EXTERNAL AUDIT REPORT IN FULFILMENT OF THE ENVIRONMENTAL AUTHORISATION FOR THE REHABILITATION OF THE VAAL WASTE DUMP SITE AT ARCELORMITTAL SOUTH AFRICA VEREENIGING WORKS

Audit date: 9 October 2015
Report date: 23 October 2015
## General Information

<table>
<thead>
<tr>
<th><strong>Report Name:</strong></th>
<th>External Audit Report for the Rehabilitation of the Vaal Waste Dump site</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental Auditor</strong></td>
<td>Zantow Environmental Consulting Services CC  &lt;br&gt;22 Delius Street, SW 5&lt;br&gt;Vanderbijlpark  &lt;br&gt;PO Box 3858&lt;br&gt;Vanderbijlpark, 1911  &lt;br&gt;&lt;strong&gt;Contact Person:&lt;/strong&gt; &lt;br&gt;Trevor Hallatt &lt;br&gt;Tel: 082 574 6658 &lt;br&gt;Fax: 016 932 4976 &lt;br&gt;Email: <a href="mailto:trevor@zantow.co.za">trevor@zantow.co.za</a></td>
</tr>
<tr>
<td><strong>Client:</strong></td>
<td>ArcelorMittal South Africa Vereeniging Works  &lt;br&gt;Contact Person: &lt;br&gt;Waste Management Control Officer (WMCO) &lt;br&gt;Sham Jagathlal  &lt;br&gt;&lt;strong&gt;Email:&lt;/strong&gt; <a href="mailto:sham.jagathlal@arcelormittal.com">sham.jagathlal@arcelormittal.com</a>  &lt;br&gt;&lt;strong&gt;Cell:&lt;/strong&gt; 083 450 9131</td>
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<td><strong>Report compiled by:</strong></td>
<td>Trevor Hallatt</td>
</tr>
<tr>
<td><strong>Audit date</strong></td>
<td>9&lt;sup&gt;th&lt;/sup&gt; October 2015</td>
</tr>
<tr>
<td><strong>Report date:</strong></td>
<td>23 October 2015</td>
</tr>
<tr>
<td><strong>ROD ref nr:</strong></td>
<td>GAUT 002/04-05/0455</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

Zantow Environmental Consulting Services CC was appointed by ArcelorMittal Vereeniging Works to conduct an independent compliance audit on the RoD (Ref nr. GAUT 002/04-05/0455 12/9/11/L393/4) that was issued for the rehabilitation of the Vaal Disposal Site. The RoD was received from the Gauteng Department of Agriculture, Conservation and Environment (GDACE, now the Gauteng Department of Agriculture and Rural Development, “GDARD”) on the 23rd September 2004. Condition 3.4 of the RoD, requires that an annual Environmental Audit be undertaken by an independent external auditor and the audit report submitted to the DEA.

The methodology followed to conduct the compliance assessment audit is as follows:

- Documentation review;
- Compilation of audit checklist/questionnaire for site visit;
- Site Visit (Conducted on the 9th of October 2015); and
- Compilation of compliance audit report.

The following recommendations are made to improve compliance to the RoD:

- ArcelorMittal indicated that monthly groundwater monitoring is unrealistic which we agree with and indicated that the water monitoring program will be amended and submitted for approval. It is recommended that ArcelorMittal approach the Department to verify if an amendment approach or submission for approval in terms of conditions 3.3 a and b of the RoD (ArcelorMittal, December 2015)
- ArcelorMittal must notify the department in the event a contact person details changes. (ECO, December, 2015)
- It is recommended that ArcelorMittal notify the department of the changes regarding contact details (ECO, December 2015)
Contents

2. BACKGROUND AND PROJECT .................................................................................. 5
3. PART 1: Audit Information ..................................................................................... 6
   3.1. Date of Audit ........................................................................................................ 6
   3.2. Audit Criteria / Scope of Work ........................................................................... 6
   3.3. Audit Methodology ............................................................................................. 6
   3.4. Objectives ............................................................................................................ 8
   3.5. Independent Assessor ......................................................................................... 8
   3.6. Declaration ........................................................................................................... 8
4. PART 2: Audit Findings ............................................................................................ 9
   4.1. Positive observations/findings ............................................................................ 9
   4.2. Comments from previous audit reports ............................................................... 9
5. COMPLIANCE ASSESSMENT ................................................................................ 9
6. ITEMS TO BE ADDRESSED IN TERMS OF CONDITION 3.4 ............................. 16
   6.1. Ground Water Monitoring ................................................................................ 16
   6.2. Surface Water Monitoring ................................................................................. 18
   6.3. Leachate Management ....................................................................................... 19
   6.4. Remediation Progress ......................................................................................... 19
   6.5. Success and Stability of capping layers ............................................................... 20
   6.6. Compliance with EMPr and Operational Plan ................................................ 21
7. CONCLUSION AND RECOMMENDATIONS ....................................................... 22
1. INTRODUCTION

Zantow Environmental Consulting Services CC was appointed by ArcelorMittal Vereeniging Works to conduct an independent compliance audit on the RoD (Ref nr. GAUT 002/04-05/0455 12/9/11/L393/4) that was issued for the rehabilitation of the Vaal Disposal Site. The RoD was received from the Gauteng Department of Agriculture, Conservation and Environment (GDACE, now the Gauteng Department of Agriculture and Rural Development, “GDARD”) on the 23rd September 2004. Condition 3.4 of the RoD, requires that an annual Environmental Audit be undertaken by an independent external auditor and the audit report submitted to the DEA.

The methodology followed to conduct the compliance assessment audit is as follows:

- Documentation review;
- Compilation of audit checklist/questionnaire for site visit;
- Site Visit (Conducted on the 9th of October 2015); and
- Compilation of compliance audit report.

2. BACKGROUND AND PROJECT

ArcelorMittal South Africa Vereeniging Works (“Vereeniging Works”) applied for an environmental authorisation during 2004 and during 2005 applied for a Section 20 permit in terms of the Environment Conservation Act, 73 of 1989 (“ECA”) in respect of a general waste disposal site. The purpose of these applications was to operate the Vaal disposal site towards closure and to rehabilitate the site accordingly.

The RoD was granted during 2004 but the ECA Section 20 permit has not been issued to date. The Vaal Disposal Site is situated adjacent to the Vereeniging Vaal Works as well as the Vaal River. The site is bounded by industrial areas on three sides, with a recreation area immediately to the East, namely the Riviera Aquatic Club, located between the site and the Vaal River.

The Vereeniging works disposed general rubble, Mill scale, spent refractories, Electric Arc Furnace (EAF) Dust, EAF Black slag, EAF white slag and magnetite on the site. The authorities argued that the waste disposed at the site was a combination of general and hazardous waste. ArcelorMittal was issued with a directive in 2007, instructing the company to cease disposal on the site and submit an amended Remediation Plan for approval to GDARD.

ArcelorMittal complied with the directive and ceased disposal of their waste streams at the Vaal dump site. Since then, the waste is disposed at an off-site licensed facility and an amended Remediation Plan was submitted to GDARD in 2008 and approved in 2011. The magnetite was removed from the site and recycled by a third party. GDARD notified ArcelorMittal that the project file has been transferred to the national Department of Environmental Affairs (DEA). DEA requested ArcelorMittal to apply for a waste management license (WML) which ArcelorMittal argues is not required in terms of the legislation. The dispute has not been resolved as yet and the remediation has therefore not progressed since 2007.

The RoD however remains in force and condition 3.4 of the RoD requires ArcelorMittal to appoint an external auditor on an annual basis to verify compliance to the ROD conditions.
3. PART 1: Audit Information

3.1. Date of Audit

| External Audit date: | - 9th October 2015 |
| Report date         | - 23rd October 2015 |

3.2. Audit Criteria / Scope of Work

The scope of work entailed conducting a compliance audit to verify compliance to the RoD conditions as per condition 3.4. The annual environmental performance audit must be conducted by and independent auditor and must be submitted to the department. The report must specifically address:

- Results from improvements in water quality monitoring
- Monitoring of boreholes with respect to detect leaks or pollution
- Leachate management
- Progress on progressive remediation
- Vegetation establishment
- Review of the stability of the capping layers
- Compliance against the EMP and operational plans

The following documents and or information were considered against which compliance to the conditions of the ROD was audited:

- Environmental Authorisation
- EMPr
- External and Internal audit reports
- Various database monitoring results made available / presented during the audit
- Directive and amended directive
- Procedures and the electronic Environmental Management System (EMS)
- Relevant communications between ArcelorMittal, Authorities and I & APs
- Applicable South African Environmental Legislation.

3.3. Audit Methodology

In order to clarify terms and definitions with reference to the international standard ISO 19011:2002(E) Guidelines for quality and/or environmental management systems auditing - Audit “FINDINGS” are defined as “results of the evaluation of the collected audit evidence against audit criteria”. The definition has a note stating “audit findings can indicate either conformity or nonconformity with audit criteria or opportunities for improvement”. General or specific findings are presented as observations or opportunities for improvement. To clarify reporting - the findings will be called and presented as non-compliance, potential / partial non-compliance and observations. These are defined as follows:

**Compliance**

Full compliance achieved with documented or audited proof of compliance available. No further actions are required.

**Non-compliance**

Non-compliance is the most severe type of finding. A non-compliance will indicate legal non-compliance to the relevant legislation, license and/or records of decisions conditions. Where appropriate the audit report could contain recommendations regarding non-compliance and specified/agreed target dates for the implementation.
**Potential or partial non-compliance**

A potential or partial non-compliance refers to a deviation from a legal requirement, a standard specification, or a planned arrangement which does not constitute non-compliance, but which does not represent Best Practice. Recommendations could be stated for potential non-compliances. It can also refer to conflicting of nonsensical conditions in a license that cannot be complied with, but still needs to be resolved.

**Observation**

An observation refers to a deviation from best practice and includes observations of opportunities for improvement. Recommendations could be stated for observations but will not have specified target dates. This has been included for the benefit of management and while not being of immediate priority, can be included in the self-improvement cycle of environmental management.

During the inspection it was however found that some conditions are generic, impractical and/or contradictory. There was therefore a need to rank the identified non-compliance or partial compliance findings in terms of the following criteria:

**Critical Issues**

- There is a critical failure against legal requirements or management response that presents an immediate or significant risk that could result in prosecution and/or adverse legal finding due to failure to meet regulatory requirements;
- Could result in immediate injury or serious injury or environmental harm;
- Could result in prolonged business outage; and/or
- Could result in serious damage to the project’s reputation.
- Critical issues must be addressed immediately and all activities resulting in negative critical findings must cease until such time as the issue has been rectified.

**Moderate Issues**

- There is a substantial failure to meet the environmental requirements for the project or license condition,
- There is a possibility of substantial environmental degradation and/or pollution and/or
- Objective evidence was observed raising doubt as to the integrity of data or records inspected.

**Minor Issues**

- Isolated observations demonstrating that full compliance to the environmental requirements on site have not been, or will not be, fully achieved.
- No physical environmental harm

**Historic Issues**

- No physical environmental harm – administrative in nature
- Historic non-compliance, out the company currently in control of compliance control
- No administrative or other remedy available to rectify the situation
- No further action required
3.4. Objectives

To carry out an independent compliance audit including:

- Inspection of operations and confirm compliance to the Authorisation
- Inspection of operations and confirm compliance to the approved amendments
- Verify the effectiveness of impact management and mitigation.
- Assess allocations of responsibilities and actions.
- Report observations for further investigation and action.
- Specifically state whether conditions are adhered to.
- Make recommendations where appropriate.
- Prepare an audit report for submission to the relevant authorities.

3.5. Independent Assessor

The role of the Independent Environmental Assessor is to provide independent, objective and professional advice on the environmental compliance of the Vaal Dump Site RoD, with specific reference to the respective RoD conditions. Specific duties of the auditor include the following:

- Review and assess in an independent, objective and professional manner all aspects related to the RoD conditions;
- Conduct a random site inspection if deemed necessary; and
- Provide feedback on the assessment results to ArcelorMittal.

3.6. Declaration

I, Trevor Hallatt, as an independent consultant compiled this audit report and declare that it correctly reflects the findings made at the time of the audit. I further declare that I,

Act as an independent consultant;

- Do not have any financial interest in the undertaking of the activity, other than remuneration for the work performed in terms of the National Environmental Management Act, 1998 (Act107 of 1998) and the National Environmental Management Waste Act;
- Undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the National Environmental Management Act, 1998 (Act 107 of 1998);
- Based on information provided to me by the project proponent, and in addition to information obtained during the course of this study, will present the results and conclusion within the associated document to the best of my professional judgement.

_______________________
Trevor Hallatt
Environmental Specialist
SACNASP Reg nr: 300123/15
4. **PART 2: Audit Findings**

4.1. **Positive observations/findings**

ArcelorMittal complied with the Directive issued by the Department as to where it was applicable to the RoD conditions at a great cost and effort. The magnetite was removed from the site and recycled off site by a third party which is in line with the waste hierarchy.

Table 1 addresses compliance to each relevant condition in the license.

4.2. **Comments from previous audit reports**

Table 1 below indicates the previous issues identified and the current status.

Table 1: recommendations from previous audit reports and current status

<table>
<thead>
<tr>
<th>2014 External audit report</th>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submit an updated Water Quality Monitoring Program for the Vaal Disposal Site. The monitoring of ground water monthly is not reasonable and it is recommended that monitoring of ground water be amended to a bi-annual frequency (wet and dry season). Until such time as the updated monitoring program is approved ArcelorMittal must monitor the ground water monthly. <em>(ArcelorMittal, December 2014)</em></td>
<td>Resolved&lt;br&gt;An updated monitoring program has not been submitted to the Department for approval. Borehole sampling is currently conducted on a monthly basis thereby not requiring an amended plan.</td>
</tr>
<tr>
<td>ArcelorMittal must notify the department in the event a contact person details changes. <em>(ECO, Ongoing)</em></td>
<td>The Department has not been notified regarding the changes in contact details. No new changes made during the audit period.</td>
</tr>
<tr>
<td>ArcelorMittal must ensure that the annual external audit is done timeously every year. <em>(ECO, annually)</em></td>
<td>An external audit was conducted in September 2014 and an audit report has subsequently been submitted to the Department</td>
</tr>
</tbody>
</table>

5. **COMPLIANCE ASSESSMENT**

Compliance is fully achieved against the requirements of the RoD. ArcelorMittal indicated that monthly groundwater monitoring is unrealistic which we agree with and indicated that the water monitoring program will be amended and submitted for approval. It is recommended that ArcelorMittal approach the Department to verify if an amendment approach or submission for approval in terms of conditions 3.3 a and b of the RoD.
### Table 2: RoD Conditions Assessment and Compliance

<table>
<thead>
<tr>
<th>Condition Nr</th>
<th>Condition in ROD</th>
<th>Directive Requirements</th>
<th>Observation / Comments</th>
<th>Compliance status</th>
<th>Intensity of non-compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
<td><strong>Compliant</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### 3. Conditions

**3.1 Description and extent of the Activity**

The authorisation applies in respect of the upgrade of the existing stream diversion and the progressive rehabilitation of the Vaal Waste dump, as detailed in Part 1.2 of the Water Use License Application Report dated 07 June 2004. The project entails the watercourse alteration of the existing water channel around the toe of the waste body and progressive rehabilitation of the Vaal Waste Dump Area. The activity falls within the ambit of sub-regulation 1 (j) and 8 of Government Notice R. 1182 (as amended), promulgated under section 21 of the Act. The extent of the project is summarised as follows:

**a)** The proposed canal will have a composite profile, consisting of a wider, benched area with a shallow, low float canal down the centre. Both the benched and the low flow sections will have 1:3 side slopes. The canal has been sized to accommodate the 1:450 year event. The design has been based on ensuring capacity not to spill onto the waste body after reeds and grasses have established within the canal. The toe protection berm to be constructed against the waste body will have 1:3 side slopes.

**b)** The slopes on the waste body will be flattened to a long term suitable gradient of 1:3 through maintaining the current toe line, and pulling the waste back. The excavated material will be used to cap the non-active slopes which will improve the aesthetics of the site and also reduce infiltration.

During the site visit it was established that the areas that have been remediated to date comply with the project description and the relevant requirements. No further remediation since 2007 on site due to the legal technical issues.
<table>
<thead>
<tr>
<th>Condition Nr</th>
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<tbody>
<tr>
<td><strong>3.2 Specific conditions</strong></td>
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<tr>
<td>a)</td>
<td>A copy of the license from DWAF must be forwarded to this Department once received.</td>
<td>N/A</td>
<td>ArcelorMittal applied for a Water Use License in 2004 / 2005. The DWA confirmed in a letter on the 24&lt;sup&gt;th&lt;/sup&gt; January 2008 that a Water Use License is not required.</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>b)</td>
<td>Details and final confirmation of the capping design, together with DWAF’s approval thereof, must be submitted prior to commencement of the waste site rehabilitation.</td>
<td>ArcelorMittal was required to submit an updated Remediation Plan to GDARD and DEA for approval by January 2008.</td>
<td>ArcelorMittal submitted the amended Remediation Plan with design drawings to GDARD for approval on the 7&lt;sup&gt;th&lt;/sup&gt; January 2007. GDARD approved the plan on the 2&lt;sup&gt;nd&lt;/sup&gt; June 2011.</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>c)</td>
<td>Water quality monitoring program must be established for the watercourse alteration and Vaal waste dump area and reported on in the first audit.</td>
<td>N/A</td>
<td>Monthly groundwater and surface water monitoring is conducted and the results for the reporting period were available at the time of the audit. Refer to Section 4.1 and 4.2 for details regarding the water monitoring programme. ArcelorMittal indicated that monthly groundwater monitoring is unrealistic which we agree with and indicated that the water monitoring program will be amended and submitted for approval. It is recommended that ArcelorMittal approach the Department to verify if an amendment approach or submission for approval in terms of conditions 3.3 a and b of the RoD.</td>
<td>Compliant</td>
<td>Observation</td>
</tr>
<tr>
<td>Condition Nr</td>
<td>Condition in ROD</td>
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<td>d)</td>
<td>An updated project schedule with timeframes must be submitted to the Department 30 (thirty) calendar days prior to the commencement of construction activities. The schedule must clearly indicate the different phases of construction and commissioning.</td>
<td>ArcelorMittal must commence with the Magnetite removal immediately</td>
<td>The historic commencement in April 2006 was communicated to GDARD and a progress presentation was made in September 2006. Magnetite removal commenced immediately after the directive was issued.</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>e)</td>
<td>A detailed environmental management plan (EMP) for the implementation of the project must be submitted to the Department for approval 60 (sixty) calendar days prior to the commencement of construction activities.</td>
<td>N/A</td>
<td>The EMP was approved by GDARD on the 17th November 2004.</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>f)</td>
<td>A detailed operation for closure plan must be submitted to this Department within three (3) months of this authorisation.</td>
<td>ArcelorMittal was required to submit an updated Remediation Plan to GDARD and DEA for approval by January 2008.</td>
<td>The operational plan was historically submitted according to the records. The updated Remediation plan was approved by GDARD on the 2nd June 2011.</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>g)</td>
<td>The magnetite waste must be removed prior to the particular area of the dump being rehabilitated and progress reported bi-monthly.</td>
<td>ArcelorMittal must commence with the Magnetite removal immediately. Progress to be reported on bi-monthly</td>
<td>The magnetite was removed to an external off site customer for re-use. A total of 130 153 tons were removed since 2007 up to November 2009.</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>h)</td>
<td>Proof of advertisement needs to be submitted to this Department before commencement of the activity.</td>
<td></td>
<td>The advertisement process was concluded during the EIA phase and submitted as part of the EIA reports.</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>i)</td>
<td>Detailed and up to date records must be kept of all incidents and complaints pertaining to the stream and diversion upgrade and Vaal waste dump progressive rehabilitation project, how these were managed and the recurrence thereof prevented. These records must be made available to the Department within 14 (fourteen) calendar days upon written request</td>
<td>N/A</td>
<td>No incidents recorded during the audit period.</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>Condition Nr</td>
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<td>Directive Requirements</td>
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<td>j)</td>
<td>This Department and the Department of Water Affairs and Forestry must be informed of any major environmental and pollution incidents relating to the project within 24 (twenty four) hours of such incidents occurring.</td>
<td>N/A</td>
<td>No incidents recorded during the audit period.</td>
<td>Compliant</td>
<td></td>
</tr>
</tbody>
</table>

### 3.3 General Conditions

<p>| a) | Any changes to or deviations from the project descriptions set out in this letter must be approved, in writing by the Department before such changes or deviations. | ArcelorMittal was required to submit an updated Remediation Plan to GDARD and DEA for approval by January 2008. | ArcelorMittal submitted the amended Remediation Plan with design drawings to GDARD for approval on the 7th January 2007. GDARD approved the plan on the 2nd June 2011. | Compliant |
| b) | This Department may review the conditions contained in this letter from time to time and may, by notice in writing to the applicant, amend, add or remove a condition. | N/A | ArcelorMittal notes the condition | Compliant |
| c) | The applicant must notify the Department in writing, at least 10 (ten) days prior to change of ownership, project developer or the alienation of any similar rights for the activity described in this letter. The applicant must furnish a copy of this document to the new owner, developer or person to whom the rights accrue and inform the new owner, developer or person to whom the rights accrue that the conditions contained herein are binding on them. | N/A | Noted. | Compliant |</p>
<table>
<thead>
<tr>
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<tr>
<td>d)</td>
<td>Where any of the applicants contact details change, including the name of the responsible person, the physical or postal address and / or telephonic details, the applicant must notify the Department as soon as the new details become known to the applicant.</td>
<td>N/A</td>
<td>Mr Sham Jagathlal was appointed as the new Environmental Manager at Vereeniging Works. However, the Department has not been notified of the changes regarding the contact details. It is recommended that ArcelorMittal notify the department of the changes regarding contact details. No new changes made during the audit period.</td>
<td>Partial compliance</td>
<td>Minor</td>
</tr>
<tr>
<td>e)</td>
<td>Authorisation for the activity is granted in terms of the Environmental Conservation Act, 1989 (Act 73 of 1989) only and does not exempt the holder from compliance with other relevant legislation.</td>
<td>N/A</td>
<td>Noted. ArcelorMittal receives legal updates on a regular updates</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>f)</td>
<td>The applicant shall be responsible for ensuring compliance with conditions contained in this letter by any person acting on his behalf, including but not limited to, an agent, servant, or employee or any other person acting on his behalf, including but not limited to, contractors and consultants.</td>
<td>N/A</td>
<td>Noted. ArcelorMittal has a contractor management system in place to ensure compliance</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>g)</td>
<td>Departmental officials shall be given access to the property referred to in 1 above for the purpose of assessing and / or monitoring compliance with conditions contained in this document at all reasonable times.</td>
<td>N/A</td>
<td>The facility has been audited by the Department unhindered in the past</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>h)</td>
<td>The applicant must notify the Department within 24 (twenty four) hours if any condition of this authorisation cannot, or is not adhered to. The notification must be supplemented with reasons for non-compliance.</td>
<td>N/A</td>
<td>No new non compliances have been noted during the audit period.</td>
<td>Compliant</td>
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</table>

3.4 Reporting Requirements

An annual environmental performance audit conducted by an independent accredited auditor must be submitted to the Department, the first audit being due 12 (twelve) months.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | N/A                   | An annual audit was conducted on the 30th of September 2014 and submitted to GDARD on the 31st of October 2014. Refer to Appendix A for the proof of | Compliant         |                             |
<table>
<thead>
<tr>
<th>Condition Nr</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>after commissioning of the stream diversion upgrade and rehabilitation of the Vaal waste dump project. The annual audit must include several items specifically.</td>
<td></td>
<td>submission to GDARD. The audit report contained all the required information. Refer to Section 4 for the relevant information related to this condition.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>• Results of improvements in water quality achieved i.e. monthly monitoring results from downstream boreholes. • Monitoring of relevant boreholes with respect to detecting any leaks/pollution from all facets of the stream diversion upgrade and Vaal waste dump area rehabilitation. • Quality, quantity and management of leachate generated. • Reporting on progressive rehabilitation. • Success of vegetation establishment • A review of the stability/integrity of capping layers. • Audit of compliance with provisions of both the EMP and Operational Plan.</td>
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</tbody>
</table>

### 3.5 Duration of Authorisation

If the activity authorised by this letter does not commence within 2 (two) years from the date of signature of this letter, the authorisation will lapse and the applicant will need to re-apply for authorisation in terms of the above legislation or any amendments thereto.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td>N/A</td>
<td></td>
<td>The project commenced in April 2006, before the two year period has lapsed.</td>
<td>Compliant</td>
<td></td>
</tr>
</tbody>
</table>
6. ITEMS TO BE ADDRESSED IN TERMS OF CONDITION 3.4

6.1. Ground Water Monitoring

Ground water is monitored at the following boreholes by ArcelorMittal;

- VBH 1 – Downstream of the Vaal Disposal Site
- VBH 2 – Upstream of the Vaal Disposal Site
- VBH 4 – Adjacent to the Vaal Disposal Site
- VBH 5 – Adjacent to the Vaal Disposal Site

The facility’s Water Monitoring Program as drafted by the consultants, Jones and Wagner stipulated up and downstream boreholes for monitoring. No specific frequency was stated. The RoD however makes mention to monthly monitoring but also provides ArcelorMittal with the freedom to monitor according to their own Water Quality Monitoring program. Since the last audit ArcelorMittal implemented monthly monitoring.

Zantow Environmental is of the opinion that ground water sampling should be done on a bi-annual basis as the frequency is more in line with acceptable ground water sampling best practise. Ground water is a slow moving process and monthly sampling is excessive. The elements to be samples should also be stated in the monitoring program and unnecessary analysis excluded.

The borehole monitoring results show an increase in Electrical Conductivity (EC) from the upstream to the downstream boreholes (Figure 1) which correlates with the increased SO4 concentration up and downstream of the site (Figure 2). Generally, the trend shows that the EC remains below the screening value for drinking water as prescribed by SANS 241:2011. The trend shows a spike in EC in 2013 and 2015. Moreover, the monitoring results show higher EC in the deep aquifers adjacent to site compared to the medium depth boreholes adjacent to the site Figures 3 and 4.

![Figure 1](image-url) Up and downstream borehole monitoring results (electrical conductivity)
Figure 2: Up and downstream borehole monitoring results (SO4)

Figure 3: Borehole monitoring results (deep and medium depth adjacent to the site VBH-5D and VBH-5M)
6.2. Surface Water Monitoring

Surface water is monitored as follows;

- S12 A and B – Up and downstream in Vaal River
- S13 A - Upstream storm water canal
- S13 B - Downstream storm water canal

Monthly monitoring is conducted at locations up and downstream of the Vaal disposal site in the Vaal River. There is no significant increase in EC downstream of the site compared to the upstream analysis (Figure 5). One sample was taken and analysed in April for stormwater channels up and downstream of the site. Other samples were not taken due to a lack of water in the channels. The analysis of the sample showed no significant increase in EC up and downstream in the adjacent to the site.
6.3. Leachate Management

The Vaal Disposal Site was constructed prior to the relevant Environmental legislation and best practice guidelines for waste disposal site being in place. The site was therefore constructed without a leachate capturing and management system. It is therefore not possible to monitor and manage leachate from the facility. It should be noted that the previous external audit report conducted in 2007 stated that “results from boreholes indicate that the Vaal waste site is not producing significant leachate, if any leachate at all”.

6.4. Remediation Progress

ArcelorMittal commenced with remediation of the Vaal Disposal Site in 2006. The authorities instructed ArcelorMittal via a directive to cease with all operations and submit an amended Remediation Plan for approval by GDARD and DEA. ArcelorMittal submitted an amended plan in January 2008 and GDARD approved the remediation plan in 2011 but DEA has not approved the amended remediation plan to date. The parties are disputing the need for ArcelorMittal to apply for an additional Waste Management License in terms of the new legislation. No remediation occurred since after the removal of the magnetite in 2009.
6.5. Success and Stability of capping layers

The side slopes of the disposal site have been capped and vegetated with proper storm water controls implemented. During the site visit the side slopes were observed to be stable and no erosion noted. The storm water drainage system seems to be effective in management of runoff water. The vegetation was also noted as being effectively established. Some invader species were noted on site and must be addressed on an on-going basis.
6.6. Compliance with EMP and Operational Plan

The EMP and Operational plan was reviewed. Due to the fact that there is no operational or remediation activities taking place on site, a large number of conditions were not applicable.

<table>
<thead>
<tr>
<th>EMP and Operational Plan</th>
<th>Findings or Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site boundaries</td>
<td>At the time of the audit it was found that the site boundary fence has been compromised and access control to the site is therefore not effective. Refer to Appendix A for a photo of the broken fence. It is recommended that ArcelorMittal repair the site boundary fence to reinstate effective access control to the site</td>
</tr>
<tr>
<td>Fuel and Oils</td>
<td>No oil stored on site</td>
</tr>
<tr>
<td>Ablution facilities</td>
<td>No personnel on site. Mobile units were used on site during operational phases</td>
</tr>
<tr>
<td>Eating Areas</td>
<td>No personnel on site</td>
</tr>
<tr>
<td>Solid Waste Management</td>
<td>No activity on site</td>
</tr>
<tr>
<td>Site Structures</td>
<td>The areas looked neat and organised</td>
</tr>
<tr>
<td>Fire control and Emergency Procedures</td>
<td>Fire fighting equipment not observed on site. Emergency contact details were found to be in place and displayed</td>
</tr>
<tr>
<td>Accidental leaks and spillages</td>
<td>None observed</td>
</tr>
<tr>
<td>Dust management</td>
<td>No activity on site no dust observed</td>
</tr>
<tr>
<td>Noise</td>
<td>No activity on site</td>
</tr>
<tr>
<td>Working Hours</td>
<td>No activity on site</td>
</tr>
<tr>
<td>Access routes and haul roads</td>
<td>No disposal taking place since 2007</td>
</tr>
<tr>
<td>Dust Management</td>
<td>No operations on site</td>
</tr>
</tbody>
</table>
7. CONCLUSION AND RECOMMENDATIONS

Zantow Environmental Consulting Services CC was appointed by ArcelorMittal Vereeniging Works to conduct an independent compliance audit on the RoD (Ref nr. GAUT 002/04-05/0455 12/9/11/L393/4) that was issued for the rehabilitation of the Vaal Disposal Site. The RoD was received from the Gauteng Department of Agriculture, Conservation and Environment (GDACE, now the Gauteng Department of Agriculture and Rural Development, “GDARD”) on the 23rd September 2004. Condition 3.4 of the ROD, requires that an annual Environmental Audit be undertaken by an independent external auditor and the audit report submitted to the DEA.

The following recommendations are made to improve compliance to the RoD;

- ArcelorMittal indicated that monthly groundwater monitoring is unrealistic which we agree with and indicated that the water monitoring program will be amended and submitted for approval. It is recommended that ArcelorMittal approach the Department to verify if an amendment approach or submission for approval in terms of conditions 3.3 a and b of the RoD (ArcelorMittal, December 2015)
- ArcelorMittal must notify the department in the event a contact person details changes. (ECO, December, 2015)
- It is recommended that ArcelorMittal notify the department of the changes regarding contact details (ECO, December 2015)

---End---
Appendix A

Proof of external audit submission to GDAD

Gauteng Department of Agriculture and Rural Development
11 Diagonal Street
Johannesburg
2000

31 October 2014

HAND DELIVERED

To Whom it May Concern:

CONFIRMATION OF DOCUMENTS DELIVERED FOR SUBMISSION

I hereby confirm delivery and receipt of the following documentation:

- One (1) hard copy of the Annual External Audit Report in fulfilment of the Environmental Authorisation for the Rehabilitation of the Vaal Waste Dump Site at ArcelorMittal, Vereeniging Works (RoD Ref No: GAUT 002/04-05/0455)

[Signature]

[Name]

[Designation]

[Date]

Yours truly,

Karien Zantow
Environmental Assessment Practitioner
Zantow Environmental Consulting Services

Gauteng Department of Agriculture and Rural Development
2014 -10- 3 1
PO. Box 6709
Johannesburg 2000

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karien@zantow.co.za | www.zantow.co.za
Appendix B

Broken fence