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# HARMONY GOLD

# ARCHAEO- LOGICAL ASSESSMENT

THE PROPOSED  
WONDERFONTEIN SPRUIT  
TREATED WATER  
DISCHARGE PROJECT

Version 1.0

25 APRIL 2006

# ACKNOWLEDGEMENT OF RECEIPT

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- Recommendations delivered to the Client.

## **EXECUTIVE SUMMARY**

As we know from legislation the surveying, capturing and management of heritage resources is an integral part of the greater management plan laid down for any major development or historic existing operation. With the proclamation of the National Heritage Resources Act 1999 (Act 25 of 1999) this process has been laid down clearly. This legislation aims to underpin the existing legislation, which only addresses this issue at a glance, and gives guidance to developers and existing industries to the management of their Heritage Resources.

The importance of working with and following the guidelines laid down by the South African Heritage Resources Agency cannot be stressed enough.

The following outline the findings of the report:

No sites of cultural significance were found during the survey directly along the Wonderfontein Spruit drainage system. From a heritage point of view there are no reasons why the project can not proceed.

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# ANNEXURE

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## **1. INTRODUCTION**

Matakoma Heritage Consultants (Pty) Ltd was contracted by Johan Fourie & Associates to conduct an Archaeological Impact Assessment for the proposed discharge of 15 mega litres of treated water into the Wonderfontein Spruit from the Harmony Gold mine at the Cooke Metallurgical Plant near to Randfontein, emanating from the Western Mining Basin, Gauteng Province.

The aim of the study is to identify all archaeological sites that might be impacted upon by the rise of the water level in the Wonderfontein Spruit, to document, and assess their importance within local, provincial, and national context. From this we aim to assist the client in managing the discovered heritage resource in a responsible manner to protect, preserve, and develop the heritage resources within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

The report outlines the approach and methodology utilised before and during the survey, which includes a Physical surveying of the area on foot and vehicle and Reporting the outcome of the study.

During the survey, no sites of heritage value were identified that would be directly influenced by the proposed rise of water in the Wonderfontein Spruit.

This report must also be submitted to SAHRA's provincial office for scrutiny.

## **2. APPROACH AND METHODOLOGY**

The aim of the study is to extensively cover all data available to compile a background history of the study area; this was accomplished by means of the following phases.

### **2.1. PHYSICAL SURVEYING**

Due to the nature of cultural remains that occur below surface, a physical walk through of the study area was conducted.

Aerial photographs and 1:50 000 maps of the area were consulted and literature of the area were studied before undertaking the survey. The purpose of this was to identify topographical areas of possible historic and pre-historic activity. The project area was surveyed over 5 days, by means of vehicle and extensive surveys on foot by archaeologists. All sites discovered inside the possible influence area was plotted on 1:50 000 maps, and their GPS co-ordinates noted. 35mm photographs on digital film were taken of all the sites found.

### **3. WORKING WITH LEGISLATION**

It is very important that cultural resources be evaluated according to the National Heritage Recourse Act. In accordance with the Act, we have found the following:

- These sites are classified as important based on evaluation of the National Heritage Recourses Act 1999 (Act No 25 of 1999) section 3 (3).

A place or object is to be considered part of the national estate if it has cultural significance or other special value because of-

- (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.
- (Refer to Section 9 of this document for assessment)
- This site should be managed through using the National Heritage Recourses Act 1999 (Act No 25 of 1999) sections 4,5 and 6 and sections 39-47.
- Please refer to Section 9 for Management Guidelines.

## 4. ASSESSMENT CRITERIA

This chapter describes the evaluation criteria used for the sites listed below.

The significance of archaeological sites was based on four main criteria:

- **site integrity** (i.e. primary vs. secondary context),
- **amount of deposit, range of features** (e.g., stonewalling, stone tools and enclosures),
- **uniqueness** and
- **potential** to answer present research questions.

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be expressed as follows:

A - No further action necessary;

B - Mapping of the site and controlled sampling required;

C - Preserve site, or extensive data collection and mapping of the site; and

D - Preserve site

Impacts on these sites by the development will be evaluated as follows

### 4.1 IMPACT

The potential environmental impacts that may result from the discharge of treated water in the Wonderfontein Spruit.

### 4.1.1 Nature and existing mitigation

Natural conditions and conditions inherent in the project design that alleviate (control, moderate, curb) impacts. All management actions, which are presently implemented, are considered part of the project design and therefore mitigate against impacts.

## 4.2 EVALUATION

### 4.2.1 Site Significance

The significance rating scale is as follows:

*HIGH:* Must be mitigated or not impacted on at all.

*LOW - MEDIUM:* May require further work before development can commence.

*NO SIGNIFICANCE:* Do not require mitigation.

### 4.2.2 Certainty

*DEFINITE:* More than 90% sure of a particular fact. Substantial supportive data exist to verify the assessment.

*PROBABLE:* Over 70% sure of a particular fact, or of the likelihood of impact occurring.

*POSSIBLE:* Only over 40% sure of a particular fact or of the likelihood of an impact occurring.

*UNSURE:* Less than 40% sure of a particular fact or likelihood of an impact occurring.

### 4.2.3 Duration

*SHORT TERM:* 0 to 5 years

*MEDIUM:* 6 to 20 years

*LONG TERM:* more than 20 years

*DEMOLISHED:* site will be demolished or is already demolished



Example

*Evaluation*

IMPACT	SIGNIFICANCE	CERTAINTY	DURATION	MITIGATION
Negative	high negative	> 90% sure	long: > 20 years	A

## **5. SITES OF SIGNIFICANCE**

The following section outlines the sites identified in the development area, and evaluates them according to the evaluation criteria of the National Heritage Resources Act.

No sites of Cultural Significance were found.

## **6. ASSUMPTIONS AND LIMITATIONS**

Due to the nature of cultural remains that occur, in most cases, below surface, the possibility remains that some cultural remains may not have been discovered during the survey. Although Matakoma Heritage Consultants surveyed the area as thorough as possible, it is incumbent upon the developer to inform the relevant heritage agency should further cultural remains be unearthed or laid open during the process of development.

## **7. LEGAL AND POLICY REQUIREMENTS**

In areas where there has not yet been a systematic survey to identify conservation worthy places, a permit is required to alter or demolish any structure older than 60 years. This will apply until a survey has been done and identified heritage resources are formally protected.

Archaeological and palaeontological sites, materials, and meteorites are the source of our understanding of the evolution of the earth, life on earth and the history of people. In the new legislation, permits are required to damage, destroy, alter or disturb them. People who already possess material are required to register it.

The management of heritage resources are integrated with environmental resources and this means that before development takes place heritage resources are assessed and, if necessary, rescued.

In addition to the formal protection of culturally significant graves, all graves, which are older than 60 years and are not in a cemetery (such as ancestral graves in rural areas), are protected. The legislation protects the interests of communities that have interest in the graves: they may be consulted before any disturbance takes place.

The graves of victims of conflict and those associated with the liberation struggle will be identified, cared for, protected and memorials erected in their honour.

Anyone who intends to undertake a development must notify the heritage resource authority and if there is reason to believe that heritage resources will be affected, an impact assessment report must be compiled at the developer's cost. Thus developers will be able to proceed without uncertainty about whether work will have to be stopped if a heritage resource is discovered.

According to the National Heritage Act (Act 25 of 1999 section 32) it is stated that:

An object or collection of objects, or a type of object or a list of objects, whether specific or generic, that is part of the national estate and the export of which SAHRA deems it necessary to control, may be declared a heritage object, including -

objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects, meteorites and rare geological specimens;

visual art objects;

military objects;

numismatic objects;

objects of cultural and historical significance;

objects to which oral traditions are attached and which are associated with living heritage;

objects of scientific or technological interest;

books, records, documents, photographic positives and negatives, graphic material, film or video 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), or in a provincial law pertaining to records or archives; and

any other prescribed category.

If it is necessary to refer to any of the above-mentioned objects, the National Heritage Act (Act 25 of 1999 Sections 31-38) are included in Appendix 2.

Under the new National Heritage Resources Act (Act No. 25 of 1999), provisions are made that deal with, and offer protection, to all historic and pre-historic cultural remains, including graves and human remains.

Graves younger than 60 years fall 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. In order 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).

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 the South African Heritage Resource Agency (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 the category located inside a formal cemetery administrated by a local authority will also require the same authorisation as set out for graves younger than 60 years over and above 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.

## 10. LIST OF PREPARES

Jaco van der Walt, BA (Hon) Archaeology (WITS)  
Wouter Fourie, BA (Hon) Archaeology (UP)

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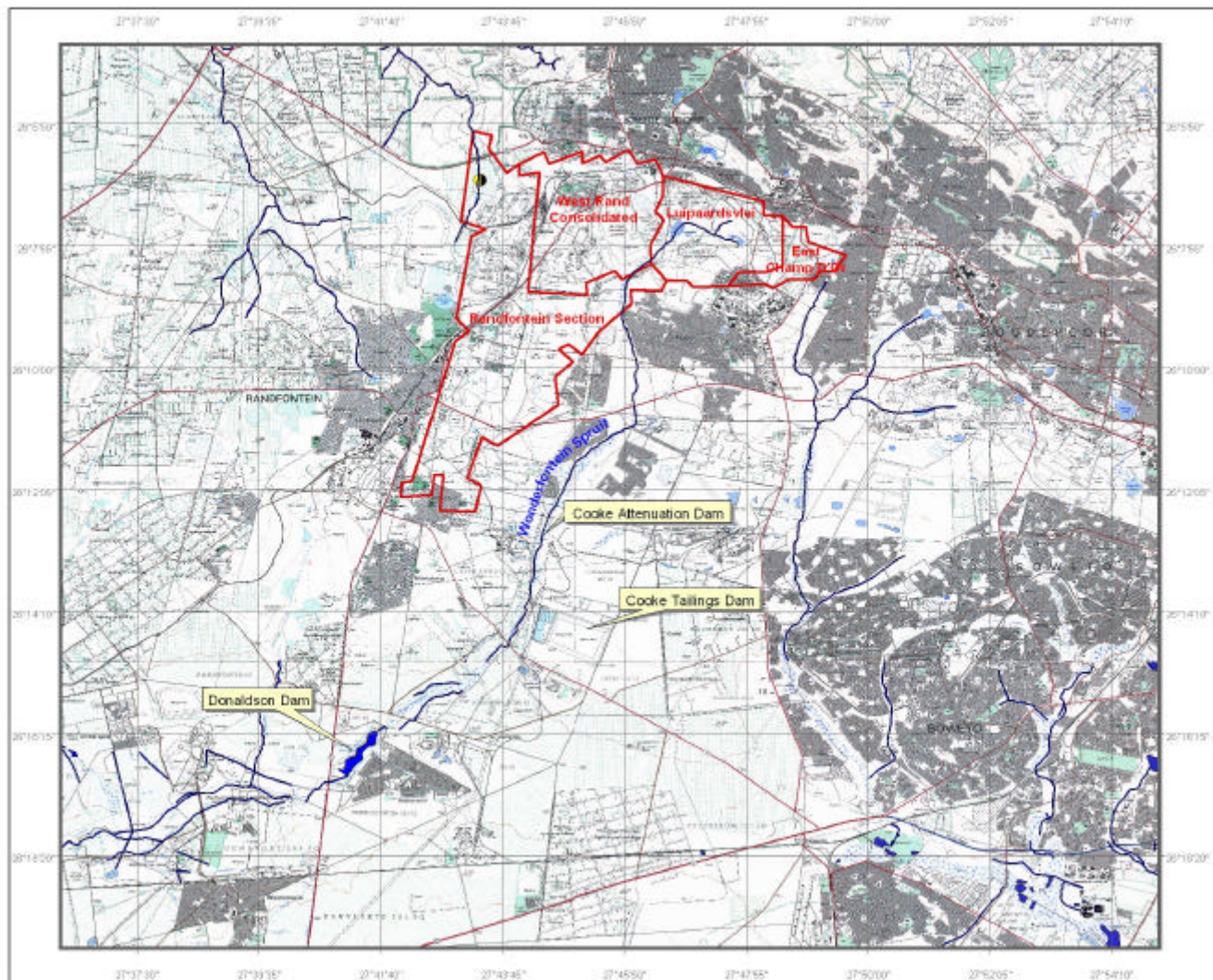
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# **ANNEXURE A: Locality Map**





# **ANNEXURE B: Legislation extracts**

[36]36 Burial grounds and graves

(1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

(3) (a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority-

(a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;

(b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or

(c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3) (a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.

(5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3) (b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority-

(a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and

(b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.

(6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority-

(a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and

(b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

(7) (a) SAHRA must, over a period of five years from the commencement of this Act, submit to the Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or agents provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.

(b) The Minister must publish such lists as he or she approves in the Gazette.

(8) Subject to section 56 (2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.

(9) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it

may re-inter the remains of that person in a prominent place in the capital of the Republic.

[37]37 Public monuments and memorials

Public monuments and memorials must, without the need to publish a notice to this effect, be protected in the same manner as places which are entered in a heritage register referred to in section 30.

[38]38 Heritage resources management

(1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- (b) the construction of a bridge or similar structure exceeding 50m in length;
- (c) any development or other activity which will change the character of a site-
  - (i) exceeding 5 000m<sup>2</sup> in extent; or
  - (ii) involving three or more existing erven or subdivisions thereof; or
  - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
  - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
- (d) the re-zoning of a site exceeding 10 000m<sup>2</sup> in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,

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.

(2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection (1)-

(a) if there is reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or

(b) notify the person concerned that this section does not apply.

(3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)

(a): Provided that the following must be included:

(a) The identification and mapping of all heritage resources in the area affected;

(b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6 (2) or prescribed under section 7;

(c) an assessment of the impact of the development on such heritage resources;

(d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;

(e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;

(f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and

(g) plans for mitigation of any adverse effects during and after the completion of the proposed development.

(4) The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development, decide-

(a) whether or not the development may proceed;

- (b) any limitations or conditions to be applied to the development;
- (c) what general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;
- (d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of the development; and
- (e) whether the appointment of specialists is required as a condition of approval of the proposal.

(5) A provincial heritage resources authority shall not make any decision under subsection (4) with respect to any development which impacts on a heritage resource protected at national level unless it has consulted SAHRA.

(6) The applicant may appeal against the decision of the provincial heritage resources authority to the MEC, who-

- (a) must consider the views of both parties; and
- (b) may at his or her discretion-
  - (i) appoint a committee to undertake an independent review of the impact assessment report and the decision of the responsible heritage authority; and
  - (ii) consult SAHRA; and
- (c) must uphold, amend or overturn such decision.

(7) The provisions of this section do not apply to a development described in subsection (1) affecting any heritage resource formally protected by SAHRA unless the authority concerned decides otherwise.

(8) The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the Environment Conservation Act, 1989 (Act 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environment Affairs and Tourism, or the Minerals Act, 1991 (Act 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and

recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent.

(9) The provincial heritage resources authority, with the approval of the MEC, may, by notice in the Provincial Gazette, exempt from the requirements of this section any place specified in the notice.

(10) Any person who has complied with the decision of a provincial heritage resources authority in subsection (4) or of the MEC in terms of subsection (6) or other requirements referred to in subsection (8), must be exempted from compliance with all other protections in terms of this Part, but any existing heritage agreements made in terms of section 42 must continue to apply

