
2. Alternative raw water pipeline (GPS points a-y) connecting Vlaklaagte 330 JS north of the N 12 freeway, along the northern road reserve of the N 12 to a point on Road R 555 (P 29/1);

This is an area with a relatively long history of human use and occupation, initiated by Stone and Iron Age communities and culminating in permanent colonial settlement in the 1850s. It includes a range of heritage resources as defined in the *National Heritage Resources Act* (Act 25 of 1999):

- Places, buildings and structures and equipment of cultural significance;
- Places to which oral traditions are attached or that are associated with living heritage (ceremonies, festivals, economic use etc);
- Historical settlements and townscapes;
- Landscapes and natural features of cultural significance;
- Geological sites of scientific or cultural importance;
- Graves and burial grounds;
- Sites related to the history of labour.

Jacana Environmentals cc appointed Cultmatrix cc as an independent heritage consultant to conduct a survey to locate, identify, evaluate and document heritage places, buildings, objects and structures of cultural significance found within the corridors that is to be impacted on by the development.

#### 1.1.2 Terms of reference and approach

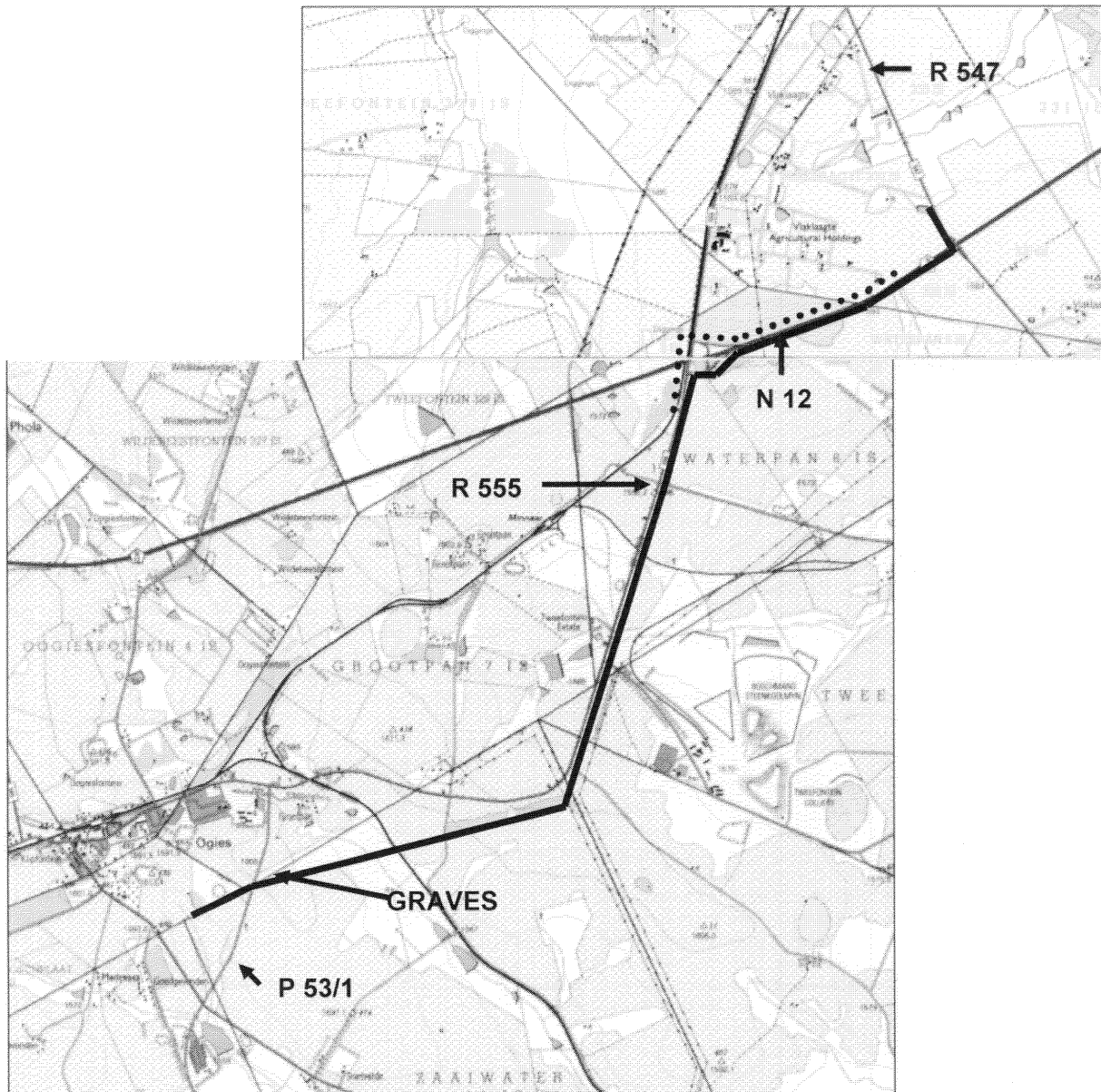
The investigation consisted of conducting a heritage impact investigation for the pipeline corridors in accordance with the requirements of Section 38(3) of the National Heritage Resources Act (Act 25 of 1999). Within this context a "corridor" (required for construction work) was interpreted as being 150 to 200 m in width, although the actual servitude of the pipelines is about 6 m only.

The aim of the investigation was to analyse heritage issues in depth and how to manage them within the context of the proposed development.

The objectives of the investigation were:

- Analysing heritage issues;

- Assessing cultural significance of identified sites, places, buildings, structures, objects etc involving site inspections;
- Identifying the need for more detailed heritage specialists inputs at later stages (if necessary);
- Surveying and mapping of significance/sensitivity issues and opportunities/constraints issues;
- Reviewing of the general compatibility of the proposed development with heritage policy planning frameworks;
- Undertaking a preliminary assessment of the acceptability of the proposed development from a heritage perspective;
- Identifying the need for alternatives if necessary;
- Recommending mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.



**FIGURE 1: Sections of 1:50 000 maps 2529 CC (top) and 2629 AA (bottom) with a schematic representation of raw water pipeline Alternative 1 with GPS points 1-39 (solid black line) and Alternative 2 with GPS points a-y (dotted black line)**

### 1.1.3 Definitions and assumptions

The following aspects have a direct bearing on the investigation and the resulting report:

- *Cultural (heritage) resources* are all non-physical and physical human-made occurrences, as well as natural occurrences that are associated with human activity. These include all sites, structures and artefacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.
- The *significance* of the sites and artefacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.
- The *value* is related to concepts such as *worth, merit, attraction* or *appeal*, concepts that are associated with the (current) usefulness and condition of a place or an object. Hence, in development areas, there are sometimes instances where elements of the place have a high level of significance but a lower level of value.
- It must be kept in mind that significance and value are not mutually exclusive, and that the evaluation of any feature is based on a combination or balance between the two.
- Isolated occurrences: findings of artefacts or other remains located apart from archaeological sites. Although these are noted and samples are collected, it is not used in impact assessment and therefore do not feature in the report.
- Traditional cultural use: resources which are culturally important to people.
- The latitude and longitude of archaeological sites and graves are to be treated as sensitive information by the developer and should not unduly be disclosed to members of the public.

### 1.1.4 Limiting/restricting factors

The investigation has been influenced by the following factors related to time scales of the overall EIA:

- Availability and reliability of baseline information about the affected area;
- Unpredictability of buried archaeological/palaeontological remains (absence of evidence does not mean evidence of absence);
- Difficulty in establishing nature and degree of significance of intangible heritage values;
- Co-ordinates of graves as provided in the Pistorius report were often not accurate;
- Difficult access of some areas due to mature lands of maize plants and dense infestation by mature weeds.

## 1.2 Legal context

This study constitutes a heritage impact assessment report as part of the environmental impact assessment required by SAHRA (and MDALA) for authorising the development of the proposed pipelines and access road. In terms of Section 38 (1) of the National Heritage Resources Act (Act 25 of 1999), a heritage impact assessment is required by the responsible heritage resources agency, which, in this case, is the Mpumalanga office in Barberton.

The purpose of this report is to alert the developer/contractor, the environmental consultant, Xstrata Coal, MDALA, the DME and SAHRA at the earliest possible stage about existing and potential heritage resources that may be affected by the proposed development, and to recommend mitigatory measures aimed at reducing any negative impacts on these heritage resources.

Section 38 (1) of the NHRA requires a Heritage Impact Assessment (HIA), to be conducted by an independent heritage management consultant, for the following development categories:

- Construction of a road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length
- Construction of bridge or similar structure exceeding 50m in length
- Development or other activity that will change the character of a site -
  - Exceeding 5000 sq m
  - Involving three or more existing erven or subdivisions
  - Involving three or more erven or divisions that have been consolidated within past five years
  - Rezoning of site exceeding 10 000 sq m
  - The costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority
- Any other development category, public open space, squares, parks, recreation grounds

The proposed development is a listed activity in terms of Section 38 (1) of the NHRA with reference to the first and third bullets.

This study is performed in compliance with the Environmental Conservation Act (ECA), as well as the National Heritage Resources Act 25/1999 (NHRA) - it constitutes a heritage scoping report for the proposed development, being the findings and ensuing recommendations of a heritage impact assessment in terms of Section 38(3) of the Act, required to be submitted to the environmental consultant, the developer or his/her agency, the GDACE and the provincial heritage resources agency.

In terms of the ECA, Section 38(1) of the NHRA is applicable – thus any person undertaking any development in the categories of Section 38 (1) a-e, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development. In the case of an EIA, comments from the responsible heritage resources agency based on a heritage scoping report are required (in this case from the Gauteng office of the South African Heritage Resources Agency based in Johannesburg). The extent of the full HIA assessment will be determined by SAHRA.

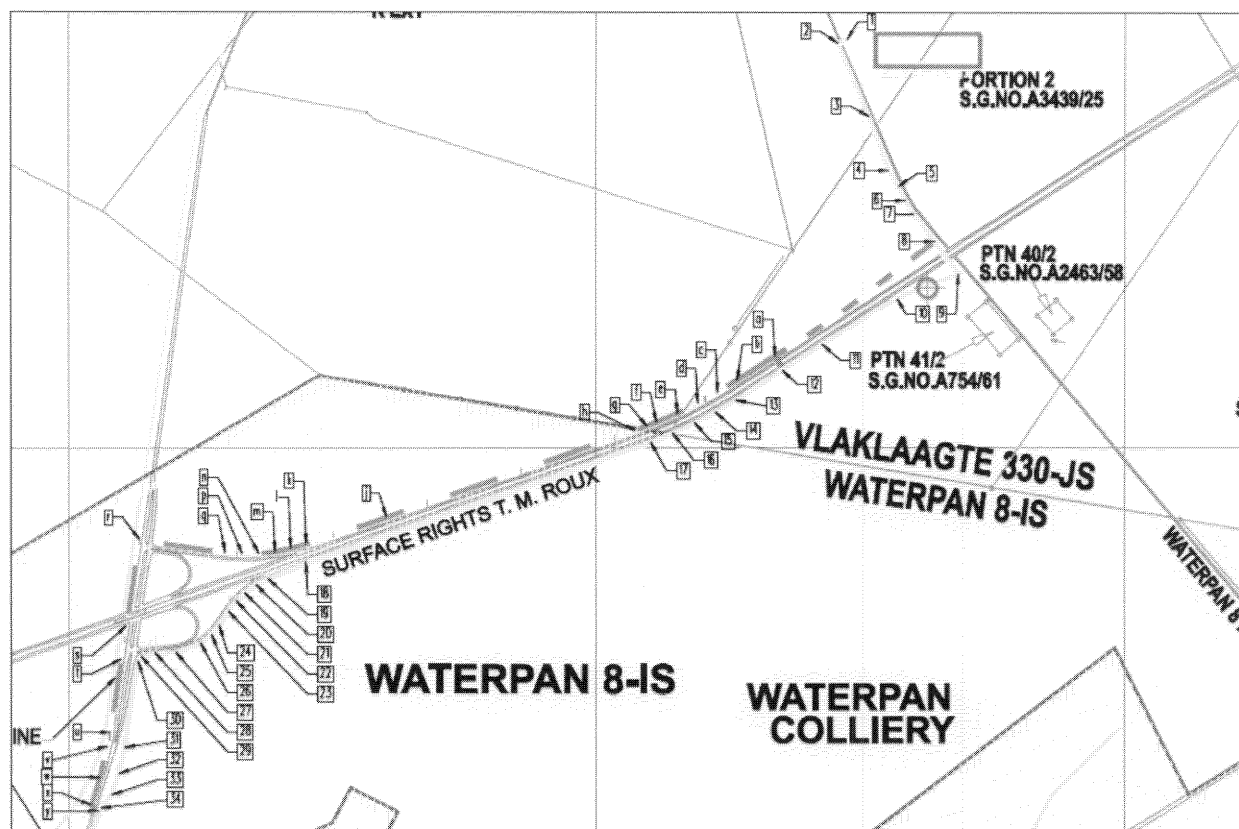
The NHRA Section 2 (xvi) states that a “heritage resource” means any place or object of cultural significance, and in Section 2 (vi) that “cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance.

The NHRA is concerned with all heritage resources, but provides ‘general protection’ for structures older than 60 years: Section 34 (1) states that “No person may alter or demolish any structure or part of a structure which is older than 60 without a permit issued by the relevant provincial heritage resources authority”. The heritage fabric on the ATPR land is from various periods, with the oldest being over 60 years old; hence the proposed development automatically requires an authorisation for any changes and demolition. Buildings that do not fall in the category of general protection’ can however still be classed as heritage resources under Section 2 (vi) and 2 (xvi). For such resources a permit for possible demolition, alterations, additions, damage or other changes can only be granted if it does not have substantial aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance as provided for under Section 2 (vi) and 2 (xvi).

Apart from a heritage report assisting a client to make informed development decisions, it also serves to provide the relevant heritage resources authority with the necessary data to perform their statutory duties under the NHRA. After evaluating the heritage scoping report, the relevant heritage resources authority will decide on the status of the resource, whether the development may proceed as proposed or whether mitigation is acceptable, and whether the heritage resources require formal protection over and above that provided for in Section 34(1), i.e. as a Grade I, II or III resource, with relevant parties having to comply with all aspects pertaining to such Grading.

Because of the amount of documentation that has already been procured for this heritage place, the report provides identification and mapping of the remaining heritage resources, an assessment of their heritage significance as part of a larger heritage place, and how they will be impacted upon by the proposed alteration or development. Based on this information the report comes to recommendations concerning mitigation of negative impacts of the development on these buildings and the heritage place, possible alternatives to the current development proposals, proposals re the future

management of the heritage place, possible development strategies and/or alternatives. A Conservation Management Plan, which includes actions to monitor the implementation of recommendations, will be dealt with after the recommendations from SAHRA have been received.



**FIGURE 2: Location of proposed pipelines Alternative 1 GPS points 1-34 (solid yellow) and Alternative 2 GPS points a-y (broken blue) (courtesy Xstrata and Murray and Roberts)**

### 1.3 Development criteria in terms of Section 38

1.3	Development criteria in terms of Section 38	Yes/No details
1.3.1	Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length	Yes
1.3.2	Construction of bridge or similar structure exceeding 50m in length	No details
1.3.3	Development exceeding 5000 sq m	Yes
1.3.4	Development involving three or more existing erven or subdivisions	No
1.3.5	Development involving three or more erven or divisions that have been consolidated within past five years	No
1.3.6	Rezoning of site exceeding 10 000 sq m	No
1.3.7	Any other development category, public open space, squares, parks, recreation grounds	No

### 1.4 Property ownership

1.4	Property owners	
1.4.1	Names	Not available
1.4.2	Name and contact address	
1.4.3	Telephone number	
1.4.4	Fax number	
1.4.5	E-mail	

The map displays a complex network of land parcels and infrastructure. Key features include:

- GROOTPAN 7 IS**: Multiple instances of this label across the top and center of the map.
- GRAVES**: Indicated by a large black arrow pointing to a specific location.
- OGIES**: A large label in the lower-left quadrant.
- SASOL GAS LINE**: A line running horizontally across the upper right.
- ESKOM POWER LINE**: Two lines, one running vertically on the left and one horizontally on the right.
- SURFACE RIGHTS TRUTER BOERDERY MINERAL RIGHTS INGWE**: A label for a specific parcel.
- SURFACE RIGHTS XSTRATA MINERAL RIGHTS XSTRATA**: A label for another parcel.
- ZAAIWATER EAST MINING AUTHORIS**: A large, diagonal label on the right side.
- Ptn of Ptn 4 139.2521 ha K903-79 RM**: A specific point of interest marked on the map.

9



### 1.5 Environmental specialist

<b>1.5</b>	<b>Environmental Specialist</b>	
1.5.1	Name and contact address	M Eksteen, Jacana Environmentals cc
1.5.2	Telephone number	015 291 4015
1.5.3	Fax	015 291 5035
1.5.4	E-mail	<a href="mailto:marietjie@jacanacc.co.za">marietjie@jacanacc.co.za</a>

### 1.6 Heritage impact assessment specialists and methods of investigation

#### 1.6.1 Specialist

Specialist 1		
1	Name and contact address	Dr RC de Jong (Principal Member: Cultmatrix cc), PO Box 12013, Queenswood 0121, Pretoria
2	Qualifications and field of expertise	PhD (Cultural History) UP (1990), Post-Graduate Museology Diploma UP (1979), general heritage management specialist with experience in museums and heritage since 1983
3	Relevant experience in study area	Many years of historical research and museum planning in Mpumalanga and survey of heritage sites in Nkangala, 2003. HIA for heritage sites on farm Goedgevonden (2005). HIA for EMP for extensions of Middelburg Mine (2006), HIA for Goedgevonden road and rail link (2006).
4	Telephone number	(082) 577-4741
5	Fax number	(0866) 127383
6	E-mail	<a href="mailto:cultmat@iafrica.com">cultmat@iafrica.com</a>

#### 1.6.2 Method of investigation

##### *Preliminary investigation*

##### Survey of the literature

A survey of the relevant literature, including the Pistorius archaeological report (2004), the Cultmatrix heritage scoping report (2005), the Cultmatrix HIA report on other pipelines and access roads (2007) and the Cultmatrix HIA report on the Minnaar TCP rail link (2007), was conducted with the aim of reviewing the previous research done and determining the potential of the area.

##### Databases

The *Archaeological Data Recording Centre* was consulted.

##### Other sources

- Topographical maps 1:50 000
- Aerial photographs (Google and 1953)
- Maps provided by client

##### *Field survey*

The field survey was aimed at locating all possible sites, objects and structures. Members of Cultmatrix by means of maps, aerial photos and GPS co-ordinates and during site visits identified the pipeline corridors that had to be investigated. The area was investigated on foot and by vehicle. GPS co-ordinates provided prior to the investigation were used to identify the road and pipeline corridors. GPS co-ordinates provided in the Pistorius report were verified and compared to the road and pipeline corridor co-ordinates. The site was surveyed in the winter (2 days) and in summer (1 day).

### Documentation

All sites, objects and structures that were identified were documented according to the general minimum standards accepted by the heritage management profession. Coordinates of individual localities were determined by means of the *Global Positioning System* (GPS)<sup>1</sup> and plotted on a map. This information is added to the description in order to facilitate the identification of each locality.

### Report

The findings and recommendations of the heritage scoping study are contained in this report.

#### 1.7 Property details

1.7	Property details	
1.7.1	Name and location of property	Goedgevonden colliery and associated planned infrastructure
1.7.2	Erf or farm numbers	Zaaiwater 11 IS, Goedgevonden 10 IS, Vlaklaagte 330 JS, Tweefontein 13 IS, Waterpan 8 IS
1.7.3	Magisterial district	Witbank
1.7.4	Local authority	Emalahleni
1.7.5	Current use	Agricultural and mining
1.7.6	Current zoning	Not available
1.7.7	Land use of surrounding properties	Agricultural and mining
1.7.8	Extent of development	

#### 1.8 Development description

1.8	Development description	
1.8.1	Nature of proposed development	Construction of raw water pipeline (2 alternative routes) for new Goedgevonden colliery
1.8.2	Siting, orientation, height and footprint of new structures	N/a
1.8.3	Location and treatment of access roads to site, internal roads, parking	N/a
1.8.4	Intended extent of cut/fill on steep slopes	N/a
1.8.5	Intended demolition/alteration of existing structures	No
1.8.6	Intended removal/retention of existing vegetation	N/a
1.8.7	Type and height of new signage	N/a
1.8.9	Nature and height of boundary treatments	N/a
1.8.10	Location of construction facilities	N/a
1.8.11	Traffic within, to and from site	N/a
1.8.12	Architectural treatment and use of materials	N/a
1.8.13	Extent of proposed demolitions and new additions to existing structures	N/a
1.8.14	Phasing of project and nature and extent of future expansion	N/a
1.8.15	Project alternatives (proposed)	None

<sup>1</sup> According to the manufacturer a certain deviation may be expected for each reading. Care was, however, taken to obtain as accurate a reading as possible, and then to correlate it with reference to the physical environment before plotting it on the map.



<b>1.8</b>	<b>Development description</b>	
1.8.16	History of application	First application

### 1.9 Legal requirements

<b>1.9</b>	<b>Legal requirements</b>	
1.9.1	Is planning permission required for any departures or consent use in terms of zoning schemes? Has an application been submitted to the planning authority and have any comments or approval from the planning authority been obtained?	Yes
1.9.2	Is planning authority permission required for any subdivision or consolidation? Has an application been submitted to the planning authority and has any comment or approval from the planning authority been obtained?	N/a
1.9.3	Is the proposed development subject to EIA regulations and has an application been submitted to the provincial environmental agency?	Yes
1.9.4	Has any assessment of the impact of the proposed development on any heritage resources been undertaken in terms of EIA or planning processes?	Yes (biodiversity studies)
1.9.5	Title deed restrictions	N/a
1.9.6	Is affected area situated within or adjacent to a conservation area, special area, scenic route or any other area that has special environmental or heritage protection?	
1.9.7	Does affected area have any special conservation status?	None
1.9.8	Are there any other restrictions on the property	No
1.9.9	Does the proposed development conform to local planning policies?	Yes
1.9.10	What interested and affected parties have been consulted?	Part of general EIA process
1.9.11	Is approval from any authority required?	Yes
1.9.12	Has permission for similar development been refused by any authority in the past?	No

### 1.10 Acknowledgements

Mr Nhlanhla Mkhonto, Technical Services, Xstrata Coal Goedgevonden Division

## PART 2: HERITAGE ASPECTS OF THE AFFECTED AREA

### 2.1 Cultural significance, issues and environmental concerns of site and context

2.1	Cultural significance, issues, concerns	
2.1.1	Environmental and heritage context	See 2.2 below
2.1.2	Cultural significance of adjoining properties relating to property	None
2.1.3	Archaeological remains	None
2.1.4	Palaeontological remains	None
2.1.5	Structures older than 60 years	No
2.1.6	Graves or burial sites	Yes
2.1.7	Formally protected heritage sites (Grade 1, 2, 3)	No
2.1.8	Is affected area part of proclaimed special area, conservation area, heritage area, protected area	No
2.1.9	Places or objects of cultural significance, listed heritage resources	No
2.1.10	Places with oral traditions	Possibly (graves)
2.1.11	Part of historical settlement or townscape	No
2.1.12	Part of landscape of cultural significance	Yes (farmsteads)
2.1.13	Geological sites of cultural importance	No
2.1.14	Places or objects related to history of slavery	No
2.1.15	History of property	See below
2.1.16	Association with important person, event, groups, activities, public memory	No
2.1.17	Sea frontage or water source	No
2.1.18	Rocky outcrops	No
2.1.19	Rock shelters	No
2.1.20	Part of coastal dune system	No
2.1.21	Geological features	No
2.1.22	Located on land reclaimed from sea	No
2.1.23	Situated adjacent to or within scenic route	No
2.1.24	Previously cultivated	Yes

### 2.2 General history of the affected environment

The Pistorius report contains a general history of human settlement in the Ogies area.

Stone Age sites are generally associated with rocky outcrops near pans, rivers and other water features, but no such features were observed. Iron Age habitation (in this case Late Iron Age) can generally be recognised by middens, ruins of circular stone walls, hut floors etc, but these are absent in the study area.

The two most recognisable features associated with colonial farming and mining are various cemeteries and graves and farmsteads.

### 2.3 General description of the affected environment

The vegetation in the study area is a typical Highveld grass veld with numerous streams and wetlands but few trees. However, this vegetation has been altered as vast tracks of land have been changed into maize fields. Pans with water and quarries occur throughout the project area. Wattle plantations have set root in many places while blue gum trees were planted in lots or as avenues together with pine trees to indicate earlier boundaries between farms. Some blue gum trees may be associated with historical farm homesteads. Blue gums were also planted for commercial purposes.

The project area can therefore not be described as a pristine piece of land any longer. While large parts have been utilized for agriculture (crops and grazing), mining has gradually encroached on the study area from all directions. Farmsteads, homesteads, villages and graves relate to the area's agricultural history.

## PART 3: FINDINGS AND RECOMMENDATIONS

### 3.1 Identification and assessment of visible heritage features

#### 3.1.1 Aerial photos



**FIGURE 5:** 1953 aerial photo (Job 303 of 1953 strip 2 no 476) showing part of the route of Alternative 1





FIGURE 6: Google image showing the same area



FIGURE 7: Portion of 1953 aerial photo showing pipeline corridor and possible homestead (encircled)



**FIGURE 8:** Google image showing same area as in Figure 7. The homestead has disappeared in a maize field.

### **3.1.2 Raw water pipeline corridor a-y**

This pipeline will run mainly along the northern edge of the N 12 freeway and a portion of Road R 555 (P 29/1). This area is grassland with scattered clumps of vegetation and has already been disturbed by road building activities and other interventions in the past. No visible heritage features were identified.

### **3.1.3 Raw water pipeline corridor 1 – 39**

#### Section 1 – 9

The pipeline will run along the western road reserve of Road R 547 until a point south of the N 12 freeway. This is grassland, disturbed by farming and by previous road building activities. No visible heritage features were identified.

#### Section 9 – 30

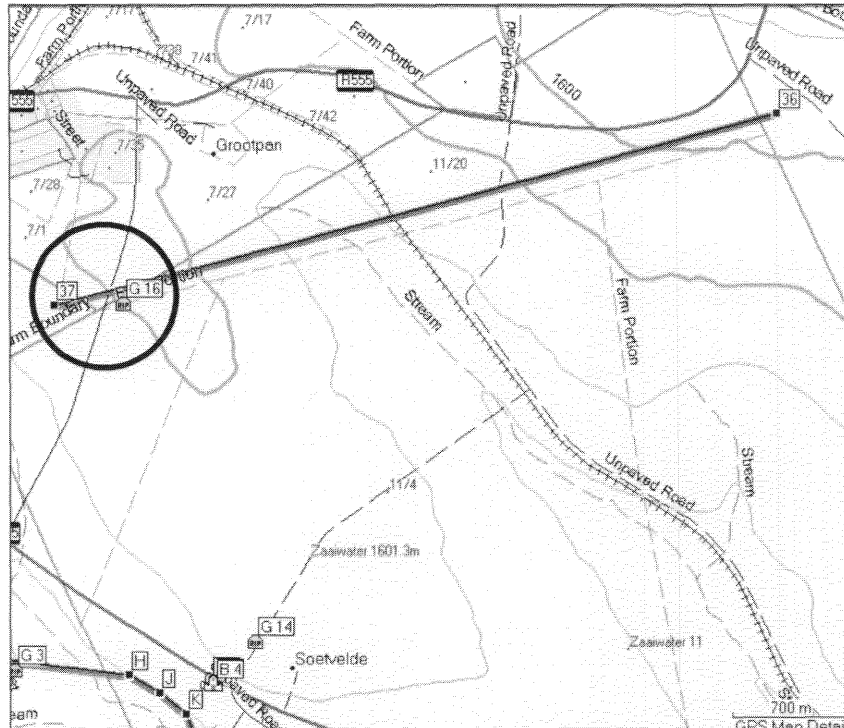
The pipeline will run along the southern road reserve of the N 12 freeway, consisting of natural and planted grassland with scattered clumps of trees. No visible heritage features were identified.

Section 30 – 36

The pipeline will run along the eastern road reserve of Road R 555 until a point where this road curves in a westerly direction. This corridor consists of open grassland and a few scattered clumps of trees. No visible heritage features were identified.

Section 36 – 39

The pipeline will run between maize fields, crossing a gravel track, a railway line and a stream. Apart from the graveyard discussed below (Section 3.2.), no visible heritage features were identified.

**3.2 Visible heritage features: Graveyard**

**FIGURE 9: Location of cemetery (Pistorius report GY 16) in relationship to Sections 36 – 37 of the raw water pipeline**

**Location**

The graveyard is located between 10 and 15 m east of Road P 53/1. Co-ordinates are S26 03 25.3 E29 04 12.9. These are new co-ordinates since the ones in the Pistorius report were inaccurate. The site is on Zaaiwater.

**Existing documentation:** Pistorius report

**Description and discussion:**

This cemetery contains between six and eight graves of farm workers, buried at this spot between the 1960s and 1980s. At the moment it is very overgrown and is difficult to spot.

**Current heritage status:**

The cemetery enjoys **general** protection under the provision of the NHRA - Section 36 of the NHRA applies.





**FIGURE 10: Graveyard 16**

**Cultural significance:**

No	Criteria	Applicability	Rating
a	Importance in the community or pattern of history	Labour and tenant farming on Highveld	Medium
b	Possession of uncommon, rare or endangered aspects of natural or cultural heritage	None	Low
c	Potential to yield information to understand the natural or cultural heritage	None	Low
d	Importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	None	Low
e	Importance in exhibiting particular aesthetic characteristics valued by a community or cultural group	None	Low
f	Importance in demonstrating a high degree of creative or technical achievement at a particular period	None	Low
g	Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	Zaaiwater farm workers	High
h	Strong or special association with the life and work or a person, group or organisation of importance in history	None	Low
i	History of slavery/labour	Zaaiwater farm labour	High
j	Economic importance	No longer in use	Low

**Conservation value:** Medium



**Impact assessment:** The route of the proposed raw water pipeline could have a high negative impact implying that the cemetery could be in the way and therefore needs to be relocated.

**Heritage assessment:** The site has medium remaining heritage integrity but there are compelling reasons to retain it and its setting to represent a memory of the original farm workers.

**Summary of recommended management measures:**

- Clear site and document graves.
- Verify exact location of site in relationship with exact location of pipeline route.
- Avoid site if possible, if not, relocate graves to Ogies municipal cemetery.
- If the decision is taken to avoid the site it should be properly marked and protected by a fence and barrier tape before the commencement of construction activities.
- Erect interpretive sign if the decision is taken to avoid the site, explaining the history and significance of the cemetery.

**3.3 Social and economic benefits**

The construction of the pipelines and access road is part of the development of the new Goedgevonden colliery and will benefit coal export, coal-based electricity generation and job creation. These benefits outweigh the conservation of the buildings and graves affected directly by the proposed development, should it not be possible to avoid these.

**3.4 Consultation with affected communities**

This was done as part of the general EIA process and the archaeological impact assessment.

**3.5 Key mitigation and enhancement measures**

See 3.2.

**3.6 Mitigation of adverse effects during and after construction**

The following project actions may impact negatively on archaeological sites and other sites of cultural importance. The actions are most likely to occur during the construction phase of the proposed project.

- Road making, construction activities and development of services may expose as yet unknown heritage resources (objects, waste disposal sites, burial sites etc);

We recommend that:

- Construction work is monitored by a heritage specialist for the uncovering of any archaeological and historical sites, structures and objects through excavation and demolition activities;
- This recommendation must be included in construction tender documents.
- Identified sites should be properly documented and protected (fence and barrier tape).
- Preserved features should be properly fenced and marked with a plaque explaining their history and significance.

**3.7 Key uncertainties and risks that may influence accuracy and confidence of impact assessment**

It is possible that new information, which could change the recommendations, could be generated through the following research activities:

- Exposure of archaeological and historical sites and objects that are hidden or are buried during site clearance activities
- Exposure of hidden archaeological and historical sites and objects (obscured by tall grass etc) due to veld fires

### 3.8 Final recommendations

The subject of the HIA investigation was two alternative routes for a proposed raw water pipeline connecting the farms Vlaklaagte 330 JS and Waterpan 8 IS with the expanded Goedgevonden colliery in the Ogies area, Mpumalanga.

Based on the findings of the HIA investigation, both alternatives are acceptable. We therefore recommend that SAHRA authorises them both on condition of acceptance of the following recommendations:

1. Avoidance of a small cemetery (Pistorius graveyard 16) at a point where the raw water pipeline from Vlaklaagte (pipeline 1 – 39) crosses Road P 53/1) east of Ogies near a power line, depending on the exact verification of the location of the pipeline (the cemetery's co-ordinates as given in an earlier archaeological report are not accurate enough);
2. If any other (hidden) archaeological and historical sites (including graves) and objects are exposed during construction work (site clearing and excavation), it should immediately be reported to Cultmatrix cc, so that an investigation and evaluation of the finds can be made.

## **PART 4: INFORMATION SOURCES USED IN THIS REPORT**

### **4.1 Databases**

Heritage Sites Database, Pretoria.

### **4.2 Literature**

CULTMATRIX heritage scoping reports for proposed Goedgevonden colliery site (2005) and for the proposed Goedgevonden road and rail links (2006).

CULTMATRIX heritage impact assessment report for Minnaar TCP rail link, 2007.

Delius, Peter (ed), 2006, *Mpumalanga – Reclaiming the Past, Defining the Future*. (Electronic version of book)

*Standard Encyclopedia of Southern Africa*, Vol 8, 1972. Cape Town: Nasou.

PISTORIUS JCC, 2004, A Heritage Impact Assessment (HIA) Study for the proposed new Goedgevonden Expansion project on the farm Goedgevonden 10IS, Zaaiwater 11IS and Kleinzuikerboschkraal 8IS in the eastern Transvaal Highveld in the Mpumalanga province of South Africa. Prepared for Clean Stream.

### **4.3 Maps**

2529 CC 1:50 000 map

2629 AA 1:50 000 map

Various maps indicating location of pipelines and access road

### **4.4 Aerial photos**

Job 303 of 1953 strip 2 no 476

Google Earth 2007 image of the area

## PART 5: TERMINOLOGY USED IN THIS REPORT

### Cultural significance (Burra Charter)

Aesthetic, historic, scientific, social or spiritual importance, meaning or noteworthiness for past, present or future generations

Cultural significance is embodied in the place itself (intrinsic significance), its fabric, setting, use, associations, meanings, records, related places and related objects

### Heritage resources/features (NHRA)

Any place or object of cultural significance, including:

- (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 natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and palaeontological sites;
- (g) graves and burial grounds, including—
  - (i) ancestral graves;
  - (ii) royal graves and graves of traditional leaders;
  - (iii) graves of victims of conflict;
  - (iv) graves of individuals designated by the Minister by notice in the *Gazette*;
  - (v) historical graves and cemeteries; and
  - (vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) movable objects, including—
  - (i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
  - (ii) objects to which oral traditions are attached or which are associated with living heritage;
  - (iii) ethnographic art and objects;
  - (iv) military objects;
  - (v) objects of decorative or fine art;
  - (vi) objects of scientific or technological interest; and
  - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

### Heritage significance (NHRA)

- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and

(i) sites of significance relating to the history of slavery in South Africa.

Historic period

Since the arrival of the white settlers - c. AD 1840 in this part of the country

### **Impact**

A description of the effect of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space

### **Impact assessment**

Issues that cannot be resolved during screening (Level 1) and scoping (Level 2) and thus require further investigation

### **Iron Age**

Early Iron Age (EIA)

AD 200 - AD 1000

Late Iron Age (LIA)

AD 1000 - AD 1830

### **Issue**

A question that asks what the impact of the proposed development will be on some element of the environment

### **Maintenance**

Keeping something in good health or repair.

### **Management actions**

Actions that enhance benefits associated with a proposed development or avoid, mitigate, restore, rehabilitate or compensate for the negative impacts

### **Preservation**

Conservation activities that consolidate and maintain the existing form, material and integrity of a cultural resource.

### **PHRA – Provincial Heritage Resources Agency**

#### **Reconstruction**

Re-erecting a structure on its original site using original components.

#### **Rehabilitation**

Re-using an original building or structure for its historic purpose or placing it in a new use that requires minimal change to the building or structure characteristics and its site and environment.

#### **Restoration**

Returning the existing fabric of a place to a known earlier state by removing additions or by reassembling existing components.

### **SAHRA - South African Heritage Resources Agency**

### **Stone Age**

Early Stone Age (ESA)

2 000 000 - 150 000 Before Present

Middle Stone Age (MSA)

150 000 - 30 000 BP

## CULTMATRIX CC

Late Stone Age (LSA)

30 000 - until c. AD 200

### **Value**

Worth, conservation utility, desirability to conserve etc in terms of physical condition, level of significance (importance), economy (feasibility), possible new uses and associations/comparisons with similar features elsewhere