MEETING NOTES

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Proposed Installation of Sulphur Dioxide Abatement Equipment at Mortimer Smelter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Number</td>
<td>31101</td>
</tr>
<tr>
<td>Date</td>
<td>17 May 2017</td>
</tr>
<tr>
<td>Time</td>
<td>10:00 – 11:00</td>
</tr>
<tr>
<td>Venue</td>
<td>DWS Kurperoord Offices, Kosmos</td>
</tr>
<tr>
<td>Subject</td>
<td>Proposed Installation of Sulphur Dioxide Abatement Equipment at Mortimer Smelter – Department of Water and Sanitation (DWS)</td>
</tr>
<tr>
<td>Client</td>
<td>Anglo American Platinum Limited</td>
</tr>
<tr>
<td>Present</td>
<td>See Attached Attendance Register (Appendix A)</td>
</tr>
<tr>
<td>Apologies</td>
<td>None</td>
</tr>
<tr>
<td>Distribution</td>
<td>As per the Attendance Register</td>
</tr>
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1.0 WELCOME AND INTRODUCTIONS

1.1 Anri Scheepers thanked the Department of Water and Sanitation (NWREAD) for the opportunity to meet with them to discuss the Proposed Installation of Sulphur Dioxide Abatement Equipment at Mortimer Smelter.

1.2 A round of introductions was done, including:
   - DWS – Esmy Madumo and Nametso Kgabileng
   - Anglo American Platinum Limited – Pierre Malan
   - WSP | Parsons Brinckerhoff, Environment & Energy, Africa (WSP | Parsons Brinckerhoff) – Anri Scheepers

1.3 Anri Scheepers mentioned that the presentation (Appendix B) would be attached to the minutes together with the attendance register (Appendix A).

2.0 PROJECT BACKGROUND

2.1 Anglo American Platinum Limited (Anglo) owns and operates the Mortimer Smelter, which is located at the Union Section (RPM-US). The Mortimer Smelter is an existing metallurgical industrial furnace where sulphide ores are smelted.

2.2 The off-gas from Mortimer Smelter is currently being treated via 3 electrostatic precipitators (ESPs); exhaust from the ESPs is vented into the atmosphere via a stack at 80m above the ground. The emissions include particulate matter (PM), SO\(_2\), and nitrogen oxide (NOx).

2.3 The National Environmental Management Air Quality Act (No. 39 of 2004) (NEM:AQA) requires that furnaces at metallurgical industries be operated with efficient SO\(_2\) abatement systems by 2015, however Mortimer Smelter has been given an extension until 2020. In order to comply with new South African legislation, and associated more stringent emission standards, an SO\(_2\) abatement system must be installed at the Mortimer Smelter.

2.4 The proposed strategy to reduce SO\(_2\) to achieve the Minimum Emission Standards (MES) is the installation of a Wet Gas Sulphuric Acid (WSA) Plant that will convert the SO\(_2\) contained in the off-gas into commercial-grade concentrated sulphuric acid (H\(_2\)SO\(_4\)). The exhaust from the WSA plant (containing reduced SO\(_2\) concentrations) will be vented into the
atmosphere, and the commercial grade sulphuric acid will be temporarily stored before being despatched into the commercial market.

3.0 SITUATIONAL ANALYSIS

3.1 The Mortimer Smelter is situated approximately 350 m from the Mortimerspruit and associated wetland. The construction area will be approximately 250 m from the Mortimerspruit.

3.2 The wetland is part of the dirty water system of the Rustenburg Platinum Mines – Union Section (RPM-US) as per the Integrated Water and Waste Management Plan (IWWMP) and RPM-US has an existing Water Use Licence (03/A24D/ABCGLJ/18929). Due to the historical nature of the mine and use of in-stream return water dams, Mortimerspruit within the mine lease area is operated as a dirty water channel and flows to the Barbers return water dam where dirty water is contained under normal operating conditions. Overflows from Fraser Alexander return water dam will drain to Barbers return water dam via Mortimerspruit.

4.0 WATER USE LICENCES

4.1 It was agreed that a Section 21b water use licence will not be required for the potable water reservoir.

4.2 It was noted by EM that even though the wetland is considered part of the dirty stormwater management a Section 21 c and i water use licence may be required and this will have to be discussed with Pieter Ackerman. DWS agreed to urgently arrange a meeting with Pieter Ackerman.

4.3 It was agreed that AS will, via email, provide EM with the IWWMP, WUL and wetland assessment for the Mortimerspruit. Subsequent to the meeting, this was submitted to EM via email on 22 May 2017.

5.0 DESIGNS

5.1 EM requested that the following civil designs be submitted to the DWS:
   • Acid Storage Area
   • Effluent Treatment Plant

5.2 EM requested the detailed water balance be submitted to the DWS.

6.0 STAKEHOLDER ENGAGEMENT

6.1 It was agreed that a 30 day public participation period as specified in the EIA Regulations will be acceptable, should a water use licence be required.
7.0 DOCUMENTATION SUBMISSION

7.1 It was agreed that 1 Hard copy and 1 electronic copy of all documentation will be submitted to the DWS.
Appendix A – Attendance Register
ATTENDANCE REGISTER

Project: Proposed Installation of Sulphur Dioxide Abatement Equipment at Mortimer Smelter
Applicant: Anglo American Platinum Limited
Meeting Title: Authority Meeting (Department of Water and Sanitation)
Venue: DWS - Kurperoord
Date: 17 May 2017

<table>
<thead>
<tr>
<th>Name</th>
<th>Company Name</th>
<th>Email</th>
<th>Tel</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anri Scheepers</td>
<td>WSP</td>
<td><a href="mailto:Anri.Scheepers@wsp.co.za">Anri.Scheepers@wsp.co.za</a></td>
<td>011 360 6087</td>
<td></td>
</tr>
<tr>
<td>Pierre Malan</td>
<td>Anglo At.</td>
<td><a href="mailto:pierre.malan@angloamerican.com">pierre.malan@angloamerican.com</a></td>
<td>083 282 0941</td>
<td></td>
</tr>
<tr>
<td>Madumo Esmy</td>
<td>DWS</td>
<td><a href="mailto:madumo.esmy@dws.gov.za">madumo.esmy@dws.gov.za</a></td>
<td>021 392 1534</td>
<td></td>
</tr>
<tr>
<td>Kgubitieng Namatso</td>
<td>DWS- Harties</td>
<td><a href="mailto:kgubitieng.namatso@dws.gov.za">kgubitieng.namatso@dws.gov.za</a></td>
<td>073 778 3330</td>
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Appendix B - Presentation
Proposed Installation of Sulphur Dioxide Abatement Equipment at Mortimer Smelter

Anglo American Platinum Limited

17 May 2017
DWS Meeting
AGENDA

1. Welcome and Introduction
2. Role Players
3. Project Background
4. Project Location
5. Project Description
6. Alternatives
7. Legislative Requirements
8. Specialist Studies
9. Proposed Schedule
10. Questions and Discussions
WELCOME AND INTRODUCTION

Competent Authority

Department Mineral Resources

Under the One Environmental System, the Minister of Mineral Resources will issue environmental authorisations in terms of the NEMA for mining activities related to the primary extraction and/or primary processing of ore material. The Minister of Environmental Affairs will form the appeal authority.

Applicant

Anglo American Platinum Limited

Environmental Assessment Practitioner

WSP | Parsons Brinckerhoff, Environment & Energy, Africa
Despite already achieving ~90% abatement (through furnace matte converting at ACP), ask for postponement on achieving site SO$_2$ limits for 2015. Commit to legal compliance targeting 2020 limit of 1200 mg/Nm$^3$.

20 Feb 2015: Postponement granted as from 1 April 2015 on regulatory limits of 30 000mg/Nm$^3$ vs a requested 57 000mg/Nm$^3$.

AAP lodge an appeal against interim limit of 30 000 mg/Nm$^3$ vs a requested 57 000mg/Nm$^3$.

Appeal has been dismissed - AAP initiate legal process to get an interim relief order and to institute judicial review proceedings.

A “novel” technical solution for SO$_2$ abatement and control will be developed that produces “useful” acid instead of another solid waste.


MES: SO$_2$ for existing facility: 3500mg/Nm$^3$ for new/all facility: 1200mg/Nm$^3$

SO$_2$ Compliance requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Mortimer Smelter</th>
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<tbody>
<tr>
<td>Pre-2015 AEL condition</td>
<td>2500 mg/Nm$^3$</td>
</tr>
<tr>
<td>1 April 2015 MES requirement</td>
<td>3500 mg/Nm$^3$</td>
</tr>
<tr>
<td>1 April 2015 – 31 March 2020 postponement limit</td>
<td>30 000 mg/Nm$^3$ (can comply with interim limit)</td>
</tr>
<tr>
<td>1 April 2020 MES requirement (require abatement)</td>
<td>1200 mg/Nm$^3$</td>
</tr>
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</table>
PROJECT DESCRIPTION

- Electric Furnace Primary Gas Cleaning (Existing)
- Secondary Gas Cleaning (new additional cleaning)
- WSA Acid Plant
- Effluent Treatment Plant (204m³/day)
- Acid Concentrating Plant
- Acid Plant Cooling Water
- Dangerous Goods Storage and Handling
  - Acid – 560m³
  - LPG – 22.5m³
- Water Usage and Storage
  - Required - 468m³/day
  - Storage – 2 500m³
- Roads
ALTERNATIVES

→ Location – None
→ Type of activity – None
→ Design or Layout of Activity
  ▪ Contractor facilities
  ▪ Operational
→ Technology
→ Operational Aspects – None
→ No-Go
  ▪ Legal non-compliance
Process / Metallurgy

Condenser

- Clean gas outlet
- Cooling air inlet
- Hot air outlet

H₂SO₄/SO₃ gas inlet

Sulfuric acid
LEGISLATIVE REQUIREMENTS

National Environmental Management Act (No. 107 of 1998)

¬ EIA Regulations (GNR 982)
¬ Listing Notice 1 (GNR 983)

- Activity 24 - The development of a road with a reserve wider than 13,5 metres
- Activity 34 - The existing Atmospheric Emissions Licence (AEL) for Mortimer Smelter will have to be amended
National Environmental Management Act (No. 107 of 1998)

Legislative Requirements

→ Listing Notice 2 (GNR 984)
  - Activity 4
  The development of facilities or infrastructure, for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres.

  The facility will store in excess of 500 cubic metres of dangerous goods.

→ Scoping and Environmental Impact Reporting Process
Due to the changes in emissions (positive) from the Mortimer Smelter an amendment to the existing Atmospheric Emissions Licence as well as a revised emissions inventory will be required for the proposed project (once authorised)

- Subcategory 4.1: Drying and Calcining
- Subcategory 4.16: Smelting and Converting Sulphide Ores
LEGISLATIVE REQUIREMENTS

National Water Act (No. 36 of 1998)

- Union Mine Water Use Licence No: 03/A24D/ABCGIJ/18929
- Storage of 2 500 m³ of potable water
- No Water Use Licence Required
SPECIALIST STUDIES

- Air Quality Impact Assessment
- Noise Impact Assessment
- Biodiversity Assessment
- Heritage Assessment
- Major Hazard Assessment
- Social Impact Assessment
- Climate Change Assessment
- Closure Assessment and Plan
## PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Task</th>
<th>Dates</th>
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<tbody>
<tr>
<td>Authority Approval of Scoping Phase</td>
<td>19 March 2017 – 2 May 2017</td>
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<tr>
<td>DWS Meeting</td>
<td>16 May 2017</td>
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<tr>
<td>Stakeholder Review of Draft EIAR</td>
<td>27 May 2017 to 25 June 2017</td>
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<tr>
<td>Authority Approval of EIAR</td>
<td>4 July 2017 to 1 November 2017</td>
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HIGH LEVEL OVERALL SCHEDULE

<table>
<thead>
<tr>
<th>Event</th>
<th>Timeframe</th>
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<tbody>
<tr>
<td>Environmental &amp; Permitting (Substantive Process + 50d)</td>
<td>12Mths+50d</td>
</tr>
<tr>
<td>Appeal Period Allowance</td>
<td>60-90d</td>
</tr>
<tr>
<td>Feasibility Study by EPCM</td>
<td>9-10 Mths</td>
</tr>
<tr>
<td>Feasibility Study by Haldor Topsoe and GEA</td>
<td>5 Mths</td>
</tr>
<tr>
<td>Review and Approval Process : Feasibility Study</td>
<td>3-5 Mths</td>
</tr>
<tr>
<td>Bridging Engineering (Hatch)</td>
<td>3 Mths</td>
</tr>
<tr>
<td>Procure Long Lead Items (HT, GEA, ESP)</td>
<td>12 Mths</td>
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<tr>
<td>Furnace shut downs (major tie-ins)</td>
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<tr>
<td>Construction</td>
<td>24 Mths</td>
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<tr>
<td>Commissioning</td>
<td>6 Mths</td>
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<tr>
<td>Ramp Up and Optimization</td>
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<td>Compliance to Emission Standards</td>
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QUESTIONS AND DISCUSSIONS