

# **ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE UG2 EXPANSION PROJECT, RUSTENBURG PLATINUM MINES**

## **EXECUTIVE SUMMARY**

Seven clusters of Late Iron Age pottery, and a few other pot scatters were noted at various localities. There were also a few Middle Stone Age artefact scatters in the project area. Some of these occurrences have no significance at all, while a few have low significance. Consequently, no mitigation is required.

## **CONSTRUCTION PHASE - WHOLE MINE**

Aspect	Facility	Description of Impact	Impact Assessment
Surface Disturbance	• Brackspruit Option 2	Destruction of 1 pot cluster	L
	• Brackspruit Option 1	No impact	-
	and Power Line	No impact	-
	• Eastern Railway	Destruction of 2 pot clusters	L
	• Waterval 2	No impact	-
	• Central Deep Railway	Destruction of 1 pot cluster	L
	• Paardekraal Tailings Dam		
	- Southeast	Destruction of stone-walling	L
	- Southwest	No impact	-
	- Northwest	Destruction of 3 pot clusters	L
	• Boschfontein West	No impact	-

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# **ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE UG2 EXPANSION PROJECT, RUSTENBURG PLATINUM MINES**

## **INTRODUCTION**

Anglo Platinum intends to expand its UG2 operations at the Rustenburg Section of the Rustenburg Platinum Mines (RPM/R). The proposed expansion includes new rail and power lines, new shaft areas and extensions to an existing tailings dam. This proposed Phase 2 expansion requires an Amendment to the existing Environmental Management Programme Report (EMPR). As part of the EMPR process, the Anglo Technical Division (EnviroLink) commissioned Archaeological Resources Management (ARM) to conduct an archaeological impact assessment.

## **METHOD**

Two ARM staff examined the project area on 25 October 2001. Mr S Bullock of RPM/R took ARM staff to the Brakspruit and Waterval sections and gave directions to the remaining areas.

ARM staff then traversed the proposed new development areas on foot. Sites were recorded with a GPS instrument, marked on a project map supplied by the Anglo Technical Division, and then transferred to the 1:50 000 maps 2527CA Rustenburg (West) and 2527CB Rustenburg (Oos).

Site significance was based on the integrity of deposit, amount of deposit, range of features and the potential to answer present research questions. Sites with none or low significance do not require mitigation. Medium significance requires mitigation, while sites with high significance should not be disturbed.

## **RESULTS**

Generally, vegetation was sparse, and ground visibility was therefore good. On the other hand, mining and agricultural activities have caused widespread disturbance. Nevertheless, a few Stone Age and Iron Age sites were located. We list them by area.

## **Brakspruit Option 2**

A few Middle Stone Age (250 000 to 25 000 years ago) flakes and other artefacts lay scattered over the area. Late Iron Age (AD1300 to 1840) pottery, although scattered, appeared to concentrate around a surface exposure of rock (25 41 51.1S 27 24 46.5E).

Significance

- The Middle Stone Age scatter has no significance.
- The Late Iron cluster has low significance.

## **Brakspruit Option 1 and Powerline**

The proposed shaft area lies in a drainage surrounded by ploughed fields. Mining activities have disturbed the land crossed by the power line. No archaeological sites were noted.

## **Eastern Railway**

The proposed route runs through a ploughed field across two clusters of Late Iron Age pottery: (1) 25 41 30.5S 27 24 29.6E and (2) 25 41 28.2S 27 24 24.4E.

Significance

- The Late iron Age clusters have low significance.

## **Waterval 2**

A ploughed field covers much of the proposed shaft area. No sites were noted in the designated area, although Late Iron Age pottery lay scattered around exposed rock to the north (25 41 33.7S 27 20 31.5E).

Significance

- The pottery has no significance and in any case lies outside the proposed shaft area.

## **Central Deep Railway**

This short section runs near one Late Iron Age pottery scatter associated with exposed rock (25 40 42.6S 27 20 32.8E), and a pottery cluster around a new pylon (25 40 39.9S 27 20 21.5E). Decorated pottery dates this second cluster to what is called the Olifantspoort facies of Moloko (ca AD1500 to 1700).

Historic material such as glass, metal and coal cinder also lay scattered around the pylon. This material is most likely the result of African housing shown on the 1969 edition of 2527CB further to the north and west.

#### Significance

- The Late Iron Age scatter around the rocks has no significance.
- The Historic material has no significance.

### **Pardekraal Tailings Dam**

#### *Southeast Section*

The remains of Late Iron Age stone-walling stands around a small kopje (25 38 23.7S 27 19 55.3E) on the southeastern edge of the existing tailings dam. A trench across the road from the kopje has exposed pottery and some burnt daga (a mixture of dung and mud).

Pottery scatters were noted at 25 38 33.9S 27 19 55.2E and 25 38 50.6S 27 19 22.9E.

#### Significance

- The stone-walled site would have had medium significance before it was damaged. It now has low significance.
- The other pottery scatters have no significance.

#### *Southwest Section*

A few Middle Stone Age artefacts, such as flakes, cores, triangular points and scrapers, lay scattered in ploughed fields on both sides of a small stream (25 38 34.8S 27 18 20.7E and 25 38 46.8S 27 18 15.1E). A few potsherds were also noted in the same areas.

#### Significance

- The Middle Stone Age scatter has no significance.
- The Iron Age pottery has no significance.

#### *Northwest Section*

A few Middle Stone Age artefacts were noted around a rocky outcrop at 25 37 37.8S 27 18 20.5E. Ploughing had exposed three clusters of Late Iron Age pottery: (1) 25 38 02S 27 18 15.5E; (2) 25 37 49.5S 27 18 08.6E and (3) 25 37 43S 27 18 10.5E.

#### Significance

- The Middle Stone Age site has no significance.
- The Late Iron Age clusters have low significance.

### **Boschfontein West**

One potsherd was found north of the designated shaft area. No archaeological sites were

visible. The proposed powerline will parallel the existing road and much of the route crosses disturbed ground. No sites were noted.

#### **Boschfontein East**

This area was not visited, but on the basis of findings elsewhere, it is unlikely that any sites of significance will occur here.

### **DISCUSSION**

Stone Age artefacts are common occurrences in South Africa. Their location is of interest for distribution purposes, but otherwise surface finds have little value.

If the pottery clusters mark the location of Late Iron Age settlements, then their distribution demonstrates a pattern. Most settlements were sited on the edge of drainage systems that provided cultivatable soils. Further, villagers often chose exposed rock, presumably because it provided the best drainage. The stone-walled site next to the Paardekraal Tailings Dam had the most potential. Because it was already damaged, and because there are many other similar ruins in the area, mitigation measures would not be worth the effort.

Even though these sites will be damaged during the construction phase (Table 1 and 2), they all have low significance. None of the sites noted in the survey require mitigation.

Table 1. Assessment of impact on archaeological sites during construction.

	Severity	Duration	Spacial Scale	Consequence	Frequency of Activity	Frequency of Occurrence	Likelihood of Impact	Overall Significance
Brackspruit Options 2	2	5	1	7	1	5	6	42(L)
Brackspruit Option 1	-	-	-	-	-	-	-	-
and power line	-	-	-	-	-	-	-	-
Eastern Railway	2	5	1	7	1	5	6	42(L)
Waterval 2	-	-	-	-	-	-	-	-
Central Deep Railway	2	5	1	7	1	5	6	42(L)
Paardekraal Tailings Dam								
Southeast	2	5	1	7	1	5	6	42(L)
South west	-	-	-	-	-	-	-	-
Northwest	2	5	1	7	1	5	6	42(L)
Boschfontein West	-	-	-	-	-	-	-	-

Table 2. Summary of assessment of impact on archaeological sites during construction.

**CONSTRUCTION PHASE - WHOLE MINE**

Aspect	Facility	Description of Impact	Impact Assessment
Surface Disturbance	• Brackspruit Option 2	Destruction of 1 pot cluster	L
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**RECOMMENDATIONS**

Although none of the archaeological sites require mitigation, it is nevertheless possible that some features, such as burials and buried storage pits, may lie under the surface. If such features are discovered during the project implementation, they should be reported to the Anglo Platinum Technical division who in turn should notify the appropriate authorities.

With this provision, there are no archaeological reasons why the project should not proceed.