

Group Environment

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LONMIN

Internal Audit

Final Rehabilitation of M5 Opencast Pit

12 March 2015

Compiled by: Group Environment
Date: 21 November 2014

“Our Environment, Our Legacy”

1. Introduction

Western Platinum Mine (WPL) mining at the Lonmin Marikana mining complex, obtained its positive Record of Decision on the Environmental Management Programme (EMPR) on 16 July 2001, from the then department of Minerals and Energy, to undertake Opencast Mining, which included the mining of the M5 opencast pit (See figure below). The M5 pit was mined between 2005 and 2007 with the initial rehabilitation finalised on 18/12/2007. However, from 2008 to 2014 a number of areas of repair were noted which needed to be addressed to ensure compliance with rehabilitation conditions and procedures.

The repair work and completion of rehabilitation was conducted by Wonderkop Development Trust, who was awarded the tender and completed the work in November 2014, as per the scope provided to them by Lonmin. Additional work was carried out internally to remove small rocks exposed on surface in February and March 2015.

The intent of this rehabilitation close out audit, was to determine whether the repair and rehabilitation requirements had been adequately addressed to allow for Lonmin to sell back the property to Mr. Korb, with no obvious liability associated with it. It must be noted though, as this area has not been officially closed or gone through the closure application process, Lonmin at the time of closure of end of mine or if partial closure is applied for certain areas of the business, that it still remains liable to address all the closure process requirements to absolve Lonmin of liability. The audit team comprised Hazel Fiehn (Group Environmental Specialist Land and Waste); John Vilakazi (Mine Overseer Production); Marius Visser (Group Survey) and Henri Bothma (General Foreman Opencast).

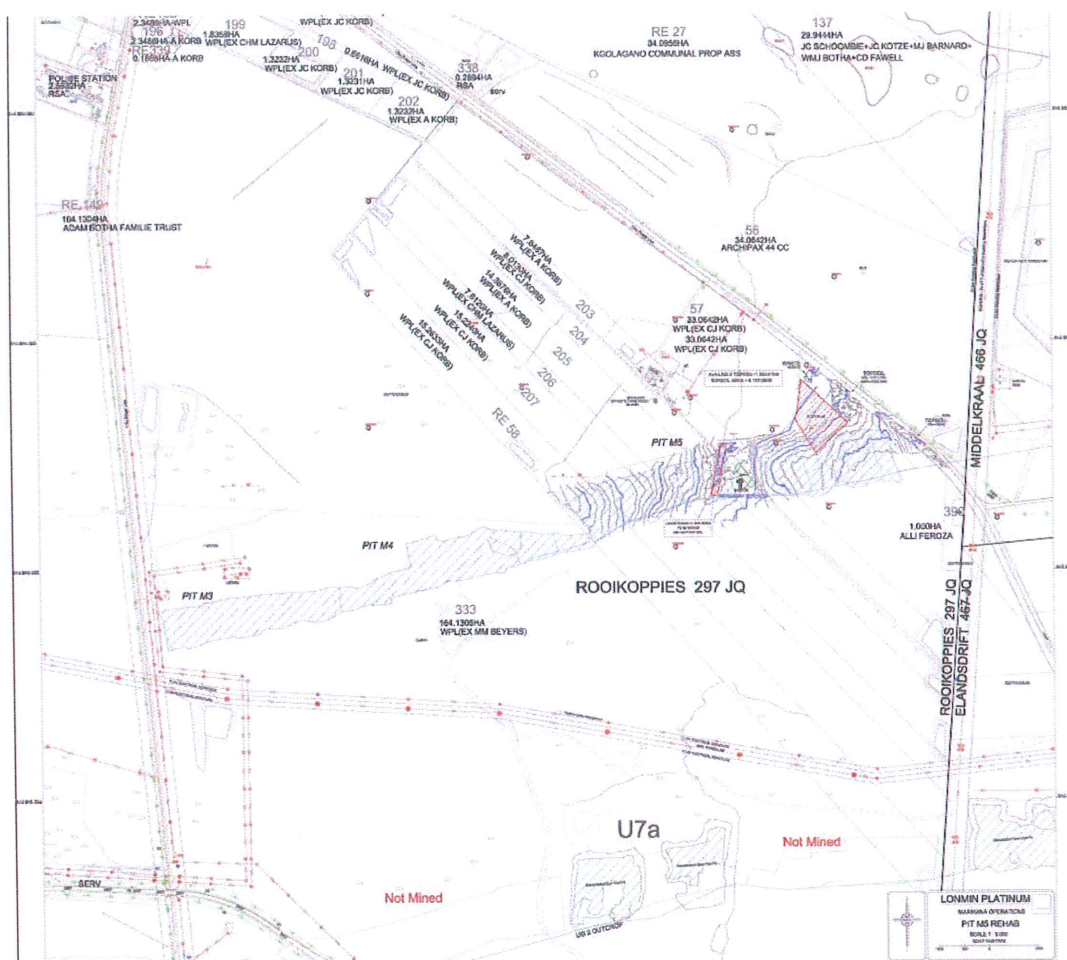


Fig. 1 Opencast pit development showing M5 pit location and surrounding property

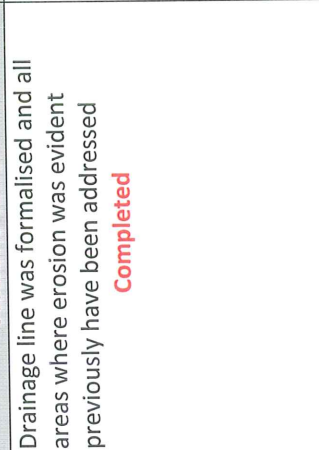
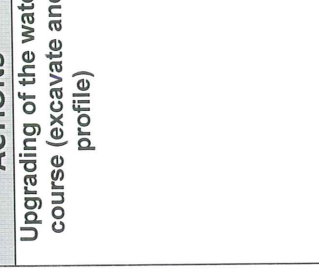
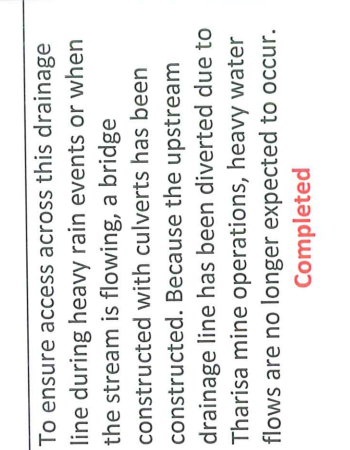
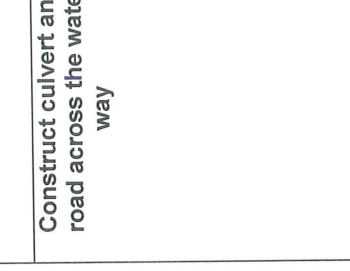
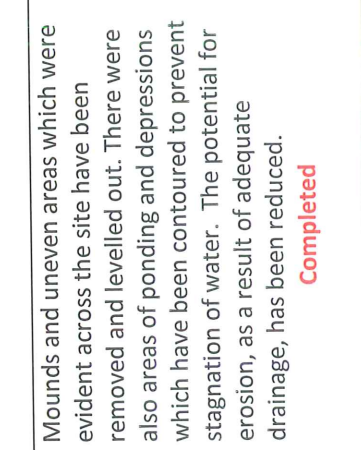
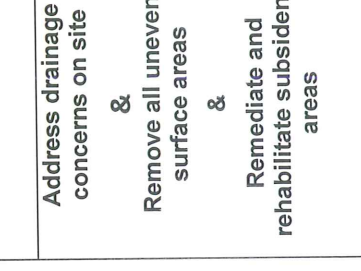
2. Audit Performance and Findings





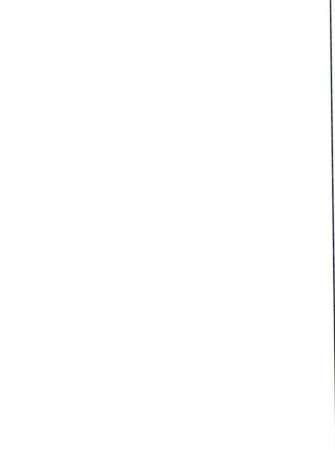

The scope of the repair and additional rehabilitation related to the following aspects:

- Upgrading of the water course (excavate and profile)
- Construct culvert and road across the water way
- Address drainage concerns on site
- Remove all uneven surface areas
- Spread topsoil mounds to fill in where topsoil is insufficient
- Address the excess boulders left on site
- Remediate and rehabilitate subsidence areas.
- Address demarcation and accessibility by animals, of graves on site

An initial close out audit was held on the 17th of November 2014. However, there were still a number of issues which needed to be adequately addressed and certain activities had not yet been completed. After an instruction was issued to address the concerns raised at the audit a final close audit was held on the 21st of November 2014.

The table below describes the issue that were addressed, how it was addressed and photographic proof of this.

ACTIONS	Actions taken	Before	After
<p>Upgrading of the water course (excavate and profile)</p>	<p>Drainage line was formalised and all areas where erosion was evident previously have been addressed Completed</p>		
<p>Construct culvert and road across the water way</p>	<p>To ensure access across this drainage line during heavy rain events or when the stream is flowing, a bridge constructed with culverts has been constructed. Because the upstream drainage line has been diverted due to Tharisa mine operations, heavy water flows are no longer expected to occur. Completed</p>		
<p>Address drainage concerns on site & Remove all uneven surface areas & Remediate and rehabilitate subsidence areas</p>	<p>Mounds and uneven areas which were evident across the site have been removed and levelled out. There were also areas of ponding and depressions which have been contoured to prevent stagnation of water. The potential for erosion, as a result of adequate drainage, has been reduced. Completed</p>		

<p>Spread topsoil mounds to fill in where topsoil is insufficient</p>	<p>A large number of turf and small waste rock dumps stockpiles were dotted around the area. The majority of this was turf soils. These were removed as far as possible and relocated to areas where additional topsoil was required. The subsequent areas were adequately levelled out to ensure suitable drainage.</p> <p style="text-align: right;">Completed</p>		
<p>Address the excess boulders left on site</p>	<p>A number of large and small boulders were exposed from the initial rehabilitation done on site. These boulders have all been removed from site and relocated to the grave area.</p> <p style="text-align: right;">Completed</p>		
<p>Address demarcation and accessibility by animals, of graves on site</p>	<p>A grave yard is situated on the property adjacent to the pit. The area was previously access controlled and demarcated with a fence. This fence has subsequently been taken and fencing is not a sustainable solution. It was decided, and in agreement with the current lessee, that the boulders be placed around the grave yard.</p> <p style="text-align: right;">Completed</p>		

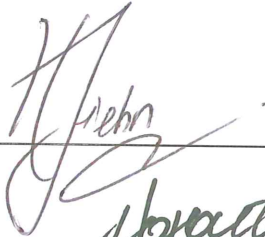
3. Conclusion and Recommendation

In conclusion, the rehabilitation of the M5 pit and surrounding areas, which was finalised by Wonderkop Development Trust on the 12th of March 2015, adequately addresses compliance to the Opencast EMP as well as good rehabilitation practice. The rehabilitation has also taken cognisance of the requirements of the next landuse and land management requests made by the farmer on site.

Rehabilitation has been completed to the satisfaction of the Group Environmental Specialist - Land and Waste.

It must be noted that this does not negate the fact that Lonmin will undertake continuous inspections, maintenance and repair work where required on site (where opencast activities were undertaken – M5 opencast pit), until a final closure certificate is provided by the DMR, at the finalisation of the closure process at end of life of mine at WPL. Furthermore, any damage incurred on the rehabilitated area by the purchaser post the sale of the land, will be remediated and repaired by the purchaser.

Signed by Group Environment:
Specialist Land and Waste



Signed by Senior Manager:
Opencast

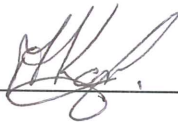


Date:

30/03/15

Approved and Accepted by Mr. A. Korb

Signature: _____



Date: _____

25/03/2015

ID No. 5604765074082.