



# EMP audit report

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**Operation:** BCR Minerals (Pty) Ltd. -  
Spitsvale





Audit was done and the report prepared by:  
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## BCR Minerals (Pty) Ltd – Spitsvale: EMP audit

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## Abbreviations

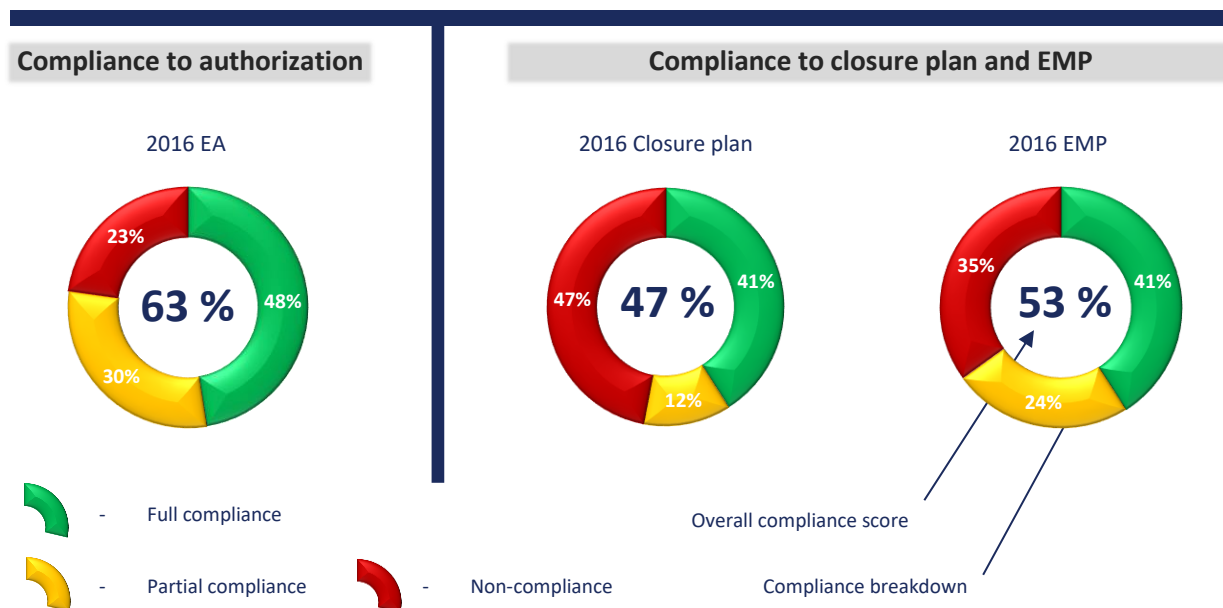
<b>CA</b>	Competent Authority
<b>BCR</b>	BCR Minerals (Pty) Ltd
<b>EA</b>	Environmental authorisations
<b>DMR</b>	Department Mineral Resources
<b>DWS</b>	Department Water and Sanitation
<b>ECO</b>	Environmental Control Officer
<b>EIA</b>	Environmental Impact Assessment
<b>EMP</b>	Environmental Management Plan
<b>EMA</b>	Environmental Management Assistance (Pty) Ltd.
<b>EMS</b>	Environmental Management System
<b>GN</b>	Government Notice
<b>GNR</b>	Government Notice Regulation
<b>I &amp; AP</b>	Interested and Affected Parties
<b>IWWMP</b>	Integrated Water and Waste Management Plan
<b>LIHRA</b>	Limpopo Heritage Resources Agency
<b>MA</b>	Management Area
<b>MEP</b>	Metal Extraction Plant
<b>NEMA</b>	National Environmental Management Act
<b>NWA</b>	National Water Act
<b>NWIS</b>	National Waste Information System
<b>PCD</b>	Pollution Control Dam
<b>PP</b>	Public Participation
<b>PPP</b>	Public Participation Process
<b>RoM</b>	Run of Mine
<b>SAHRA</b>	South African Heritage Resources Agency
<b>WML</b>	Waste Management Licence
<b>WUL</b>	Water Use Licence
<b>WULA</b>	Water Use Licence Application



# Executive summary

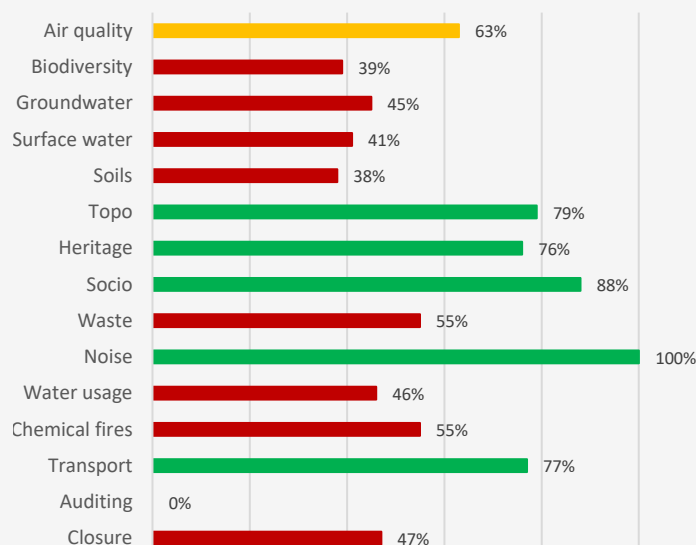
## EA, EMP and Closure plan compliance:

This 2019 Environmental Management Plan (EMP) audit is the first audit done on the operation's environmental authorisation and EMP. The compliance to the 2016 environmental authorization (EA) commitments were 63 % (the overall compliance score (see score calculations in [methodology section](#))), while the compliance with the 2016 EMP commitments was 53 % (overall compliance) and the compliance to the commitments in the closure plan were 47%. The doughnut graphs below provide a further breakdown of the compliance.



The EMP divided the management areas into 13 management areas (In Table 16 of EMP it is called potential impacts). The compliance per management area is shown in figure 1 (Based on Table 16 of EMP's potential impact column).

**Figure 1: EMP management areas (% compliance score)**



Although anything above 75% were highlighted in green, anything between 60% and 75% as yellow, and anything below 60% was highlighted in red, the obvious target is a 90-100% compliance.

Biodiversity, groundwater, surface water, soils, waste, water usage, chemical fires, auditing and closure were all management areas that were below average from both a performance and compliance perspective. The **soil** management and **biodiversity** management areas scored lowest

with a compliance score of 38% and 39%, respectively, which were especially concerning seen that the

operation is situated in and near an area of high endemism and within and near critical biodiversity areas and ecological support units. The implementation of topsoil conservation, management, and stripping is mostly lacking, which causes significant topsoil imbalances while potentially raising closure costs. In terms of auditing, there is only one auditing requirement in the EMP, which were not complied with and hence the auditing compliance was zero. Similarly, all auditing requirements of the EA were non-compliant (2-yearly/Biennial external). The auditing non-compliances are more indicative of a systematic failure of the operation to integrate the environmental requirements into day-to-day activities, which is further exacerbated by the absence of a qualified and dedicated employee/person to oversee and manage the environmental requirements on site. The EA has, to this effect, made requirements to have a qualified ECO with specific responsibilities, which were not complied with. The remaining areas of non-compliance in the EA and Closure plan were largely consistent with that of the EMP mentioned above, which related to biodiversity, soil management and conservation, surface water management (specifically storm water), and auditing (see ECO responsibilities). The additional closure plan non-compliances were for the annual review of the reports (annual rehab plan) and annual update of provisions, which were not undertaken. The overall housekeeping on the site, however, was good while no dust exceedances or noise exceedances were recorded.

## **Legal compliance**

### Commencing with activities not specified in the EIA

A landing strip has been built on the site that covers an area of approximately 3-4 ha (1km in length and 30-40 m wide). This landing strip could not be found in the layout maps or in the list of activities that is specified in Table 1 of page 11 of the EIA report. The landing strip potentially triggers activity 7 of listing notice 3 (GNR 985 of 2014 and as amended by GN 324 of 2017 and GN 706 of 2018). In terms of activity 27 of listing notice 1 (GNR 983 of 2014 and as amended by GN 327 of 2017 and GN 706 of 2018), the activity could be seen as a linear activity (see definition in GNR 983) and hence might be excluded from activity 27, although the exact interpretation of linear activity might differ between legal representatives. Where these activities are not triggered, an amendment application still need to be made according to part 2 of Chapter 5 of the EIA regulations (GNR 982 of 2014)

### Water Use Licence (WUL)

From the documents and communications reviewed at the time of the audit, it is understood that a WUL application (WULA) has been initiated in 2016 and was in an advanced phase, complete with pre-application meeting. There is however no Water Use Licence yet available.

### Waste Management Licence (WML)

Proof has been provided that an application has been submitted to the competent authority (CA) for a waste management licence (WML). Proof has also been provided of the interactions with the CA and the CA's feedback. At the time of the audit, the operation was still awaiting approval of its WML.

#### **Positives**

- Overall housekeeping was good, and the site was neat and organized;
- The dust and noise monitoring are done by an independent service provider who is on-site permanently to advise on occupational hygiene. Records indicate that no dust exceedances have been recorded for the 12 months up to May 2019;
- The used oil controls were good, with good use of drip trays, used oil collection, storage and handling.

#### **Main compliance issues (see detailed breakdown in [section 2.1](#))**

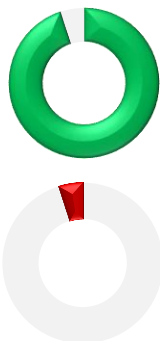
- The overall lack of environmental management system and control, such as auditing/inspection, incident reporting, training and awareness, and legal compliance;
- The clearing of an area of 3-4 ha outside of the approved footprint, with no topsoil stripping or any basic environmental considerations, potentially crossing two drainage lines;
- Lack of overall storm water control;
- Poor waste disposal record keeping;
- Lack of water monitoring (surface and groundwater);
- Very limited topsoil stripping and overall poor soil conservation practices;
- No water use licence;

#### **EMP sufficiency**

This audit also assessed the EMP's sufficiency to provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activities, as per condition 34 (2) (b) (ii) of the EIA regulations. This is called the EMP's sufficiency performance. For further details about the methodology see [section 1.7](#). The commitments were 99.7 % sufficient in addressing the risks that were identified in the EMP, while 0.3 % were not sufficient. The 0.3 % is proposed for amendment, see [EMP amendments \(recommendations\)](#).

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#### **EMP sufficiency overview**



- **99.7 %** of actions were found to be sufficient
- **0.3 %** of actions were found to be insufficient and requires amendment

---

The EMP were very detailed and well written. The risks were effectively identified, and the mitigations that were proposed were largely (99.7%) sufficient to address the risk. The 0.3% insufficiencies that were identified and proposed for amendment relates largely to impractical actions that cannot be reasonably implemented and hence would have a negligible effect on addressing the risk. Sufficient mitigations have been provided in the EMP and the document is a good workable document that would, in its entirety, provide sufficient guidance to the operation to achieve the said objectives.

# 1. CONTEXT

## 1.1. Background

The BCR Minerals (Pty) Ltd's Spitsvale operation (hereafter referred to as BCR) is an open-cast chrome mining operation that produces chrome ore mainly for the export market. The operation received its environmental authorisation in October 2016 and is more than 3 years old (including bulk sampling and prospecting activities).

The infrastructure on the operation consists of:

- a workshop,
- Hazchem storage facilities,
- offices,
- RoM stockpile areas,
- waste rock stockpiles,
- an open cast area of approximately 24 ha, and
- various access and haul roads.

The mining method is a type of cut and fill method in which the overburden is removed to reach the ore while some of the material will be used to fill the pits. The overburden is then deposited near the pit. The mining machines consist largely of one or two drill rigs that drills the blasting holes, a fleet of excavators that loads the blasted material onto hauling trucks (also called articulated dump trucks or ADT) and a fleet of hauling trucks, or ADT's, that hauls the ore and overburden to the RoM stockpiles and overburden stockpiles, respectively.

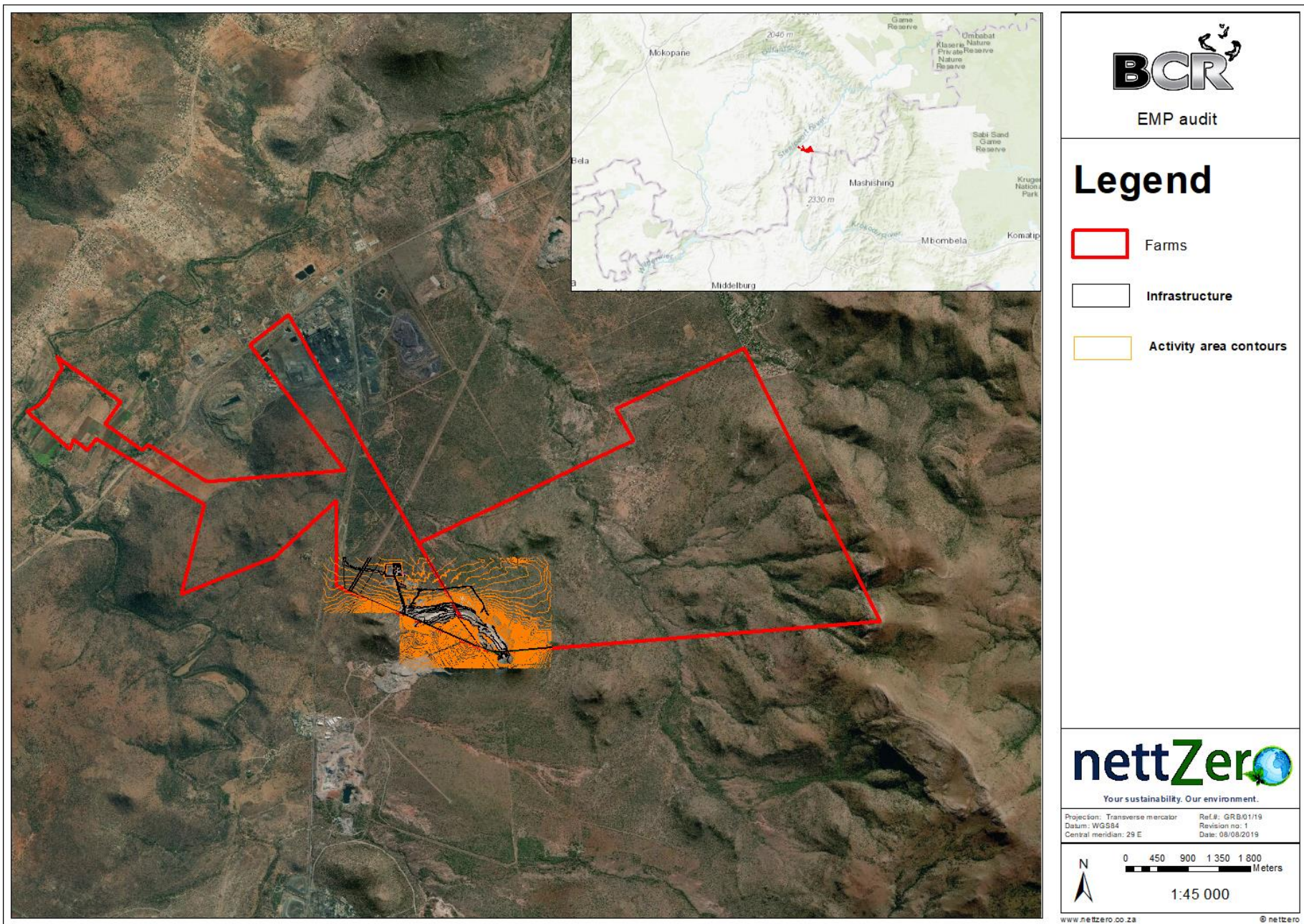
The ore is then loaded on side tipper trucks and transported to the Mozambican port for shipment to mainly Asian markets.

## 1.2. Project location

The site is located near the town of Steelpoort and falls in the Fetakgomo Tubatse Local - and the Sekhukhune District municipalities. The mining right has been issued for the mining of chrome ore on portions 8 and 22 of the farm Kennedy's Vale 361 KT and portions 24, 25, 26 and 28 of the farm Spitskop 333 KT.

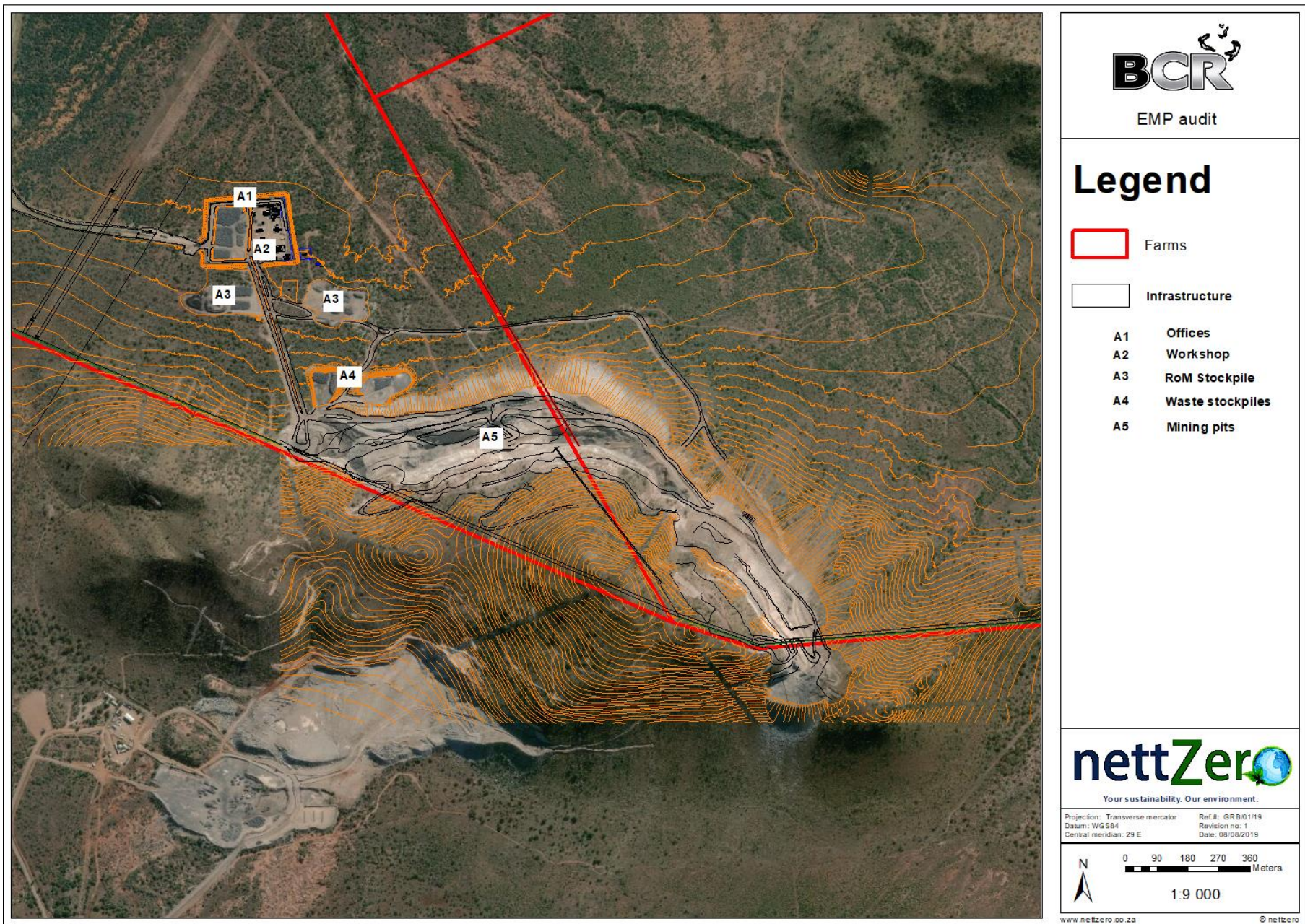
The activities are situated on both the Kennedy's Vale farm and Spitskop farm. The opencast activities stretch over both the farms while all the other activities are situated mainly on the Kennedy's Vale farm. The surface rights to the farms are state owned and BCR Minerals has negotiated the use of the surface areas with the local leaders who the state has appointed to allocate land use over this area.





**Figure 1:** Locality map





**Figure 2:** Layout map

### 1.3. Project objectives

The objectives of this Compliance and Performance Assessment are as follows:

- a) To meet the requirements of regulation 34 of the 2014 EIA regulations (GNR 982 of 2014 and as amended by GN 326 in 2017 and GN 706 in 2018);
- b) To report on the level of compliance with the commitments stipulated in BCR Mineral's approved EMP and EA and the extent to which the management and mitigation measures provided for in the EMP achieve its intended objectives and outcomes;
- c) To make recommendations to BCR Minerals on measures to be implemented to address and rectify the areas of non-compliance or partial compliances identified during the time of the assessment; and
- d) Where necessary, identify the need for any changes to the management and mitigation measures provided in the EMP.

### 1.4. Legislative context

Regulation 34 of the 2014 EIA regulations (hereinafter called the EIA regulations) guide EMP auditing. It states in paragraph (2) b of regulation 34 that:

*“...the environmental audit report must provide verifiable findings, in a structured and systematic manner, on-*

*(i) the level of performance against and compliance of an organization or project with the provisions of the requisite environmental authorisation or EMPr and, where applicable, the closure plan (refer to Section 4); and*

*(ii) the ability of the measures contained in the EMPr, and where applicable the closure plan, to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity (refer to Section 4).”*

It further refers to Appendix 7 of the EIA regulations as guidance on what should be included into the EMP audit report.

### 1.5. Auditor details

A full detailed curriculum vitae is attached to Appendix 2. Details of the auditor are summarised in the table below:

Name	Professional registrations	Years' experience	Qualifications
Marius Alers	Pri.Sci.Nat (400386/14)	> 9 years env. management	Hon. B.sc Env. science

### 1.6. Declaration of independence

Neither Environmental Management Assistance (Pty) Ltd. (EMA) nor any of the authors of this report have any material present or contingent interest in the outcome of this EMP audit report, nor do they have any monetary or other interest that could be reasonably regarded as being capable of affecting their independence, or that of EMA.



EMA's fee for completing this EMP audit is based on its normal professional daily rates plus reimbursement of incidental expenses. The payment of that professional fee is not contingent on the outcome of the EMP audit report.

## 1.7. Audit approach and methodology

### 1.7.1. Audit approach

The EMP that was audited are structured according to the DMR's EIA and EMP template. Thus, the bulk of the mitigations/commitments in the EMP were contained in section (d)(ix). All the other sections of the EMP has been found to be largely contained in section (d)(ix)'s Table 16. All the other sections of the report were perused and any specific commitments that was not already listed in the Table 16 of section (d)(ix) were added to the audit list. Table 16 groups the actions according to their potential impact. There was a total of 33 potential impact categories listed. All these categories were then simplified into 13 main categories, which was called management areas (as this is the EMP). Auditing were an entire section on its own and was also added to the management areas. Monitoring was not listed as a specific management area as it was found that all the monitoring requirements in the other sections of the EMP are already contained in the mitigations/commitments of each of the 13 management areas as in Table 16 of section (d)(ix). These 13 management areas, plus auditing, are:

1. Air quality
2. Biodiversity
3. Groundwater
4. Surface water
5. Soils
6. Topography and visual
7. Heritage
8. Socio-economic
9. Waste
10. Noise
11. Water usage
12. Chemical fires
13. Transport (traffic)
14. Auditing

Each of the commitments in Table 16 of section (d)(ix) were then listed into audit spreadsheets, together with the commitments of the environmental authorization. Each commitment was then audited in terms of its compliance, by applying the [compliance rating](#), and its sufficiency, by applying the [sufficiency rating](#).

All the commitments (from the EA and Closure plans included) added up to a total of 1844 items that were listed in table format and audited. Of these 1844 items some were not applicable or required no management measures, and totalled 354 items, which amounted to 19.2 % of all the actions. The bulk of the 1844 commitments were auditable (a total of 1490 out of 1844 items). The decommissioning commitments in Table 16 were checked and scrutinized and were all found to not be applicable at the time of the audit. The closure requirements audited were focused on the annual rehab and closure plan.

All the audit commitments (all 1844 items), after being sorted into the 13 management areas plus auditing and closure, are listed in Appendix 1, including the environmental authorization.

### 1.7.2. Audit methodology

In order to meet the relevant legislative requirements, the following activities were undertaken as part of the BCR Minerals's audit:

- Environmental audit preparation, including review of the commitments contained in the approved EMP;
- An on-site assessment was undertaken on 7 September 2019, to assess the level of compliance of the current activities against the management measures stipulated in the EMP;
- Information was gathering during discussions held with the following BCR Minerals personnel at the time of the assessment: Daneal Nieuwoudt (Geologist); various other on-site personnel;
- Relevant documentation was reviewed mostly off-site and on-site, including current monitoring practices and recent monitoring reports;
- Reporting on the Compliance and Performance Assessment findings including recommendations to rectify non-compliances and address partial compliances; and
- Submission of the Compliance and Performance Assessment report to Spitsvlei for review and confirmation of identified actions.

### 1.7.3. Compliance scoring

The compliance to each commitment is assessed into one of 4 criteria, namely full compliance (FC), partial compliance (PC), non-compliance (NC) or not applicable (N/A). Each of these criteria is explained in Table 1 below.

**Table 1:** Compliance criteria

Criteria	Description
<b>Full compliance (FC)</b>	Full compliance to the respective commitment.
<b>Partial compliance (PC)</b>	Partial compliance is applied where the operation has implemented measures toward compliance with the commitments but cannot demonstrate full compliance at this time. Partial compliance is also applicable if found that the prescribed commitment is not implemented but that additional or other mitigation measures have been put in place which have proof to have a similar or better result in managing the potential impact than the prescribed mitigation measure/commitment.
<b>Non-compliance (NC)</b>	Not compliant in terms of the respective commitment.
<b>Not applicable (N/A)</b>	This is applied where the commitments reflect certain requirements or actions that are currently not required in terms of the current phase of the operation and may only become relevant in the future, e.g. closure / decommissioning commitments.

### 1.7.4. Sufficiency scoring

The approach to the assessment of the EMP's sufficiency is two-fold. The **first** is the assessment of the specific commitment's ability in sufficiently addressing the risk to which it is connected. This assessment is done together with the compliance assessment and usually on the same audit checklist (see Appendix 1). As each commitment is listed in the checklist together with its impact description, the first of the audit columns assesses the compliance with the commitment and the other audit column assesses the specific commitments' ability to sufficiently address its risk. The sufficiency is

then assessed as either sufficient, not sufficient, or not applicable (see Table 2 below for detailed descriptions on ratings).

The **second** part of the assessment of the EMP's sufficiency is to assess whether the EMP addresses all potential risks. Simply put, the first part of the sufficiency assessment assesses what is addressed and the second part of the sufficiency assessment assesses what is potentially not addressed, meaning to check if there are any mitigation gaps. How the process differs is that the second part uses a standard set of potential impact categories and then, on a checklist basis, assess whether any of these risks have been observed on site, are known from activities or are observed in monitoring reports and whether it is addressed in the EMP (see the audit results section for detail of how this is done). If the risk is addressed (has management action) in the EMP, then the first part of the sufficiency assessment will assess whether it is sufficient. If it is not addressed in the EMP then the second part of the assessment would identify it as a mitigation gap.

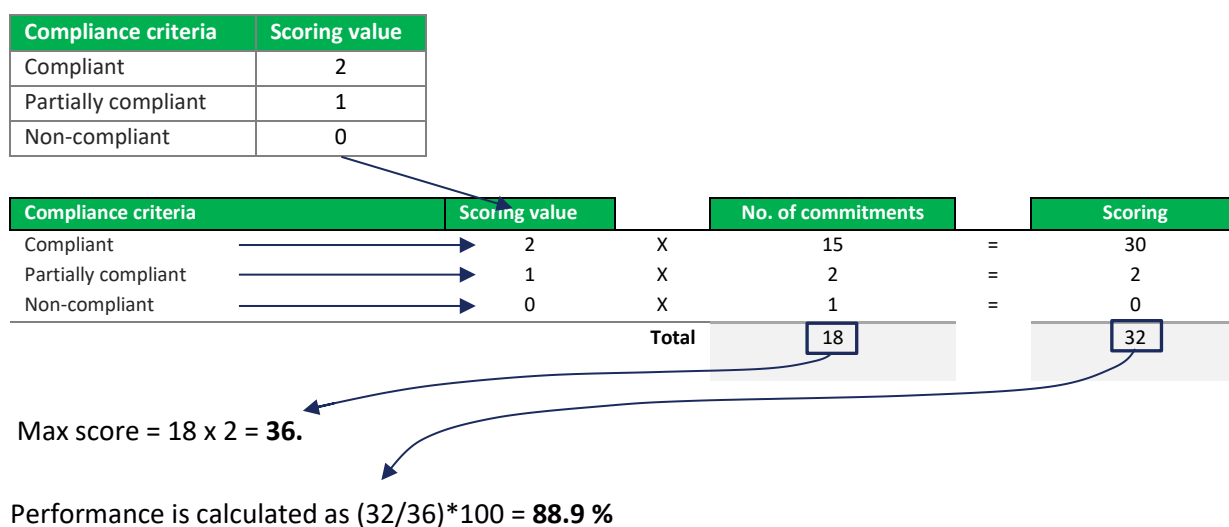
**Table 2:** Sufficiency criteria

Criteria	Description
<b>Sufficient (S)</b>	The commitment is sufficient in its ability to provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity.
<b>Not-sufficient (NS)</b>	The commitment is not sufficient in its ability to provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity.
<b>Redundant (R)</b>	This applies to commitments that is not, and will continue not to be, applicable in future.
<b>Not applicable (N/A)</b>	This is applied where the commitments reflect certain requirements or actions that are currently not required in terms of the current phase of the operation and may only become relevant in the future, e.g. closure / decommissioning commitments.

### 1.7.5. Overall compliance performance calculations

Performance scoring is calculated by multiplying the number of commitments in each compliance criteria by their scoring value. These results are called the scoring results. The scoring results are then added up and divided by the max score. The max score is calculated by multiplying the total number of commitments by 2.

**Figure 3:** Compliance performance calculations





In the example above the total no. of commitments are 18 and the max score thus  $18 \times 2 = 36$ . In the example the scoring results were 32, and the overall performance were calculated as  $(32/36) \times 100 = 88.9\%$ .

## 1.8. Warranties

BCR Minerals has indicated to the auditor at the time of the audit that full disclosure has been made of all material information and that, to the best of its knowledge and understanding, such information is complete, accurate and true.

## 2. AUDIT RESULTS

The audit results will be discussed separately for compliance and sufficiency. The compliance results are available for each of the EMP's 13 management areas including auditing, the EA and the closure plan and tabled in Table 3.

### 2.1. Compliance overview

The compliance performance has been assessed and calculated for each of the authorizations and the EMP's subsections (see discussion in [section 1.7.1](#)). These are:

- Performance per Environmental Authorization (1 EA);
- EMP performance:
  - EMP mitigation measures (section (d)(ix) of EMP);
  - Auditing (section (f) of EMP).

The compliance score per EA and per management area are provided in Table 3 below.

**Table 3:** Compliance results table

Audit area	Compliance split						Commitments			Overall audit score
	Compliant	%	Partially compliant	%	Not compliant	%	Auditable	Not applicable	All actions	
Authorizations										
EA (2016)	42	48%	26	30%	20	23%	88	31	119	63%
EMP										
Actions	561	41%	332	24%	491	35%	1384	308	1692	53%
Air quality	85	50%	46	27%	40	23%	171	4	175	63%
Biodiversity	54	30%	30	17%	94	53%	178	48	226	39%
Groundwater	47	28%	58	35%	63	38%	168	37	205	45%
Surface water	59	24%	88	35%	104	41%	251	51	302	41%
Soils	54	28%	38	20%	100	52%	192	16	208	38%
Visual	22	76%	2	7%	5	17%	29	3	32	79%
Heritage	19	70%	3	11%	5	19%	27	53	80	76%
Socio-econ	94	84%	10	9%	8	7%	112	82	194	88%
Waste	35	42%	22	27%	26	31%	83	2	85	55%
Noise	20	100%	0	-	0	-	20	4	24	100%
Water usage	4	29%	5	36%	5	36%	14	2	16	46%
Chemical fires	46	43%	26	24%	36	33%	108	4	112	55%
Transport (traffic)	22	71%	4	13%	5	16%	31	2	33	77%
Auditing	0	0%	0	0%	1	100%	1	0	1	0%
Closure										
Closure	7	41%	2	12%	8	47%	17	15	32	47%
Overall compliance score	610	41%	360	24%	520	35%	1490	354	1844	53%

## **Compliance to the authorizations**

The compliance score against the 2016 EA were 63%. Some 26 % of the EA commitments could not be audited as they were either just for note or not applicable at the time of the audit. The remaining auditable commitments were largely (more often, 53%, than not, 47%) partially complied with (30%) or not complied with (23%). Some of the significant non-compliances were:

1. the clearing of approximately 3-4 ha of land (landing strip) outside of the approved footprints (which repeated in 5 non-compliances);
2. the outstanding water use licence (repeated in 2 non-compliances);
3. erosion control;
4. various non-compliance associated with the responsibilities of the ECO;
5. soil conservation; and
6. a section towards the south of the mine boundary that has been mined outside its mineral rights boundary.

The 30 % partial compliances relate to:

1. the lack of waste management record keeping and waste storage;
2. lack of water monitoring;
3. outstanding financial liability updates; and
4. various issues relating to the EMS such as poor incident reporting, record keeping, training, and inspection.

## **Compliance to the EMP**

The compliance score against the 2016 EMP were 53%. A total of 491 non-compliances were identified and 332 partial compliances. The non-compliances and partial compliances that repeated were simplified by combining similar ones. This has reduced the number of non-compliances from 491 to 209 and the partial compliances from 332 to 150. These 209 non-compliances and 150 partial compliances can be summarised as follow:

1. Overall lack of storm water control (approximately 65 actions related to this, mostly under surface water and soil management);
2. Clearing of approximately 3-4 ha of land (landing strip) outside of the approved footprints and without the necessary mitigations, soil stripping, or search and rescue (approximately 32 non-compliances related to this, mostly under biodiversity);
3. Waste management, in terms of record keeping, safe disposal and storage (approximately 16 non-compliances related to this);
4. No alien and invasive plant control or monitoring (approximately 14 non-compliances related to this, mostly under biodiversity);
5. No water use licence (approximately 12 non-compliances related to this, mostly under groundwater and surface water);
6. The lack of water monitoring, both surface and groundwater (approximately 23 non-compliances relate to this, mostly under groundwater and surface water);
7. Various EMS non-compliances such as lack of training and awareness, incident reporting, inspections/internal audit, procedures, and reporting (various non-compliances relate to this).

## **Compliance to the Closure plan**

The compliance score against the 2016 Closure and annual rehabilitation plan were 47%. A total of 8 non-compliances were identified and 2 partial compliances. The non-compliances and partial compliances are summarised as follow:

1. The clearing of the 3-4ha area for the landing strip indicates that the operation did not entirely minimize the clearing of indigenous vegetation, where possible;
2. No pre-clearing walkthroughs were done (repeating action throughout the EMP as well);
3. No search and rescue of plants or on-site nursery or rehabilitation of areas that are within the operations power to rehabilitate;
4. No annual rehabilitation planning, annual rehabilitation review or financial liability and provisions updates;

### 2.1.1. Non compliances

**Table 4:** EA non-compliance table

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
	<b>EA site specific conditions</b>		
3	All development footprint areas and areas affected by the proposed development must remain as small as possible and must not encroach onto the surrounding sensitive areas and the associated buffer zones.	<b>Not compliant</b>	A 3-4ha area has been cleared outside the approved footprints (landing strip).
4	Water Use License (WUL) must be obtained from the Department of Water and Sanitation prior commencement of activity.	<b>Not compliant</b>	No water use licence available.
<b>1</b>	<b>Scope of authorisation</b>		
1.3	The activities, which are authorised, may only be carried out at the property (ies) indicated in the EA and or on the approved EMPr.	<b>Not compliant</b>	The mining pit/ mining boundary on the southern section of the property were "overmined" at a small area, meaning the boundaries were exceeded.
<b>3</b>	<b>Commencement of the activity (ies)</b>		
3.6	Vegetation clearance must be limited areas where the individual activities will occur, and mitigation measures must be implemented to reduce the risk of erosion and alien species invasion.	<b>Not compliant</b>	A 3-4ha area has been cleared outside the approved footprints (landing strip).
3.9	If any soil contamination is noted at any phase of the proposed activity (ies), the contaminated soil must be removed to a licenced waste disposal facility and the site must be rehabilitated to the satisfaction of the Department and Department of Water and Sanitation. The opportunity for the onsite remediation and re-use of contaminated soil must be investigated prior to the disposal and this Department must be informed in this regard.	<b>Not compliant</b>	The contamination observed at the waste bin storage area have not been cleaned up at the time of the audit. No hazardous waste disposal records are available for the hazardous waste removals. It is claimed that Ewor (Pty) Ltd. (Ewor) removes it together with the used oil removals. When Ewor was contacted they claimed that only the used oil and old oil filters is collected. Thus, no disposal records (waste manifests) could be provided. This means that the auditor has good reason to believe that the clean-up and correct disposal process is not sufficient and hence a non-compliance.
3.11	In terms of section 28 and 30 of NEMA, and sections 19 and 20 of the National Water Act, 1998 (Act No. 36 of 1998), any costs incurred to remedy environmental damage must be borne by the person responsible for the damage. It is therefore imperative that the holder of the EA reads through and understand the legislative requirements pertaining to the project. It is the Applicant's responsibility to take reasonable measures which include informing and educating contractors and employees about environmental risks of their work and training them to operate in an environmentally acceptable manner.	<b>Not compliant</b>	No environmental awareness was done or no proof of awareness were provided during the audit. The inductions perused also had no environmental sections or aspects included.

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
3.17	Should any heritage remains be exposed during operation or any actions on the site, these must immediately be reported to the South African Heritage Resources Agency (SAHRA) and or Limpopo Heritage Resources Agency (LIHRA) (in accordance with the applicable legislation). Heritage remains uncovered or disturbed during earthworks must not be further disturbed until the necessary approval has been obtained from the South African Heritage Resources Agency (SAHRA) and or Limpopo Heritage Resources Agency (LIHRA).  Heritage remains include: archaeological remains (including fossil bones and fossil shells); coins; middens; indigenous and/or colonial ceramics; any articles of value or antiquity; marine shell heaps; stone artefacts and bone remains; structures and other built features; rock art and rock engravings; shipwrecks; and graves or unmarked human burials. A qualified archaeologist must be contacted where necessary (at the expense of the applicant and in consultation with the relevant authority) to remove any human remains in accordance with the requirements of the relevant authority.	Not compliant	Some old artefacts were found on site that were still to be reported to LIHRA and SAHRA.
3.21	The holder of EA must ensure that any water uses listed in terms of Section 21 of National Water Act must get authorized from Department of Water and Sanitation prior to the commencement of such activity (ies).	Not compliant	No water use licence available.
3.30	The waste storage site must have a film, impermeable, chemical resistance floors and a roof to prevent direct sunlight and rainwater from getting in contact with the waste.	Not compliant	The waste bins are stored on bare ground, with no roof.
<b>4</b>	<b>Management of activity</b>		
4.2	The content of the EMPr and its objectives must be made known to all contractors, subcontractors, agent and any other people working on the site, and any updates or amendments to the EMPr must be submitted to the Department for approval.	Not compliant	The content and objectives of the EA are not communicated to the employees and are not known.
4.7	The holder of the EA must ensure that all non-recyclable waste is disposed of at waste management facilities licenced to handle such wastes and all recyclable waste are collected by licenced waste management facilities for recycling, re-use or treatment.	Not compliant	The waste disposal of both hazardous waste and non-hazardous waste could not be confirmed. No records available of correct disposal.
4.10	This EA only authorises activities specified in the EMPr /closure plan and a new authorisation must be applied for in respect of any new activity not specified as part of the EMPr.	Not compliant	A landing strip of +/- 3 - 4 ha has been built. This landing strip is not included in the activities of the existing EA and EMP.
4.11	Only listed activities that are expressly specified in the EMPr that forms part of this EA may be conducted, and additional or new activities not specified herein must be applied for by the holder and authorised by the competent authority in the form of an amendment to the aforesaid EMPr before such activities may be commenced with. This condition is also applicable in the case of the amendment, addition, substitution, correction, removal or updating of any detail in the aforesaid EMPr.	Not compliant	See comments on condition 4.10 regarding the landing strip. This audit will identify any need for EMP amendment, of which amendment will be applied for during this r.34 audit process.
4.13	The holder of the EA must ensure that the name and contact details of the ECO is made available to the Regional Manager within 30 days of commencement. The holder of EA must also ensure that an ECO is always available on site to ensure that activity (ies) at all times comply with the issued EA and approved EMPr.	Not compliant	No ECO appointment could be provided.
<b>4.13</b>	<b>The ECO must:</b>		
4.16.1	Keep and maintain a detailed incidents register (including any spillages of fuels, chemicals or any other material);	Not compliant	No incident register could be provided.
4.16.6	Compile a monthly monitoring report and make it available to the department if requested.	Not compliant	No monthly reports were available at the time of the audit.

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
4.16	The footprint of the activity (ies) must be limited on the areas authorised for the actual construction works and operational activities and all areas outside of the footprint must be regarded as a "no go" areas.	Not compliant	A landing strip of +/- 3 - 4 ha has been built which is not included in the activities or footprint of the existing EA and EMP.
4.17	Erosion and soil loss must be prevented by minimizing the construction site exposed to surface water run-off. Where necessary erosion stabilizing action such as gabions or re-vegetation must be implemented to prevent further habitat deterioration.	Not compliant	The overall erosion control on site is poor and numerous erosion channels have been observed. With the construction of the landing strip, the exposed surfaces have been increased by 3-4 ha. This landing strip has no erosion control measures implemented and numerous erosion gullies and channels have been observed around the mining area.
4.18	The holder of the EA must ensure that all personnel who work with hazardous waste are trained to deal with these potential hazardous situations so as to minimize the risk involved. Records of training and verification of competence must be kept by the holder of the EA.	Not compliant	No training records could be provided for handling of hazardous waste.
<b>7</b>	<b>Emergency Preparedness Plan</b>		
7.1.3	Spillage	Not compliant	Emergency control related to spillages were not included into the emergency preparedness plan.

**Table 5: EMP non-compliances table**

No.	EA ref.	Mitigation / Condition	Compliance	Verification / Comments
<b>Air quality</b>				
<b>Implementation of the EMS</b>				
1	5, 70, 115, 169	(5) Communicating findings of concern of dust generation and smell nuisance to I&AP.	Not compliant	There is an appointed stakeholder engagement officer on site. He confirmed during interview that no environmental issues are discussed with the community and that no environmental issues have been raised by the community to date.
2	45, 53, 55, 56, 57, 58, 63, 155	(1) Develop and maintain a carbon footprint reporting policy.	Not compliant	No carbon footprint reporting policy.
3	67, 166	(4) Reporting and recording all incidents related to smell nuisance according to a developed procedure.	Not compliant	No incident reporting procedure could be provided.
4	78	(2) All personnel to be trained in the handling, storage, management, and transport of hazardous substances.	Not compliant	No proof of hazchem training could be provided.
<b>On site mitigation actions</b>				
5	10, 120	(5) Wetting of stockpile areas.	Not compliant	Wetting of stockpiles have not been observed during the site visits and no proof has been provided that it is taking place.
6	12, 122	(7) Disturbed areas no longer used for mining related activities shall be re-vegetated immediately.	Not compliant	Some backfilling has been observed but no re-vegetation has been observed at any of the inactive areas.



No.	EA ref.	Mitigation / Condition	Compliance	Verification / Comments
7	13, 123	(8) Areas having to be stripped of topsoil for construction purposes must be kept to a minimum and only stripped when work is about to take place.	Not compliant	A landing strip of +/- 3 - 4 ha has been built which is not included in the footprint of the existing EA and EMP, meaning +/- 3-4 ha of additional open ground is exposed to wind erosion and dust generation, with no dust suppression
8	60	(3) If feasible, the use of solar powered geysers will allow for the reduction in contributing to the carbon footprint of the project.	Not compliant	No solar geysers or any renewable or electricity reduction initiative implemented.
9	61	(4) Consider and investigate the feasibility of switching to "green" energy options.	Not compliant	No solar geysers or any renewable or electricity reduction initiative implemented.
10	80	(2) Fuel storage facilities should be inspected on a regular basis.	Not compliant	No inspection records could be provided.
11	86	(8) Storage facilities should be inspected on a regular basis.	Not compliant	No inspection records could be provided.
<b>Legal requirements</b>				
12	14, 124	(1) Register online to the National Atmospheric Emissions Inventory System (NAEIS) in terms of the National Reporting Regulations (GNR 283) as Group C emitters.	Not compliant	No online registration could be provided.
13	88	(1) Bulk storage facilities of flammable liquids to be approved by the provincial fire inspector.	Not compliant	No proof was provided that the flammable storage tanks have been approved by the provincial fire inspector.
<b>Specialist recommendations</b>				
14	20, 130	(3) Dust generated from material handling operations and mining operations can be significantly reduced by wet suppression with the use of water sprays.	Not compliant	The material is not wetted when loaded or handled.
15	22, 132	(5) The loading, transfer, and discharge of materials should take place with a minimum height of fall and be shielded against the wind.	Not compliant	The height of fall is mostly determined by logistics and backfill / rehabilitation requirements and are not necessarily dictated by its ability to generate dust. No shielding against the wind.
16	37, 147	(21) Monthly PM10 and PM2.5 ambient monitoring and reporting. This is also recommended to obtain baseline concentrations.	Not compliant	No PM <sub>10</sub> or PM <sub>2.5</sub> monitoring
<b>Compliance with standard</b>				
17	42, 152	(4) Register online to the National Atmospheric Emissions Inventory System (NAEIS) in terms of the National Reporting Regulations (GNR 283) as Group C emitters.	Not compliant	Not registered on NAEIS.
18	62	(1) Develop and implement a electricity usage monitoring programme.	Not compliant	No records of carbon emissions monitoring
19	75, 174	(2) Develop and implement a Infrastructure inspection programme to ensure no leaks or spillages of sewerage or waste.	Not compliant	No proof of such inspections could be provided.
20	108	(2) Develop and implement a infrastructure inspection schedule and programme and include the inspections of fuel storage facilities.	Not compliant	No inspection records could be provided.
<b>Biodiversity</b>				
<b>Implementation of EMS:</b>				
21	2, 115	(2) Develop and implement a plant species search and rescue management plan.	Not compliant	No proof could be provided of such a plan and no search and rescue has been done.
22	4, 116	(4) A soil conservation and stockpiling plan to be developed and implemented.	Not compliant	A soil conservation plan could not be provided. Some topsoil stockpiles observed but very little erosion control measures. There is also a topsoil imbalance on site.
23	5, 117	(5) Reporting and recording incidents related to unnecessary clearance of vegetation.	Not compliant	An entire landing strip were constructed (area cleared), with a footprint of about 3-4 ha, without it

No.	EA ref.	Mitigation / Condition	Compliance	Verification / Comments
				being reported.
24	6, 118	(6) Ensuring corrective and preventative actions are taken to address nonconformities.	Not compliant	No action was taken to correct the unnecessary clearance of vegetation.
25	7, 119	(7) Communicating findings of concern to I&AP.	Not compliant	No environmental communication done with I& AP.
26	8, 120	(8) Record keeping of all removed/relocated species.	Not compliant	No records were provided, and no species were observed that were relocated.
27	83, 196	(1) Development and implementation of an alien and invasive control plan	Not compliant	No such plan was provided
28	84, 197	(2) Awareness training on the identification of weeds and alien species to employees responsible for the management of these species.	Not compliant	No awareness training on alien and invasive plant species
<b>On-site mitigation measures:</b>				
29	9, 122	(1) Avoid clearing areas outside the development footprint.	Not compliant	An entire landing strip were constructed, with a footprint of about 3-4 ha, were constructed (area cleared) without it being reported.
30	10, 123	(2) Avoid development in sensitive environments such as areas within pristine or valuable ecological significance.	Not compliant	An entire landing strip were constructed, with a footprint of about 3-4 ha, were constructed (area cleared) without it being reported.
31	11, 124	(3) Before the commencement of any vegetation clearance, a search and rescue operation should take place identifying possible protected species as well as indigenous species.	Not compliant	No search and rescue were conducted
32	12, 125	(4) An area should be identified to re-instate protected and indigenous areas.	Not compliant	No area identified or set aside to re-instate protected and indigenous areas
33	13, 126	(5) If feasible an onsite nursery should be established and maintained.	Not compliant	No on-site nursery
34	85, 198	(1) Alien vegetation growing on topsoil stockpiles must be removed immediately in a manner as to prevent re-growth.	Not compliant	No alien and invasive removal programme is available or being implemented
35	86, 199	(2) All disturbed areas to be monitored on a regular basis for exotic or invasive plant species and weeds.	Not compliant	No alien and invasive removal programme is available or being implemented
<b>Legal requirements:</b>				
36	14, 127	(1) Section 28 of NEMA describes the duty of care and remediation of environmental damage.	Not compliant	Some issues observed such as vegetation disturbances from erosion of the discard
37	15, 128	(2) A number of the proposed activities fall within or within close proximity to the Sekhukhune Centre of Endemism. Working outside the authorised footprints would require additional authorisation in terms of NEMA and The National Environmental Management: Biodiversity Act (NEMBA) of 2002.	Not compliant	An entire landing strip were constructed (area cleared), with a footprint of about 3-4 ha, outside of what was approved in the EMP.
38	92, 205	(1) Adherence to requirements stipulated by GN R. 598 of NEMBA.	Not compliant	No alien and invasive removal programme is available or being implemented
		<b>(2) Section 3: Category 1b Listed Invasive Species (A total number of 6 species were identified – Appendix G):</b>		
39	93, 206	(2.1) Category 1b Listed Invasive Species are those species listed as such by notice in terms of section 70(1)(a) of the Act as species which must be controlled.	Not compliant	No alien and invasive removal programme is available or being implemented
40	94, 207	(2.2) A person in control of a Category 1 b Listed Invasive Species must control the listed invasive species in compliance with sections 75(1), (2) and (3) of the Act.	Not compliant	No alien and invasive removal programme is available or being implemented
		<b>(3) Section 4. Category 2 Listed Invasive Species (One specie has been identified –</b>		

No.	EA ref.	Mitigation / Condition	Compliance	Verification / Comments
		<b><i>Agave sisalana</i></b> :		
41	97, 210	(3.1) Category 2 Listed Invasive Species are those species listed by notice in terms of section 70(1)(a) of the Act as species which require a permit to carry out a restricted activity within an area specified in the Notice or an area specified in the permit, as the case may be.	Not compliant	No alien and invasive removal programme is available or being implemented
42	98, 211	(3.2) Unless otherwise indicated in the Notice, no person may carry out a restricted activity in respect of a Category 2 Listed Invasive Species without a permit.	Not compliant	No alien and invasive removal programme is available or being implemented
43	99, 212	(3.3) A landowner on whose land a Category 2 Listed Invasive Species occurs or person in possession of a permit, must ensure that the specimens of the species do not spread outside of the land or the area specified in the Notice or permit.	Not compliant	No alien and invasive removal programme is available or being implemented
44	102, 215	(3.6) Notwithstanding the specific exemptions relating to existing plantations in respect of Listed Invasive Plant Species published in Government Gazette No. 37886, Notice 599 of 1 August 2014 (as amended), any person or organ of state must ensure that the specimens of such Listed Invasive Plant Species do not spread outside of the land over which they have control.	Not compliant	No alien and invasive removal programme is available or being implemented
	<b>(4) Section 5. Category 3 Listed Invasive Species (<i>One species has been identified – Morus alba</i>):</b>			
45	103, 216	(4.1) Category 3 Listed Invasive Species are species that are listed by notice in terms of section 70(1)(a) of the Act, as species which are subject to exemptions in terms of section 71(3) and prohibitions in terms of section 71A of Act, as specified in the Notice.	Not compliant	No alien and invasive removal programme is available or being implemented
46	104, 217	(4.2) Any plant species identified as a Category 3 Listed Invasive Species that occurs in riparian areas, must, for the purposes of these regulations, be considered to be a Category 1b Listed Invasive Species and must be managed according to regulation 3.	Not compliant	No alien and invasive removal programme is available or being implemented
47	107, 220	(6) Requirements for the prohibition of spreading weeds stipulated in section 5 of the Conservation of Agricultural Resources Act (CARA) of 43 must be adhered with.	Not compliant	No alien and invasive removal programme is available or being implemented
48	108, 221	(7) Regulation 15 of GN R.1048 published under CARA must be adhered with and considered as part of the alien invasive species management plan.	Not compliant	No alien and invasive removal programme is available or being implemented
49	111, 224	(4) Monitor the establishment of (alien) invasive species and remove as soon as detected, whenever possible before flowers or other regenerative material can be produced. Destruction of regenerative material by burning in a protected area is encouraged.	Not compliant	No alien and invasive removal programme is available or being implemented
50	112, 225	(5) Adherence to the comprehensive Plant Search and rescue, Re-vegetation and Alien Invasive Management plan (Appendix E of the Biodiversity Impact Report (Appendix G to this report)).	Not compliant	No alien and invasive removal programme is available or being implemented
	<b>Terrestrial Ecology –</b>			
51	17, 130	(1) Prior to any new area being impacted by the mine, that area and a suitable buffer will have to be delineated and activities have to be preceded by a very thorough walkthrough, conducted between January and April, followed by the necessary plant Search and Rescue operations where applicable.	Not compliant	No proof that a walkthrough was done, or search and rescue undertaken
	<b>(4) <i>Acacia tortilis</i> – <i>Dichrostachys cinerea</i> Dry Mixed Bushveld (<i>Medium Low sensitivity</i>)</b>			
52	36, 149	(4.2) Community members should be engaged to clear out as much wood as possible from areas to be developed to alleviate the wood-clearing of more valuable large trees in the area.	Not compliant	No proof has been if this was undertaken
		(4.4) Mine management of the Spitsvlei Project has indicated that they will attempt, where possible, to create more grazing for the Dithamaga community by trying to clear some of the encroached bush to allow perennial grasses to become re-		

No.	EA ref.	Mitigation / Condition	Compliance	Verification / Comments
		established. For this, it was strongly advised against removing all vegetation with a bulldozer. Rather, the following should be done to break the sealed upper surface and reduce sheet erosion:		
53	38, 151	(4.4.1) With a Ripper only, rip sections of up to 5 m wide along the contour, alternating with $\pm$ 5 m of bushveld as it is;	Not compliant	No proof has been provided that this was undertaken
54	39, 152	(4.4.2) Rips should be at least 500 mm deep, and invasive thorn bushes uprooted to that depth as well to ensure their reporting capacity from the below-ground lignotuber is also eradicated;	Not compliant	No proof has been provided that this was undertaken
55	40, 153	(4.4.3) If possible, hand-collected seeds from surrounding areas should be re-introduced to the rips;	Not compliant	No proof has been provided that this was undertaken
56	41, 154	(4.4.4) Use the cleared thorn bushes to loosely brush-pack the area - with the branching side facing upslope	Not compliant	No proof has been provided that this was undertaken
<b>(7) Combretum hereroense – Euclea sekhukhuniensis low bushveld (No Go, only limited access roads permissible)</b>				
57	62, 175	(16) Keep the clearing of natural veldt to a minimum.	Not compliant	A 3-4ha area has been cleared outside the approved footprints (landing strip).
58	63, 176	(19) It is desirable that community members be engaged to remove wood suitable for their purposes from areas to be cleared to alleviate the pressure of wood-harvesting currently on other areas of the land portions.	Not compliant	No proof has been provided that this was undertaken
59	64, 177	(20) All remaining material of cleared shrubs and trees must be shredded and used as mulch.	Not compliant	No proof has been provided that this was undertaken
60	66, 178	(21) Adherence to the comprehensive Plant Search and rescue, Re-vegetation and Alien Invasive Management plan (Appendix E of the Biodiversity Impact Report (Appendix G to this report)).	Not compliant	No search and rescue were conducted, and no alien and invasive species removal programme is implemented.
<b>Bat Survey –</b>				
61	73, 186	(3) Prohibit mining plant and trucks from washing or dumping material near a water course (wet or dry) to prevent the pollution of natural water bodies.	Not compliant	No washing near the natural water bodies observed however, wash water from the workshop is not contained and large-scale erosion has been observed from mining and stockpiling areas
62	75, 188	(5) Manage all wastewater and stormwater to prevent pollution to water bodies.	Not compliant	Wash water from the workshop is not contained and large-scale erosion has been observed from mining and stockpiling areas
<b>Recommendations as per comments received by the Department of Agriculture, Forestry, and Fisheries:</b>				
63	76, 189	(1) The <i>Lydenburgia cassinoides</i> (Sekhukhune bushman's tea) is confined to the Sekhukhune District Municipality only, therefore as part of the search and rescue management plan must promote the conservation of this specie.	Not compliant	It could not be established that a search and rescue was conducted and, according to
64	78, 191	(3) Relocation of protected trees should be adhered to, particularly all trees that are 1m and below. Relocation must be done under the supervision of a specialist to minimise the mortality rate.	Not compliant	No relocation was done.
<b>Compliance with standards:</b>				
65	81, 194	(3) Develop and implement a soil conservation management plan.	Not compliant	No such plan was provided
66	82, 195	(4) Apply for permits to remove protected species (provincial and national).	Not compliant	No permit was available. It could not be confirmed whether any protected species were situated on the footprint areas, although the likelihood would have been high based on the biodiversity report.

No.	EA ref.	Mitigation / Condition	Compliance	Verification / Comments
67	113, 226	(1) Develop and implement an alien eradication and control management plan.	Not compliant	No alien and invasive removal programme is available or being implemented
<b>Groundwater</b>				
<b>Implementation of EMS:</b>				
68	2, 45, 89, 122, 173	(2) Record and report all incidents related to affecting water quality.	Not compliant	No incidents were reported, and various incidents were observed on site that should have been reported, especially concerning erosion and release of wash water from workshop.
69	4, 47, 91, 124, 175	(4) Ensuring corrective and preventative actions are taken to address nonconformities.	Not compliant	Some general non-conformities were addressed in terms of dust, but no non-conformities were noted or raised for water impacts and none were addressed. Various non-conformities were noted.
70	8, 95	(8) A soil conservation and stockpiling plan to be developed and implemented.	Not compliant	No such plan has been provided.
71	31, 96, 195	(2) Create awareness of water conservation.	Not compliant	No environmental awareness training is being done
72	43, 84, 120, 166, 170	(2) Development and implementation of an Integrated Water and Waste Management Plan (IWWMP) (3) Development and implementation of a storm water management plan.	Not compliant	No IWWMP is available. A storm water design has been done for the entire site but is not implemented.
73	44, 121	(4) Regular inspections of all areas posing a risk of contaminating water resources.	Not compliant	Stockpiles and workshops not inspected regularly.
<b>On-site mitigation measures:</b>				
74	10	(2) In the event that drainage patterns will be altered, the natural flow to be diverted.	Not compliant	Where the mining has crossed the drainage lines no diversion was done as no stormwater mitigations are implemented.
75	101	(5) Monitor water usage and ensure that areas of waste are identified and minimised.	Not compliant	Water usage are monitored using the LWUA invoices, but minimisation is not identified.
76	178	(2) Implement a ground water monitoring plan and ensure the legal thresholds are not being exceeded.	Not compliant	No monitoring done
77	49, 126	(1) All sources of process water must be identified and quantified for the life cycle of the authorised activities.	Not compliant	All sources of process water have not been identified and quantified (such as in a water balance).
78	57, 134	(9) Water from wash bays, service areas and fuel storage areas must be discharged into oil separators and sumps.	Not compliant	Wash water are not directed to an oil separator.
79	61, 138	(13) Any contaminated storm water and other run-off from dirty areas to be disposed off in the suitably designed PCD's.	Not compliant	No PCD's are available.
80	68, 145	(20) Contain contaminated runoff from dirty areas (i.e. lay down areas, RoM and product stockpile areas, workshops, fuelling bays etc.) in suitable designed PCD's.	Not compliant	No PCD's are available.
81	69, 146	(21) Contaminated runoff to be treated and re-used for processing water or dust suppression in dirty areas only when complying with legal requirements or water quality standards specified in the Water Use Licence.	Not compliant	Contaminated runoff is not treated or captured seen that no PCD's are available. No WUL is also available.
82	72, 149	(24) Prevent the discharge of water containing polluting matter or visible suspended materials directly into drainage lines or streams.	Not compliant	Erosion is observed all around site, which releases suspended solids into the drainage lines.
83	74, 151	(26) Ensure that no storm water is allowed to enter any drainage installation for the reception, conveyance, storage, and or treatment of sewage.	Not compliant	Dirty storm water enters the drainage line from the mining area.
84	76, 153	(28) Ensure water passing through vehicle wash bays and workshops pass through oil separators before passing into conservancy tank.	Not compliant	Wash water from the workshops do not pass through any oil separators.
<b>Legal requirements:</b>				

No.	EA ref.	Mitigation / Condition	Compliance	Verification / Comments
85	15, 40, 78, 104, 155, 204	(1) A Water Use Licence to be obtained for all river crossings or development of infrastructure within or within close proximity to a watercourse as defined by the National Water Act, act no of 1996.	Not compliant	No WUL available
86	184	(4) GN R. 625 sets requirements for a waste producer to register and report waste quantity of the National Waste Information System.	Not compliant	Not registered on NWIS.
87	186	(6) GN R. 636 sets the National norms and standards for the disposal of waste for landfill. These requirements should be considered when disposing waste to landfill.	Not compliant	The waste classifications done on the residue material informed the WML management measures. The other pre-classified wastes (hazardous waste, general waste) are disposed according the GN. 636, although no proof could be provided in the form of manifests or landfill notes.
88	187	(7) GN R. 926 stipulates the norms and standards associated to the storage of waste. These requirements must be incorporated in the Waste Management Plan.	Not compliant	No waste management plan. Waste management was observed on site with demarcated bins and collections. The storage areas do not all comply with the N & S and the waste dumps do not have class D liners (Clay liners).
<b>Specialist recommendations:</b>				
<b>Geohydrology –</b>				
89	18, 107	(3) A number of geosites (i.e. boreholes, springs and surface water drainages) and newly proposed boreholes were identified (refer to the Geohydrological report in <b>Appendix M</b> ) to be included into a monthly/quarterly monitoring programme.	Not compliant	These have not been included into the programme
<b>Hydrology –</b>				
90	23, 112	(2) As part of the monitoring program going forward, samples should be taken monthly for at least the first year of operation. This can be revised to quarterly monitoring if no concerns are highlighted with the approval of DWAS.	Not compliant	No monthly monitoring
91	26, 115, 165	(5) Implementation of the guidance provided by the South African National Roads Agency Limited (SANRAL) drainage manual. This document provides guidance on maximum permissible velocities for grass covers to avoid erosion and should be consulted during the detailed design phase.	Not compliant	No storm water measures implemented around the mining area with large scale erosion observed. Some stormwater controls are implemented around the offices and ore stockpile areas.
92	161	(1) A number of monitoring sample points have been identified in the Hydrological report ( <b>Appendix L</b> ). Additional sampling points have been recommended and should be included in the final water monitoring plan.	Not compliant	No IWWMP available or implemented
93	164	(4) A conceptual storm water management plan ( <b>Appendix L</b> ) has been developed based on the requirements of GN R. 704 of the National Water Act of 1998.	Not compliant	Not included into the emergency procedure.
<b>Compliance with standards</b>				
94	41, 205	(1) Develop and implement a water management plan specifically addressing the storage of water as well as the frequent inspections of storage facilities.	Not compliant	No water management plan was provided.
95	87, 169	(4) Develop an emergency preparedness plan addressing the prevention and management of incidents related to water contamination.	Not compliant	Not included into the emergency procedure.
<b>Surface water</b>				
<b>Implementation of EMS:</b>				
96	1, 166	(1) Development and implementation of water quality monitoring plan.	Not compliant	No monitoring is being done on surface water
97	2, 167	(2) Development and implementation of an incident reporting procedure.	Not compliant	Incidents observed that were not reported.



No.	EA ref.	Mitigation / Condition	Compliance	Verification / Comments
98	3, 33, 61, 92, 141, 168, 198, 226, 257	(3) Ensuring corrective and preventative actions are taken to address nonconformities.	Not compliant	The incidents of erosion around site and washwater runoff from the workshop have no corrective or preventative action implemented.
99	6, 171	(6) Regular inspection of erosion prone areas for signs of erosion.	Not compliant	Erosion is not checked or attended to.
100	7, 37, 65, 172, 202, 230	(7) A soil conservation and stockpiling plan to be developed and implemented.	Not compliant	No soil conservation or stockpile management plan / procedure provided.
101	31, 59, 90, 139, 196, 224, 255	(2) Record and report all incidents related to affecting water quality.	Not compliant	No incidents were reported, and various incidents were observed on site that should have been reported, especially concerning erosion and release of wash water from workshop.
102	87, 134, 252, 299	(2) Development and implementation of an Integrated Water and Waste Management Plan (IWWMP)	Not compliant	IWWMP not provided and not implemented.
103	137, 302	(4) Develop an emergency preparedness plan addressing the prevention and management of incidents related to water contamination.	Not compliant	Not included into the emergency procedure.
104	145	(8) Create awareness of water conservation and protection of wetlands.	Not compliant	No such plan has been provided.
<b>On-site mitigation measures:</b>				
105	9, 174	(2) Ensure erosion control measures or sediment control measures on stockpiles or in stockpile areas.	Not compliant	Little to no erosion control measures observed on stockpiles.
106	10, 175	(3) Prevent the discharge of water containing polluting matter or visible suspended materials directly into drainage lines or streams.	Not compliant	Runoff containing silt are discharged from the mining area.
107	11, 176	(4) Deflect any unpolluted water/runoff away from any dirty areas i.e. stockpile areas, mining areas, workshops, lay down areas etc.	Not compliant	Little to no clean water diversions are implemented around the mining area or stockpiles.
108	40, 68, 205, 233	(3) Any diversions to be in such a manner as to avoid erosion formation or pollution through siltation and sedimentation.	Not compliant	Erosion observed in and around these crossings.
109	43, 71, 208, 236	(6) Ensure rehabilitation measures are according to rehabilitation plan and that measures are taken to prevent the formation of erosion dongas or rills.	Not compliant	Rehabilitation has not started, and some erosion gullies have been observed below certain crossings.
110	94, 259	(1) All sources of process water must be identified and quantified for the life cycle of the authorised activities.	Not compliant	All sources of process water have not been identified and quantified (such as in a water balance).
111	102, 267	(9) Water from wash bays, service areas and fuel storage areas must be discharged into oil separators and sumps.	Not compliant	Wash water are not directed to an oil separator.
112	106, 271	(13) Any contaminated storm water and other run-off from dirty areas to be disposed of in the suitably designed PCD's.	Not compliant	No PCD's are available.
113	113, 278	(20) Contain contaminated runoff from dirty areas (i.e. lay down areas, RoM and product stockpile areas, workshops, fuelling bays etc.) in suitable designed PCD's.	Not compliant	No PCD's are available.
114	114, 279	(21) Contaminated runoff to be treated and re-used for processing water or dust suppression in dirty areas only when complying with legal requirements or water quality standards specified in the Water Use Licence.	Not compliant	Contaminated runoff is not treated or captured seen that no PCD's are available. No WUL is also available.
115	117, 282	(24) Prevent the discharge of water containing polluting matter or visible suspended materials directly into drainage lines or streams.	Not compliant	Erosion is observed all around site, which releases suspended solids into the drainage lines.
116	119, 284	(26) Ensure that no storm water is allowed to enter any drainage installation for the reception, conveyance, storage, and or treatment of sewage.	Not compliant	Dirty storm water enters the drainage line from the mining area.

No.	EA ref.	Mitigation / Condition	Compliance	Verification / Comments
117	121, 286	(28) Ensure water passing through vehicle wash bays and workshops pass through oil separators before passing into conservancy tank.	Not compliant	Wash water from the workshops do not pass through any oil separators.
118	151	(6) Species of ecological importance to be searched and rescued and reinstated during rehabilitation.	Not compliant	No search and rescue undertaken prior to construction
<b>Specialist recommendations:</b>				
<b>Geohydrology –</b>				
119	47, 75, 212, 240	(3) A number of geosites (i.e. boreholes, springs and surface water drainages) and newly proposed boreholes were identified (refer to the Geohydrological report in <b>Appendix M</b> ) to be included into a monthly/quarterly monitoring programme.	Not compliant	These have not been included into the programme
<b>Hydrology –</b>				
120	24, 52, 80, 189, 217, 245	(2) As part of the monitoring program going forward, samples should be taken monthly for at least the first year of operation. This can be revised to quarterly monitoring if no concerns are highlighted with the approval of DWAS.	Not compliant	No monthly monitoring
121	27, 55, 83, 133, 163, 192, 220, 248, 298	(5) Implementation of the guidance provided by the South African National Roads Agency Limited (SANRAL) drainage manual. This document provides guidance on maximum permissible velocities for grass covers to avoid erosion and should be consulted during the detailed design phase.	Not compliant	No storm water measures implemented around the mining area with large scale erosion observed. Some stormwater controls are implemented around the offices and ore stockpile areas.
122	129, 159, 294	(1) Several monitoring sampling points have been identified in the Hydrological report ( <b>Appendix L</b> ). Additional sampling points have been recommended and should be included in the final water monitoring plan.	Not compliant	No IWWMP available or implemented
123	132, 162, 297	(4) A conceptual storm water management plan ( <b>Appendix L</b> ) has been developed based on the requirements of GN R. 704 of the National Water Act of 1998.	Not compliant	Not included into the emergency procedure.
<b>Legal requirements:</b>				
124	17, 44, 72, 123, 152, 182, 209, 237, 288	(1) A Water Use Licence to be obtained for all river crossings or development of infrastructure within or within close proximity to a watercourse as defined by the National Water Act, act no of 1996.	Not compliant	No WUL
<b>Compliance with standards:</b>				
125	57, 85, 222, 250	(2) Develop and implement a water management plan specifically including a strategy for the management of alterations to drainage patterns.	Not compliant	No strategy, plan or implementation of such a plan for the alteration to drainage patterns.
<b>Soils</b>				
<b>Implementation of EMS:</b>				
126	37, 71, 105, 175	(1) Develop and implement a soil conservation and stockpile management plan.	Not compliant	No soil conservation or stockpile management plan / procedure provided.
127	38, 70, 106, 175	(2) Frequent Inspections of areas prone to degradation.	Not compliant	Proof of inspections on erosion prone areas were not provided and numerous cases of erosion observed on site, on both cleared areas and topsoil stockpiles.
128	39, 73, 107, 177	(3) Reporting and recording incidents related to degradation of soil resources.	Not compliant	No incidents were reported related to degradation of soil resources while numerous incidents were observed at the time of the audit.
129	40, 74, 108, 178	(4) Ensuring corrective and preventative actions are taken to address nonconformities.	Not compliant	Numerous incidents of erosion and soil loss observed during the time of the audit with little to no corrective or preventative actions.

No.	EA ref.	Mitigation / Condition	Compliance	Verification / Comments
130	72, 176	(4) Monthly monitoring of water quality (as per recommendation of specialist study).	Not compliant	No monitoring undertaken
<b>On-site mitigation measures:</b>				
131	43, 111	(1) All areas to be stripped firstly of topsoil and fertile soils and stockpiled in a designated area.	Not compliant	Various areas have been stripped without removing or stockpiling the topsoil. The new landing strip of 3-4ha has no topsoil removed or stored.
132	44, 112	(2) Do not mix sub-soil with topsoil and fertile soils.	Not compliant	The topsoil that have been collected and stockpiled are stockpiled as one, with no separation between sub-soil and topsoil.
133	46, 114	(4) Topsoil and fertile soil stockpiles to be protected from weathering conditions such as covering the stockpiles with indigenous, non-invasive vegetation.	Not compliant	The topsoil stockpiles observed do not have vegetation cover and have erosion.
134	48, 116	(6) Implement storm water control measures on topsoil and fertile soil stockpiles.	Not compliant	No erosion control measures to prevent soil loss due to storm water.
135	49, 117	(7) Exposed areas to be re-vegetated with indigenous or non-invasive species or protected from erosion.	Not compliant	The topsoil stockpiles observed do not have vegetation cover and have erosion.
136	50, 118	(8) Rehabilitation of areas after the completion of works to take place as soon as possible.	Not compliant	Some areas were observed that can be rehabilitated but have not.
137	51, 119	(9) Avoid overexposing un-vegetated areas as far as possible.	Not compliant	Various unvegetated areas are over-exposed.
138	76, 180	(1) Soil conservation measures to be implemented on stockpiles to prevent erosion. This could include the use of erosion control fabric or non-invasive grass seeding.	Not compliant	Little to no erosion measures have been observed implemented on topsoil stockpiles.
139	77, 181	(2) All areas susceptible to erosion must be identified and protection measures be implemented.	Not compliant	Various areas with high levels of erosion observed. On these areas, no efforts were observed to correct or prevent erosion.
140	78, 182	(3) Retain natural trees, shrubbery and grass species where possible.	Not compliant	There are a few areas on site that has trees that was left undamaged, but this is very limited, and most areas are open ground and unprotected (in terms of runoff).
141	79, 183	(4) In areas within close proximity to wetlands, rivers and streams, sedimentation control measures to be implemented, specifically when excavations or disturbances takes place within riverbanks, or the riverbed.	Not compliant	Various crossings of drainage lines occurred at the mining area and the new landing strip, as well as some of the laydown areas, and little to no sedimentation control was and is undertaken.
142	80, 184	(5) Formation of erosion channels ("dongas") to be prevented by applying soil erosion control and bank stabilisation procedures as specified by a qualified environmental specialist.	Not compliant	Erosion channels observed on sidewalls and open areas. No preventative measures implemented.
143	82, 186	(7) Erosion damages to be repaired as soon as possible and no later than the target set by the Management team.	Not compliant	Various areas with high levels of erosion observed. On these areas, no efforts were observed to correct or prevent erosion.
144	83, 187	(8) Slopes steeper than 1(V):4(H) or slopes where soils are by nature dispersive or erodible must be stabilised.	Not compliant	Various slopes greater than 1:4 observed (mostly at angle of repose of 37°) without any stabilisation. Various erosion channels are visible on these slopes.
145	84, 188	(9) Where berms are installed on severe slopes the outflow shall be suitably stone pitched to prevent erosion from starting on berms.	Not compliant	No dispersion measures implemented on outflows.
146	87, 191	(12) Drainage lines should not be altered and should be level with the surrounding land once subsistence has occurred.	Not compliant	Drainage lines crossed do not have planned outflows or diversions. Most crossings have been left to naturally find the shortest route.
147	88, 192	(13) Run-off from roads must be managed in a way to avoid erosion and prevent pollution.	Not compliant	Runoff from roads are mostly channelled but overall has limited no control, with deep erosion channels

No.	EA ref.	Mitigation / Condition	Compliance	Verification / Comments
				forming in the channels and at the outflows.
<b>Legal requirements:</b>				
148	52, 89, 120, 198	(1) Section 28 of NEMA relates to the duty of care and remediation of environmental damage.	Not compliant	With the clearance of an area of 3-4ha without any licencing or control measures, such as topsoil stripping, walkthrough, storm water controls, etc., BCR did not sufficiently implement duty of care to preserve soil and topsoil.
149	53, 90, 121, 194	(2) The Conservation of Agriculture Resources Act (Act no. 107 of 1998) requires the protection of land against soil erosion and the prevention of water logging and salinization of soils by means of suitable soil conservation works to be constructed and maintained. These requirements should form part of the Soil Conservation and Stockpile management plan.	Not compliant	No soil conservation or stockpile management plan / procedure provided. Various erosion observed.
150	21, 157	(5) Regulation 277, 273, and 279 of GN R. 225 of the National Road traffic Act of 1996 describes the requirements of transporting hazardous waste. These requirements should be incorporated in both the Hazardous substances management plan and the Waste Management plan.	Not compliant	No hazardous substances management plan or Waste management plan.
151	22, 158	(6) Regulation 277 and 273 of GN R. 225 of the National Road traffic Act of 1996 describes the Loading and offloading of dangerous goods. These requirements should be addressed in the Hazardous substance management plan.	Not compliant	No hazardous substances management plan or Waste management plan.
152	23, 159	(7) All requirements described in the Hazardous substance Act of 1973 should be included in the Hazardous substances management plan.	Not compliant	No hazardous substances management plan or Waste management plan.
<b>Specialist recommendations:</b>				
153	54, 122	(1) Strip all usable soil, irrespective of soil depth.	Not compliant	Only a small amount of soil has been stripped and the majority of topsoil has not been stripped.
154	57, 125	(4) Loss of agricultural land due to establishment of infrastructure is a long-term loss and no mitigation measures exist. Mitigation is restricted to limitation of extent of impact to the immediate area of impact and minimisation of off-site impacts.	Not compliant	The footprint of the activities has exceeded the authorised footprint with the clearance of the landing strip area that totals 3-4ha.
155	59, 127	(6) An Environmental Coordinator must manage environmental impacts in coordination with construction and operation schedule.	Not compliant	No appointed Environmental Coordinator
156	64, 132	(11) Minimise soil erosion through wind and water	Not compliant	Rampant erosion was observed on various stockpiles and around site.
<b>Hydrology –</b>				
157	29, 165	(1) A number of monitoring sample points have been identified in the Hydrological report ( <b>Appendix L</b> ). Additional sampling points have been recommended and should be included in the final water monitoring plan.	Not compliant	No monitoring programme implemented
158	30, 166	(2) As part of the monitoring program going forward, samples should be taken monthly for at least the first year of operation. This can be revised to quarterly monitoring if no concerns are highlighted with the approval of DWAS.	Not compliant	No monitoring programme implemented
159	92, 196	(2) Implementation of the guidance provided by the South African National Roads Agency Limited (SANRAL) drainage manual. This document provides guidance on maximum permissible velocities for grass covers to avoid erosion and should be consulted during the detailed design phase.	Not compliant	This guidance document has been included into the storm water designs but not in the implementation of the roads' construction.
<b>Soil –</b>				
160	93, 197	(1) Disturbance areas to be stripped progressively as required reducing erosion and sediment generation, to reduce the extent of topsoil and utilise stripped topsoil as	Not compliant	Very limited stripping has been done.

No.	EA ref.	Mitigation / Condition	Compliance	Verification / Comments
		soon as possible for rehabilitation.		
161	95, 199	(3) Topsoil stockpiles to have an embankment grade of approximately 1m vertical:4m horizontal (to limit the potential for erosion of the outer pile face);	Not compliant	The topsoil stockpiles observed are largely in the form of berms and erosion are visible on the berm's slopes. The slopes are at angle of repose, not 1:4.
162	97, 201	(5) Minimise soil erosion through wind and water	Not compliant	Rampant erosion was observed on various stockpiles and around site.
<b>Biodiversity – Also see Vegetation and Habitat loss</b>				
163	98, 202	(1) Limit the complete removal of vegetation.	Not compliant	Complete vegetation removal has been done at the landings strip as well, which increases the areas completely stripped of vegetation.
164	99, 203	(2) Limit work outside the proposed footprint.	Not compliant	
165	100, 204	(3) Reinforce portions of existing access routes that are prone to erosion or seasonal inundation, create structures or low banks to drain the access road rapidly during rainfall events, yet preventing erosion of the track and surrounding areas. Ensure that water flows are never concentrated in any way as soils are highly erodible.	Not compliant	Little to no erosion measures have been observed implemented on the access routes.
166	101, 205	(4) Ensure that runoff from compacted or sealed surfaces is slowed down and dispersed sufficiently to prevent accelerated erosion from being initiated (erosion management plan required).	Not compliant	Little to no runoff control has been observed on open erosion prone areas.
<b>Compliance with standards:</b>				
167	66, 103, 134, 207	(1) Development of a soil conservation management plan.	Not compliant	No soil conservation plan is available.
168	32, 168	1) Development of water management plan addressing monitoring and management requirements.	Not compliant	No water management plan available.
<b>Topo and visuals</b>				
<b>On-site mitigation measures:</b>				
169	3, 24	(1) Limit site clearance to approved areas.	Not compliant	A 3-4 ha landing strip was built that wasn't part of the approved activities or footprint.
170	4, 25	(2) Re-vegetate, with indigenous and non-invasive species, all cleared or rehabilitated areas immediately.	Not compliant	Areas that can be rehabilitated has not been rehabilitated yet.
<b>Compliance with standards:</b>				
171	21	(1) Biennial investigation of the impact of Light pollution to nocturnal species.	Not compliant	No biennial investigation of light pollution impact.
<b>Heritage</b>				
<b>Implementation of EMS:</b>				
172	1, 21, 41, 61	(1) Develop and implement an awareness campaign on the protection of social heritage impacts.	Not compliant	No proof of awareness on heritage resource protection provided.
<b>On-site mitigation measures:</b>				
173	69	(8) A qualified and registered archaeologist must be appointed and consulted at such finding to appropriately excavate any artefacts in agreement with the Limpopo Heritage Resource Agency (LPHRA) and the SAHRA.	Not compliant	No registered professional was contacted when pottery items were found.
<b>Socio-economic</b>				
<b>Specialist recommendations:</b>				

No.	EA ref.	Mitigation / Condition	Compliance	Verification / Comments
174	11, 107	(2) Improve vaccination coverage by collaborating with the relevant departments on awareness creation around vaccination to communicable diseases for vulnerable sub-populations such as children and old people.	Not compliant	Clinic benefits are currently only provided to employees.
175	12, 108	(3) Reduce the prevalence of communicable diseases by collaborating with relevant departments, schools for awareness creation and improved understanding of factors exacerbating communicable diseases, including coping strategies that result in behaviour change.	Not compliant	Clinic benefits are currently only provided to employees.
<b>(4) Improve capacity of health services by:</b>				
176	13, 109	(4.1) collaborating with clinics to identify opportunities for assisting with health services, specifically in terms of resources and maintenance issues;	Not compliant	Clinic benefits are currently only provided to employees.
177	15, 111	(4.3) Assisting with the development of health-effect prevention plan to increase community resilience by improving coping capability reducing exposure and reducing susceptibility of vulnerable sub-populations.	Not compliant	No such plan was provided.
<b>Waste</b>				
<b>Implementation of EMS:</b>				
178	1, 18, 19, 54	(1) Develop and implement a Waste Management plan.	Not compliant	No waste management plan.
179	2, 20, 32, 33, 55, 64, 65	(10) Maintain a waste register for materials removed from site, indicating type, quantity, date, haulage contractor, delivery point, and safe disposal certificates.	Not compliant	No waste recording procedure provided.
180	5, 22	(5) Reporting and recording of waste related incidents.	Not compliant	No waste incidents provided.
<b>On-site mitigation measures:</b>				
181	12	(7) All appointed first aid personnel must be trained in management of medical waste.	Not compliant	Training could not be provided.
<b>On-site mitigation measures:</b>				
182	31, 63	(8) All waste to be disposed of at a suitably registered waste disposal facility.	Not compliant	No waste manifests could be provided for the disposal of the hazardous waste.
183	34, 66	(11) All waste receptacles to be clearly labelled according to type.	Not compliant	No clear labelling or signage for different waste types.
184	35, 67	(12) Where possible, recyclable waste including glass, paper, and plastic must be separated, stored and recycled where possible.	Not compliant	No domestic/general waste recycling.
<b>Legal requirements:</b>				
185	48, 80	(4) GN R. 625 sets requirements for a waste producer to register and report waste quantity of the National Waste Information System.	Not compliant	Not registered on NWIS.
186	50, 82	(6) GN R. 636 sets the National norms and standards for the disposal of waste for landfill. These requirements should be considered when disposing waste to landfill.	Not compliant	The waste classifications done on the residue material informed the WML management measures. The other pre-classified wastes (hazardous waste, general waste) are disposed according the GN. 636, although no proof could be provided in the form of manifests or landfill notes.
187	51, 83	(7) GN R. 926 stipulates the norms and standards associated to the storage of waste. These requirements must be incorporated in the Waste Management Plan.	Not compliant	No waste management plan. Waste management was observed on site with demarcated bins and collections. The storage areas do not all comply with the N & S and the waste dumps do not have class D liners (Clay liners).



No.	EA ref.	Mitigation / Condition	Compliance	Verification / Comments
<b>Water use</b>				
<b>Implementation of EMS:</b>				
188	1	(1) Water usage monitoring plan to be developed and implemented.	Not compliant	No water usage management plan provided
189	2, 10	(2) Create awareness of water conservation.	Not compliant	No awareness done on water conservation
<b>Legal requirements:</b>				
190	6	(1) A Water Use Licence to be obtained for all river crossings or development of infrastructure within or within close proximity to a watercourse as defined by the National Water Act, act no of 1996	Not compliant	No WUL
<b>On-site mitigation measures:</b>				
191	14	(4) Where possible reuse water on site for dust suppression.	Not compliant	Water for dust suppression not reused water.
<b>Chemical fires</b>				
<b>Implementation of EMS:</b>				
192	4, 60	(4) Employees must be trained on emergency response procedures required to counter the nature and hazards of an accidental release.	Not compliant	Regular drills on emergencies are not conducted. The emergency procedure has been signed by all employees.
193	7, 63	(7) The emergency response procedure should describe response activities in the event of a spill, release, or other chemical emergency and include the internal and external notification procedure, specific responsibilities of individuals or groups, decision process for assessing severity of the release, and determining appropriate actions, facility evacuation routes, and post event activities such as clean-up and disposal, incident investigation, employee re-entry, and restoration of spill response equipment.	Not compliant	An emergency procedure is available and addresses fire response. The procedure however lack detail on hazchem emergencies such as spills.
194	8, 64	(8) Procedures should be prepared for informing the public and emergency response agencies, documenting first aid and emergency medical treatment, taking emergency response actions, reviewing and updating the emergency response plan to reflect changes, and using, inspecting, testing, and maintaining the emergency response equipment.	Not compliant	An emergency procedure is available and addresses fire response. The procedure however lack detail on hazchem emergencies such as spills.
195	9, 65	(9) Ensuring corrective and preventative actions are taken to address nonconformities.	Not compliant	Some non-conformities were observed that were not addressed.
<b>On-site mitigation measures:</b>				
196	15, 71	(5) Ensure the provision of grounding and lightning protection.	Not compliant	No lightning protection or grounding observed during the audit.
197	25, 81	(15) Keep products in their original container (unless they are not re-sealable) with all stored products and containers being labelled, and original labels and MSDS retained.	Not compliant	The containers are not labelled and no MSDS's were provided/available.
198	26, 82	(16) Label containers so that the hazard nature of the material is clear.	Not compliant	The containers are not kept in their original containers, with no labels.
199	27, 83	(17) Obtain Material Safety Data Sheets (MSDS) for all chemicals before use and all materials must be handled according to the instructions.	Not compliant	No MSDS's were available at the time of the audit.
200	36, 92	(26) Flammable liquid containers in stores are to be clearly marked or labelled as to their contents.	Not compliant	Containers observed did not have labels.
201	41, 97	(31) Earthing is to be tested regularly (according to safety regulations).	Not compliant	It could not be verified whether testing is done regularly.
<b>Legal requirements:</b>				
202	42, 98	(1) Bulk storage facilities of flammable liquids to be approved by the provincial fire	Not compliant	No approval from the fire department provided.

No.	EA ref.	Mitigation / Condition	Compliance	Verification / Comments
		inspector.		
203	43, 99	(2) Section 30 of the National Environmental Management Act (NEMA), Act 107 of 1998 describes measures to be taken to control emergency incidents. These requirements should be included in the development of the Emergency Response procedure.	Not compliant	Section 30 measures provided in NEMA could not be verified in the emergency procedure.
204	44, 100	(3) Section 20 of the National Water Act 36 of 1998 describes the procedure for the control of incidents involving Hazardous substances. These requirements should also be included in the Emergency response procedure.	Not compliant	Section 20 measures provided in NWA could not be verified in the emergency procedure.
205	47, 103	(6) Regulation 277, 273, and 279 of GN R. 225 of the National Road traffic Act of 1996 describes the requirements of transporting hazardous waste. These requirements should be incorporated in both the Hazardous substances management plan and the Waste Management plan.	Not compliant	No hazardous substances management plan or Waste management plan.
206	48, 104	(7) Regulation 277 and 273 of GN R. 225 of the National Road traffic Act of 1996 describes the Loading and offloading of dangerous goods. These requirements should be addressed in the Hazardous substance management plan.	Not compliant	No hazardous substances management plan or Waste management plan.
207	49, 105	(8) All requirements described in the Hazardous substance Act of 1973 should be included in the Hazardous substances management plan.	Not compliant	No hazardous substances management plan or Waste management plan.
208	51, 107	(10) Requirements stipulated in SANS 10089-1:2008 (above ground storage facilities for petroleum products) must be incorporated into the Hazardous Substance Management plan and be implemented on site.	Not compliant	No hazardous substances management plan.
<b>Compliance to standards:</b>				
209	55, 111	(3) Develop a Hazardous substances management plan.	Not compliant	No hazardous substances management plan.

**Table 6:** Closure related non-compliances

ID	Ref.	Mitigation / Condition	Compliance	Verification / Comments
<b>General activities from prospecting to new activities</b>				
		Minimise:		
1	2	Clearing of high indigenous shrubs and large trees outside the approved mining areas must be kept to the lowest number possible, regardless of species/ protection status.	Not compliant	A 3-4ha landing strip was built that falls outside of the approved footprint.
2	7	Any infrastructure that will be sensitive to inundation in case of an extreme (rainfall) event	Not compliant	A 3-4ha landing strip was built that falls outside of the approved footprint and crosses 2 drainage lines.
3	8	Undertake pre-clearing walkthrough survey, carried out by a suitably qualified specialist, of the footprint area (including mining areas, safety berms and other areas to be cleared) for protected flora and burrowing terrestrial fauna:	Not compliant	No pre-clearing walkthrough has been conducted
4	16	Depending on the findings, some species may have to be maintained in an on-site nursery:		
5	17	- Plants that can be considered for rescue and included in subsequent rehabilitation programs are all desirable geophytes and indigenous succulents.	Not compliant	No on-site nursery is available and no search and rescue was done

ID	Ref.	Mitigation / Condition	Compliance	Verification / Comments
6	18	- Replanting should occur in spring to early summer once sufficient rains have fallen, in order to facilitate establishment.	Not compliant	No on-site nursery is available and no search and rescue was done
<b>Annual rehabilitation expectations</b>				
7	28	Re-vegetation should be initiated as soon as possible by following the Slope Revegetation Specification	Not compliant	Some areas can be re-vegetated at the time of the audit but has not commenced, such as the old stockpile areas near the landing strip.
8	29	ANNUAL expectations:		
9	31	- The approximate measurements of mining area to be rehabilitated will have to be measured by a reviewer or the mine annually	Not compliant	No measurements or annual rehabilitation planning are currently undertaken.
10	34	A detailed annual rehabilitation plan could not be devised at the time of the EIA process. However, general expectations on annual rehabilitation have been set and need to be reviewed and updated on an annual basis.	Not compliant	Annual rehabilitation requirements not updated annually.

### 2.1.2. Partial compliances

**Table 7:** EA partial compliances table

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
	<b>EA site specific conditions</b>		
5	Wetland and riverine areas are to be considered as no go zones unless authorisation is obtained. Ensure that construction activities are outside the demarcated wetland area. No activity should be allowed to encroach on to wetland system.	Partially compliant	No wetland system was identified in the specialist studies. No authorisation has been granted yet for river crossings and activities within riverine areas.
6	The pits must be backfilled with course waste rock as soon as this rock has been worked out. Barriers such as fencing, or berms will be required to prevent humans or animals from falling into the pits.	Partially compliant	Part of the pits have been backfilled as higher elevation mining areas are opened, and the overburden backfilled into the pits.
7	Rehabilitation of the environment affected by activities undertaken must be implemented as committed on the approved EMPR.	Partially compliant	Some backfilling started but not all rehabilitation is up to date. The rehabilitation plan is also currently being updated and will determine way forward in terms of concurrent mining and closure.
8	Financial provision committed on your letter dated 04 July 2016 must be submitted prior to the execution of the mining right in terms of section 23(1) of the MPRDA (Act 28 of 2002).	Partially compliant	Financial provision was provided via a guarantee. The guarantee was provided on the 31st August 2017 (Nedbank guarantee letter 469/34502505). The guaranteed amount was for R 6 699 326 while the letter referred to in this condition, dated 4 July 2016, has indicated an amount of R 8 699 326. The difference might be because phase 3 of the project will not proceed. Still, from a legal perspective, everything for which a mining right is granted must be costed as per the mining plan.
<b>1</b>	<b>Scope of authorisation</b>		
1.5	The EA does not negate the responsibility of the holder to comply with any other statutory requirements	Partially compliant	An application for a waste licence was submitted but is still

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
	that may be applicable to the undertaking of such activity (ies).		pending. No water use licence is available.
1.6	The holder of the EA must ensure that all areas where the authorised activities occur have controlled access to ensure safety of people and animals.	Partially compliant	Access controls are in place for some of the project areas. The entire pit area is however not fenced off and are accessible by people and animals, although there is the necessary warning and no entry signs.
<b>3</b>	<b>Commencement of the activity (ies)</b>		
3.2	This EA must be provided to the site operator and the requirements thereof must be made fully known to him or her.	Partially compliant	The EA was available at the time of the audit, but its content not well known by the site operators (manager/director)
3.3	Hauling routes for construction vehicles and machinery must be clearly marked and appropriate signalling must be posted to that effect. Furthermore, movement of construction vehicles and machinery must be restricted to areas outside of the drainage line or wet areas.	Partially compliant	Some of this condition could not be effectively audited as all activities were in operation phase. It was however observed in older aerial footage and observed during the site visits that the hauling routes did cross the drainage lines. No water use licence was available for these crossings.
3.5	Construction must include design measures that allow surface and subsurface movement of water along the drainage lines so as not to impede natural surface and subsurface water flow, and drainage measures must promote the dissipation of storm water runoff.	Partially compliant	The storm water designs observed were sufficient. However, various crossings have not been constructed as per the designs.
3.7	The holder of EA must note that in terms of the National Forest Act (Act No.84 of 1998) protected plant species, also listed in Limpopo Environmental Management Act (Act no.7 of 2003) must not be cut, disturbed, damaged, destroyed and their products must not be possessed, collected, removed, transported, exported, donated, purchased or sold unless permission is granted by the Department of Agriculture, Forestry and Fisheries.	Partially compliant	No removal permit is available for the site and the auditor has good reason to believe that the likelihood of protected species encountered on the construction and operational areas are high, as is seen in the specialist report (Biodiversity). Some protected species were however left unharmed (an unharmed protected <i>Boscia</i> sp. was observed near the offices).
3.8	Construction areas (e.g. material lay down areas), topsoil and subsoil must be protected from contamination or pollution. Stockpiling must not take place in drainage lines or areas where it will impede surface water runoff.	Partially compliant	Topsoil and subsoil were stored as a berm around the office area. Heavy erosion was observed on these berms. The bulk of the laydown areas have been observed to be clean from contamination and pollution at the time of the audit (after construction and during operation). There was however limited contamination observed where the hazardous waste bin is stored (no containment) and on the direct fringes of the workshop's slabs.
3.10	An integrated waste management approach must be implemented that is based on waste minimization and must incorporate avoidance, reduction, recycling, treat, re-use and disposal where appropriate. Uncontaminated rubble generated on the premises can be re-used as back filling material on site. Ensure that no refuse or rubble generated on the premises is placed, dumped or deposited on the adjacent properties or public places and open space.	Partially compliant	Scrap metals used oil and old oil filters are recycled. All other waste is disposed. No records for disposal are available and correct disposal cannot be proven.
3.16	Mixing of cement, concrete, paints, solvent, sealants and adhesive must be done in specified areas on concrete aprons or on protected plastic linings to contain spillage or overflow onto soil to avoid contamination of underground water and environmental damage.	Partially compliant	Hazardous chemical handling observed during site visits were done largely at the hazchem store, which is on hardstanding surface. Some contamination was observed at the hazardous waste storage area.
3.19	Hydraulic fluid or chemicals required during construction must be stored in a concrete lined surface with bund walls and shall be designed in such a manner that any spillage can be contained and reclaimed without any impact on the surrounding environment. Should any spills occur it should be cleaned immediately by removing spillage together with the polluted solids and dispose it in the authorised disposal site permitted of such waste. The regional office of the Department of Water and Sanitation must be notified within 24 hours of an incident that may pollute surface and underground water resources.	Partially compliant	Oils and hydraulic fluids were stored inside a bunded and roofed stored that is sufficiently equipped to contain spills. A diesel/fuel tank were observed without the necessary bunding, concrete floor or similar containment.
3.23	The holder of EA must ensure that rehabilitation of the disturbed areas caused by operation at all times	Partially compliant	Some backfilling started but not all rehabilitation is up to date.

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
	comply with the approved EMPr.		The rehabilitation plan is also currently being updated and will determine way forward in terms of concurrent mining and closure.
3.25	The holder of EA must note that in terms of Section 43A of the National Environmental Management Waste Act, 2008 (Act No. 59 of 2008), residue deposit must be deposited and managed in a prescribed manner on any site demarcated for that purpose in the Environmental Management Plan or Environmental Management Programme. No person may temporary or permanently deposit residue stockpile or residue deposits on any area or site other than on site indicated on the Environmental Management Plan or Environmental Management Programme.	Partially compliant	A waste licence application has been submitted for the residue facilities but is not yet approved. The WML application's specialist reports indicated a low risk from the residue facilities and a proposed Class D liner. Stormwater designs are also available for the facilities, but proof could not be provided that the facilities have been designed as per the Class D requirements.
3.26	The holder of EA must note that in terms of Section 20 of the National Environmental Management: Waste Act, 2008 (Act No.59 of 2008), no person may commence, undertake or conduct a waste management activity, except in accordance with the requirements of norms and standards determined in terms of Section 19 (3) for that activity or a waste management licence is issued in respect of that activity if licence is required.	Partially compliant	A waste licence application has been submitted for the residue facilities but is, at the time of the audit, not yet approved.
3.31	The storage of hydrocarbons must have bund walls with adequate capacity to contain the maximum volume that is stored in the area. Uncontaminated storm water must be prevented from coming into contact with the waste and must be diverted away from the storage site.	Partially compliant	The diesel storage tanks, oil store and hazchem store has bund walls and roofing. There was however one fuel tank that was stored on a stand and has no containment.
<b>4</b>	<b>Management of activity</b>		
4.4	Regular monitoring and maintenance of storm water drainage facilities must be conducted at all times, if damaged as directed by the Department or any other relevant authority.	Partially compliant	It could not be confirmed whether regular checks are done on the drainage facilities. This audit will serve as monitoring of the facilities and any recommendations, such as the erosion of the berms, will be recommended for maintenance.
4.8	The holder of the EA must ensure that all liquid wastes, whose emissions to water or land could cause pollution are diverted to sewer, after testing water quality and receiving written approval from the relevant local authority.	Partially compliant	Sewage are directed to a French drain system. Used oils are collected. Wash water from workshops are not collected or contained.
4.12	Rehabilitation of the disturbed surface caused by operation at all times must comply with the approved EMPr.	Partially compliant	Some backfilling started but not all rehabilitation is up to date. The rehabilitation plan is also currently being updated and will determine way forward in terms of concurrent mining and closure.
<b>4.13</b>	<b>The ECO must:</b>		
4.16.3	Keep records relating to monitoring and auditing on site and avail them for inspection to any relevant authorised officials.	Partially compliant	Noise, dust and health monitoring records are kept on site and are available on request. No auditing or inspection records were available.
<b>5</b>	<b>Reporting to the Department</b>		
<b>5.5.1</b>	<b>The holder of the EA must:</b>		
5.1.1	Submit an Environmental Audit Report to this Department biennially and such report must be done by qualified Environmental Assessment Practitioner and the audit report must specify whether conditions of this environmental authorisation and EMPr/closure plan are adhered to;	Partially compliant	This audit will be the first biennial audit done by a qualified EAP. This however is more than 2 years after the approval date of 24 October 2016.
5.4	The holder of the EA must annually assess the environmental liabilities of the operation using the master rates in line with the applicable Consumer Price Index (CPI) at the time and address the shortfall on the financial provision submitted in terms of section 24P of NEMA.	Partially compliant	The liabilities haven't been updated since 2016. A company has been appointed and the liabilities are being updated currently.
<b>7</b>	<b>Emergency Preparedness Plan</b>		
7.1	The holder of the EA must maintain and implement an emergency preparedness plan and review it biennially when conducting audit and after each emergency and or major accident. The plan must,	Partially compliant	An emergency procedure is available and reviewed regularly (not necessarily biennially during the audit). The plan has been

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
	amongst others, include:		reviewed as part of this audit.
7.2	The holder of EA must ensure that an up to date emergency register is kept during all phases of the operation. The register must be made available upon request by the department.	Partially compliant	This condition is assumed to refer to a register of the emergency drills. No register of the emergency drills was available. Proof has been provided that the procedures has been communicated to all employees and were also signed off by all employees.

**Table 8:** EMP partial compliance table

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
<b>Air quality</b>			
3, 113	(3) Reporting and recording incidents related to air quality.	Partially compliant	Some incidents were reported but not all.
4, 114	(4) Ensuring corrective and preventative actions are taken to address nonconformities.	Partially compliant	Some non-conformances were observed or recorded by the health practitioner and addressed. Some were observed during the site visit and not reported.
64, 74, 163, 173	(1) Develop and maintain an Integrated Waste and Water Management Plan (IWWMP).	Partially compliant	An IWWMP was developed for the site during the drafting of the WUL. The IWWMP however is only in draft and was never maintained (updated/reviewed).
68, 110, 167	(5) Develop and implement an emergency preparedness plan.	Partially compliant	An emergency procedure is available and reviewed regularly. The emergency plan does not include sewage spillages or nuisance issues.
77	(1) Develop and implement a Health and Safety management plan addressing the proper storage, management, handling, and transport of hazardous substances.	Partially compliant	No hazardous substances procedure/standard/plan could be provided. A hazardous storage area complete with roof, bund walls, and sumps are available and used, indicating that hazardous substance controls are implemented. Spill kits and saw dust were also available and used.
<b>On-site mitigation measures:</b>			
49, 159	(3) Where possible low sulphur containing diesel to be used.	Partially compliant	50ppm diesel are used. SA has 10ppm diesel available from Sasol and options are thus available to further lower sulphur emissions.
50, 160	(4) All vehicles and equipment must be maintained and serviced according to the manufacturer's specification.	Partially compliant	Vehicles are serviced routinely. It could not be provided whether this is according to the OEM's specifications.
72, 171	(2) Chemical toilets must be emptied/ serviced on a regular basis. Proof of this must be obtained and kept on record.	Partially compliant	Sewage are directed to a french drain system. No chemical toilets were observed on site during the site visit. No records of collections provided.
73, 172	(3) Sewage tanks must be emptied on a regular basis. Proof of this must be obtained and kept on record.	Partially compliant	Sewage are directed to a french drain system. No chemical toilets were observed on site during the site visit. No records of collections provided.

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
76, 175	(3) Develop and implement a Waste Management plan.	Partially compliant	A waste management approach is available with some segregation. The waste management process is however not formulated into a waste procedure/plan and no sewage is included.
85	(7) All spills to be cleaned immediately.	Partially compliant	Spills at the hazchem area were treated with absorbent but the absorbent were not removed.
87	(9) All leaks to be repaired immediately.	Partially compliant	No leaks were observed on the fuel storage facility.
<b>Specialist recommendations</b>			
18, 99, 128	(1) Development of a detailed air quality management plan (focusing on sources of dust located in close proximity to the residential receptors within the project boundary) ensuring adherence to thresholds stipulated in the Baseline Air Quality Impact Assessment report (BAQIAR) (Appendix E) prior to the commencement of operations.	Partially compliant	An air quality monitoring programme is available with monitoring "limits/triggers" above which action is being taken. These limits are in line with the national dust control regulations. The Approach is not in the form of a formal procedure or plan but do show that some process is followed.
21, 131	(4) The combined use of water sprays with chemical surfactants provide more extensive wetting making it a more affective technique than water suppression alone.	Partially compliant	The dust suppression frequency falls within the level 2 dust controls as per Table 6.1 of the air quality specialist report, with a likely control efficiency of 75%. This is currently proving sufficient although improvements can be made through the use of surfactants.
25, 135	(8) Wind erosion from stockpiles and open areas can be minimised through the use of water sprays, wind breaks, vegetation and enclosures.	Partially compliant	Some open areas are water sprayed, but most stockpiles and other open areas have no dust control. The material however seems to be partly cladded (unintentionally) as a result of the natural waste rock material / overburden material characteristics. Dust generation from the stockpiles are limited.
36, 146	(19) Designated areas for the storage of overburden should be considered and incorporated into the design.	Partially compliant	Overburden storage is as near as possible to the excavation area.
<b>Legal requirements:</b>			
89	(2) Section 30 of the National Environmental Management Act (NEMA), Act 107 of 1998 describes measures to be taken to control emergency incidents. These requirements should be included in the development of the Emergency Response procedure.	Partially compliant	An emergency procedure is available and reviewed regularly. The emergency plan however does not include all of the requirements as per section 30 of NEMA.
90	(3) Section 20 of the National Water Act 36 of 1998 describes the procedure for the control of incidents involving Hazardous substances. These requirements should also be included in the Emergency response procedure.	Partially compliant	An emergency procedure is available and reviewed regularly. The emergency plan however does not include all of the requirements as per section 20 of NWA.
91	(4) GN R. 1237 published under the Mine Health and Safety Act of 1996 describes the requirements for the storage of hazardous substances. These requirements should be incorporated into the Hazardous substance management plan.	Partially compliant	No hazardous substances procedure/standard/plan could be provided. A hazardous storage area complete with roof, bund walls, and sumps are available and used, indicating that hazardous substance controls are implemented and largely complies with the requirements of the MHSA of 1996. Full compliance could not be confirmed.
92	(5) Section 21 of the Mine Health and safety Act of 1996 describes the requirements for the acquisition of Hazardous chemicals. These requirements should be considered as part of the mine acquisition process.	Partially compliant	No hazardous substances procedure/standard/plan could be provided. A hazardous storage area complete with roof, bund walls, and sumps are available and used, indicating that hazardous substance controls are implemented and largely complies with the requirements of the MHSA of 1996. Full compliance could not be confirmed.



EA ref.	Mitigation / Condition	Compliance	Verification / Comments
93	(6) Regulation 277, 273, and 279 of GN R. 225 of the National Road traffic Act of 1996 describes the requirements of transporting hazardous waste. These requirements should be incorporated in both the Hazardous substances management plan and the Waste Management plan.	Partially compliant	Hazardous waste collection could not be confirmed, as no waste manifests are available. Used oil are collected by a registered hazardous substances transporter.
94	(7) Regulation 277 and 273 of GN R. 225 of the National Road traffic Act of 1996 describes the Loading and offloading of dangerous goods. These requirements should be addressed in the Hazardous substance management plan.	Partially compliant	Hazardous waste collection could not be confirmed, as no waste manifests are available. Used oil are collected by a registered hazardous substances transporter.
95	(8) All requirements described in the Hazardous substance Act of 1973 should be included in the Hazardous substances management plan.	Partially compliant	No hazardous substances procedure/standard/plan could be provided. A hazardous storage area complete with roof, bund walls, and sumps are available and used, indicating that hazardous substance controls are implemented and largely complies with the requirements of the HSA of 1973. Full compliance could not be confirmed.
96	(9) The storage of hazardous substances must be in compliance with regulation 4 of GN R. 704 of the National Environmental Management Act.	Partially compliant	A hazardous storage area complete with roof, bund walls, and sumps are available and used, indicating that hazardous substance controls are implemented and largely complies with the requirements of r.704 of NEMA. Full compliance could not be confirmed.
97	(10) Requirements stipulated in SANS 10089-1:2008 (above ground storage facilities for petroleum products) must be incorporated into the Hazardous Substance Management plan and be implemented on site.	Partially compliant	A fuel storage area complete with bunding, concrete floors and fire extinguishers are available and used, indicating that controls are implemented and largely complies with the requirements of SANS 10089-1:2008. Full compliance could not be confirmed.
98	(11) Requirements stipulated by SANS 301: 2011 (Storage tank facilities for hazardous chemicals) must be incorporated into the Hazardous Substance Management plan and be implemented.	Partially compliant	A fuel storage area complete with bunding, concrete floors and fire extinguishers are available and used, indicating that controls are implemented and largely complies with the requirements of SANS 10089-1:2008. Full compliance could not be confirmed.
<b>Compliance with standard</b>			
39, 149	(1) Development and implementation of a Dust management plan as part of an Air quality management plan to including the monitoring and prevention programme.	Partially compliant	The audits confirmed that there is a dust control process implemented on site. It is however not documented into a formal plan or procedure.
107	(1) Develop and implement a Hazardous substance management plan addressing adherence to applicable SANS standards for the storage of fuel.	Partially compliant	No hazardous substances procedure/standard/plan could be provided. A hazardous storage area complete with roof, bund walls, and sumps are available and used, indicating that hazardous substance controls are implemented and largely complies with the requirements of the SANS standard. Full compliance could not be confirmed.
<b>Biodiversity</b>			
3, 116	(3) Regular inspection of sensitive areas.	Partially compliant	No proof of inspection could be provided. This audit serves as an external inspection of the sensitive areas.
<b>Specialist recommendations:</b>			
<b>Terrestrial Ecology –</b>			

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
	<b>(3) <i>Cyperus sexangularis</i> – <i>Flueggea virosa</i> Riparian Vegetation (No Go Area – only suitable crossings permissible)</b>		
27, 140	(3.3) Where upstream vegetation will be obliterated or severely denuded, adequate storm water and erosion control measures must be put in place to slow down and disperse runoff volumes and prevent the degradation of other channels and riparian vegetation.	Partially compliant	There is no clear stormwater control around the mining area, and it has been clearly observed that erosion has deposited sediment and material on downstream vegetation.
28, 141	(3.4) Where road crossings are necessary, channels may under no circumstance be sealed with any impermeable material, as this will lead to a loss of runoff- and related retention/replenishment of soil moisture reserves, nutrients and seeds.	Partially compliant	The river crossings observed had culverts and pipes installed to allow flow through although the crossing on the main road has shown some erosion after the crossing, indicating that the attenuation is not sufficient.
29, 142	(3.5) Culverts must be designed in a way that water will never be concentrated to a width narrower than the actual channel, causing accelerated erosion during heavy downpours.	Partially compliant	The river crossings observed had culverts and pipes installed to allow flow through although the crossing on the main road has shown some erosion after the crossing, indicating that the attenuation is not sufficient.
	<b>(4) <i>Acacia tortilis</i> – <i>Dichrostachys cinerea</i> Dry Mixed Bushveld (Medium Low sensitivity)</b>		
37, 150	(4.3) Runoff from any sealed or bare surface must be contained to prevent the erosion of the donga areas and drainage lines below these plains.	Partially compliant	Runoff control from cleared areas are only implemented around the offices and laydown area. All other areas have no runoff control and significant erosion has been observed while on site.
	<b>(5) <i>Kirkia wilmsii</i> – <i>Terminalia prunioides</i> variable Bushveld (Medium-High sensitivity – Avoid as far possible)</b>		
42, 155	(5.1) Mining/development in this vegetation/habitat should be limited to the absolute minimum, aiming for minimal alteration of the habitat configuration.	Partially compliant	The mining area is situated in the medium-high sensitivity area and cannot be relocated as it has to follow the reef line. Roughly half of the landing strip has been constructed inside this area.
44, 157	(5.3) If some of these habitats are impacted or will be altered by the proposed development, newly created slopes should preferably be shallower than the original slopes, but never steeper to enable a gradual re-establishment of the woody and herbaceous layer.	Partially compliant	See the detailed rehabilitation plan. Some of the slopes near the pits are at angle of repose, which is +/- 37°, while the rest of the pits will be filled and sloped to equal or lower than 1:4 (14°). The re-shaping of the steeper slopes will be investigated in future as reshaping it is currently flagged as a stability risk.
	<b>(7) <i>Combretum hereroense</i> – <i>Euclea sekhukhuniensis</i> low bushveld (No Go, only limited access roads permissible)</b>		
48, 161	(7.2) Adjacent (upstream) areas also need to be cleared with care, ensuring that no excessive runoff is directed toward the donga plains.	Partially compliant	There is no clear stormwater control around the mining area, and it has been clearly observed that erosion has deposited sediment and material on downstream vegetation and could have or could increase donga formations.
49, 162	(7.3) Although current dongas may be relatively old and stable, new and accelerated erosion must always be monitored and mitigated.	Partially compliant	There is no clear stormwater control around the mining area, and it has been clearly observed that erosion has deposited sediment and material on downstream vegetation and could have or could increase donga formations.
65, 178	(21) Topsoil (the upper 25 cm of soil) is an important natural resource as it contains most of the geophytic storage organs as well as valuable soil seed resources necessary for re-vegetation; where it can (and then must) be stripped, never mix it with subsoil or any other material, store and protect it separately until it can be re-applied, minimise handling of topsoil.	Partially compliant	Topsoil has only been removed and stockpiled at the offices and laydown area. No topsoil has been removed from the mining area.
<b>Avifauna –</b>			
67, 180	(1) Leave, as far as possible, as much of the natural indigenous bush undisturbed and in its pristine state.	Partially compliant	The site is largely restricted to its approved footprint.

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
<b>Bat Survey –</b>			
71, 184	(1) Conserve as much of the natural vegetation as possible. Only create haul roads that are absolutely necessary.	Partially compliant	The site is largely restricted to its approved footprint.
74, 187	(4) Prohibit any chemical and/or heavy metal from being released into the environment.	Partially compliant	Chemical stores are available and mostly used. Only one or two small spillages was observed around the workshop and at the bin where the hazardous waste is stored.
<b>Recommendations as per comments received by the Department of Agriculture, Forestry, and Fisheries:</b>			
77, 190	(2) When constructing new roads, divergence of roads is recommended where protected trees will be affected.	Partially compliant	During the site visit, there were some protected trees that were observed within operational areas (roads) untouched, such as a Boscia sp. Near the offices.
<b>Compliance with standards:</b>			
79, 192	(1) Develop a plant species search and rescue management plan.	Partially compliant	No such plan was provided however the site do have a biodiversity study which can be used.
<b>Groundwater</b>			
<b>Implementation of EMS:</b>			
5, 48, 92, 125, 176	(5) Communicating findings of concern to I&AP.	Partially compliant	No findings were raised yet as there were no audits and no water issues are discussed during community meetings. This audit however will go through a PP process.
6, 93	(6) Development and implementation of a storm water management plan.	Partially compliant	A SWMP are available but not implemented
7, 94	(7) Regular inspection of erosion prone areas for signs of erosion.	Partially compliant	Regular observations done during site visits.
42, 1, 85, 88, 119, 167	(1) Development and implementation of a water monitoring program.	Partially compliant	A groundwater monitoring programme is available in the specialist reports. No monitoring however is being done and only the baseline qualities are available.
46, 123, 174	(6) Develop and implement an emergency preparedness plan.	Partially compliant	An emergency plan is available but does not include sewage spills, Hazchem spills, or other water contamination emergencies.
<b>On-site mitigation measures:</b>			
14	(6) Ensure rehabilitation measures are according to rehabilitation plan and that measures are taken to prevent the formation of erosion dongas or rills.	Partially compliant	The rehabilitation is not up to date and no storm water measures implemented. The rehab plan is however being revised.
37, 201	(4) Water may only be abstracted from the approved abstraction points once all grey water or run-off water complying with the quality requirements has been utilised for the purposes of dust suppression. (5) The volume of water abstracted may not exceed the limits stipulated by DWAS by more than 5% on an annual basis.	Partially compliant	No water abstracted. Water released do not comply with the quality limits stipulated by DWS.
38, 202	(6) Water storage facilities to be inspected on a weekly basis to ensure no leaks or contamination of water source.	Partially compliant	The storage tanks are inspected regularly. It could not be confirmed whether it is done weekly. No visible leaks or contamination observed during the audit.

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
50, 127	(2) A wastewater management system must be installed complying with regal requirements.	Partially compliant	A French drain system is available for the "grey water". Sumps and collection channels are available at the Hazchem storage facility but are not functional. The wash water from the workshop is not controlled.
55, 132	(7) Workshops, refuelling depots and washing areas shall be bunded.	Partially compliant	The Hazchem area is bunded, the workshop is concreted and sloped, the fuel tanks are bunded. The wash water from workshop is however not contained and there was a fuel tank on a stand that was not bunded.
60, 137	(12) Never hose oil or fuel spills into storm water drain or sewer, or into the surrounding natural environment.	Partially compliant	The area around the workshop and refuelling site was clean and neat with no visible spillages or wash water or hosed contamination. The wash water from the workshop goes into a sump but then overflow into the storm water drain.
62, 139	(14) Any spill which may contaminate water must be treated according to the approved spill management procedure.	Partially compliant	Some spills observed in the bunded areas were treated with absorbent indicating that the spill clean-ups are taking place. These absorbents were not all removed during the audit.
73, 150	(25) Deflect any unpolluted water/runoff away from any dirty area.	Partially compliant	Clean water diversions are implemented around the offices, workshop areas but no diversion is available around the mining area.
99	(3) During construction through drainage lines, the majority of the flow must be allowed to pass down the stream. In stream diversions should be used rather than the construction of new channels.	Partially compliant	Where possible, the stream diversions have been designed to allow water to pass down the stream.
<b>Specialist recommendations:</b>			
<b>Geohydrology –</b>			
17, 79, 106, 156, 189	(1) Development of an environmental monitoring programme in order to monitor the groundwater quality and groundwater level changes up- and downstream of the proposed open cast mine workings. (2) Collected monitoring data (quarterly) may be used for future model updates (e.g. every second year).	Partially compliant	A groundwater monitoring programme is available in the specialist reports. No monitoring however is being done and only the baseline qualities are available.
80, 157, 190	(3) A number of geosites (i.e. boreholes, springs and surface water drainages) and newly proposed boreholes were identified (refer to the Geohydrological report in <b>Appendix M</b> ) to be included into a monthly/quarterly monitoring programme.	Partially compliant	A groundwater monitoring programme is available in the specialist reports. No monitoring however is being done and only the baseline qualities are available.
20, 82, 109, 159	(5) Emphasis should be placed on monitoring of groundwater levels prior mining and during the operation phase as well as to establish the origin of the elevated nitrate concentrations in the project area.	Partially compliant	Pre-mining water levels are available as part of the baseline studies. No operational monitoring done currently.
<b>Hydrology –</b>			
22, 111, 162	(1) A number of monitoring sample points have been identified in the Hydrological report ( <b>Appendix L</b> ). Additional sampling points have been recommended and should be included in the final water monitoring plan.	Partially compliant	The monitoring programme is still largely as per the specialist reports.
<b>Legal requirements:</b>			
181, 192	(1) Ensure requirements stipulated in the National Environmental Management: Waste Act (NEMWA) of 2008 are incorporated in the Waste Management Plan.	Partially compliant	No waste management plan. Waste management was observed on site with demarcated bins and collections. No waste manifest could be provided by the company.

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
182	(2) GN R. 634 list a number of requirements related to Waste classification and management. These requirements as stipulated in the regulations must be incorporated into the Waste Management Plan.	Partially compliant	Waste classification was done as part of the WUL application. No waste management plan available although the WML application and this EMP could be seen as a waste management plan, or at least contains enough information to develop a waste management plan.
183	(3) GN R. 921 list a number of activities that requires a Waste Management Licence in terms of NEMWA. Listed activity number 11 ("The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a mining right in terms of the MPRDA (Act 28 of 2002)") will require a waste management licence in terms of the regulations.	Partially compliant	WML application submitted and awaiting approval from the competent authorities.
185	(5) GN R. 635 sets the National norms and standards for the assessment of waste for landfill. The procedures for determining the class of waste for landfill must be incorporated into the Waste Management plan.	Partially compliant	Waste classification done on the waste rock and other residue material as part of the WUL application. All other wastes generated on site are pre-classified.
<b>Compliance with standards:</b>			
27, 116	(1) Develop and implement a water management plan and specifically include measures to be implemented to reduce the impact on surface and groundwater reduction.	Partially compliant	Water management measures are available as part of the EMP, with additional detailed storm water designs done by civil engineers. These are however largely not implemented.
29, 118	(3) Develop and implement a storm water management plan and specifically address the diversion of "clean" water into the natural drainage lines.	Partially compliant	A detailed storm water design was done by civil engineers and includes diversion of clean storm water.
<b>Surface water</b>			
<b>Implementation of EMS:</b>			
5, 28, 35, 56, 63, 84, 88, 143, 170, 193, 195, 221, 228, 249, 253	(5) Development and implementation of a storm water management plan.	Partially compliant	A SWMP is developed but not implemented.
30, 58, 86, 138, 195, 223, 251	(1) Develop a water monitoring management plan.	Partially compliant	A monitoring plan is available from the EIA specialist report but is not implemented or revised.
34, 62, 142, 199, 227	(5) Communicating findings of concern to I&AP.	Partially compliant	No findings were raised yet as there were no audits and no water issues are discussed during community meetings. This audit however will go through a PP process.
36, 64, 144, 201, 229	(7) Regular inspection of erosion prone areas for signs of erosion.	Partially compliant	Regular observations done during site visits.
89, 254	(4) Regular inspections of all areas posing a risk of contaminating water resources.	Partially compliant	No inspection records provided. Areas that work with hazchems, such as the workshops, have been observed during the audit and overall housekeeping and spillage control was good. Areas informally inspected regularly.
91, 256	(6) Develop and implement an emergency preparedness plan.	Partially compliant	An emergency preparedness plan is available and implemented but do not effectively cover all hazchem emergencies.
<b>On-site mitigation measures:</b>			
16, 181	(9) During construction through drainage lines, the majority of the flow must be allowed to pass down the stream. In stream diversions should be used rather than the construction of new channels.	Partially compliant	In stream diversions are largely used but inefficiently, causing erosion

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
<b>Legal requirements:</b>			
39, 67, 204, 232	(2) In the event that drainage patterns will be altered, the natural flow to be diverted.	Partially compliant	Where possible, the crossings aim to keep the flow in the same direction and line, with only the short disturbance of the road width.
95, 260	(2) A wastewater management system must be installed complying with legal requirements.	Partially compliant	A French drain system is available for the "grey water". Sumps and collection channels are available at the Hazchem storage facility but are not functional. The wash water from the workshop is not controlled.
100, 265	(7) Workshops, refuelling depots and washing areas shall be bunded.	Partially compliant	The Hazchem area is bunded, the workshop is concreted and sloped, the fuel tanks are bunded. The wash water from workshop is however not contained and there was a fuel tank on a stand that was not bunded.
105, 270	(12) Never hose oil or fuel spills into storm water drain or sewer, or into the surrounding natural environment.	Partially compliant	The area around the workshop and refuelling site was clean and neat with no visible spillages or wash water or hosed contamination. The wash water from the workshop goes into a sump but then overflow into the storm water drain.
107, 272	(14) Any spill which may contaminate water must be treated according to the approved spill management procedure.	Partially compliant	Some spills observed in the bunded areas were treated with absorbent indicating that the spill clean-ups are taking place. These absorbents were not all removed during the audit.
118, 283	(25) Deflect any unpolluted water/runoff away from any dirty area.	Partially compliant	Clean water diversions are implemented around the offices, workshop areas but no diversion is available around the mining area.
150	(5) Ensure rehabilitation measures are according to rehabilitation plan and that measures are taken to prevent the formation of erosion dongas or rills.	Partially compliant	Some backfill has started at the open pits according to the rehab plan. Other areas remain that can be rehabilitated concurrently that remains and will be included into the current update of the rehab and closure plan.
<b>Specialist recommendations:</b>			
<b>Geohydrology –</b>			
19, 46, 74, 124, 154, 184, 211, 239, 289	(1) Development of an environmental monitoring programme in order to monitor the groundwater quality and groundwater level changes up- and downstream of the proposed open cast mine workings.	Partially compliant	A monitoring programme is available in the specialist studies but not implemented.
49, 77, 127, 157, 214, 242, 292	(5) Emphasis should be placed on monitoring of groundwater levels prior mining and during the operation phase as well as to establish the origin of the elevated nitrate concentrations in the project area.	Partially compliant	Pre-mining water levels are available as part of the baseline studies. No operational monitoring done currently.
21, 125, 155, 186, 290	(3) A number of geosites (i.e. boreholes, springs and surface water drainages) and newly proposed boreholes were identified (refer to the Geohydrological report in <b>Appendix M</b> ) to be included into a monthly/quarterly monitoring programme.	Partially compliant	A groundwater monitoring programme is available in the specialist reports. No monitoring however is being done and only the baseline qualities are available.
<b>Hydrology –</b>			
23, 51, 79, 188, 216, 244	(1) A number of monitoring sample points have been identified in the Hydrological report ( <b>Appendix L</b> ). Additional sampling points have been recommended and should be included in the final water monitoring plan.	Partially compliant	The monitoring programme is still largely as per the specialist reports.
130, 160, 295	(2) As part of the monitoring program going forward, samples should be taken monthly for at least the first year of operation. This can be revised to quarterly monitoring if no concerns are highlighted with the approval of DWAS.	Partially compliant	A groundwater monitoring programme is available in the specialist reports. No monitoring however is being done and only the baseline qualities are available.

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
<b>Compliance with standards:</b>			
29, 135, 164, 194, 300	(2) Develop and implement a water management plan and specifically include water monitoring and pollution prevention strategies.	Partially compliant	Various water management requirements are stipulated in the EMP and specialist reports that are available but is not consolidated into a water management plan.
<b>Soils</b>			
<b>Implementation of EMS:</b>			
69, 102, 173, 206	(1) Development and implementation of a storm water management plan.	Partially compliant	A SWMP is available but not implemented.
1, 137	(1) Develop and implement a Hazardous substances management plan addressing handling, storage, and transport of hazardous substances.	Partially compliant	Hazchem storage area is available and largely compliant, hazchem control where largely compliant although there were some issues observed. This shows that some process is followed, and interviews indicated that employees knew what to do. No hazchem procedure or proof of training were provided.
2, 138	(2) Develop and implement an emergency response procedure addressing the procedure in case of a chemical spill. This procedure should ensure the fastest possible reaction to spills or accidents as well as addressing remediation procedures.	Partially compliant	An emergency pprocedure is available but do not sufficiently addresses chemical spills.
3, 139	(3) Development and implementation of an incident reporting procedure.	Partially compliant	Incidents are reported informally, but no incident registers, procedures or records were provided.
4, 140	(4) Ensuring corrective and preventative actions are taken to address nonconformities.	Partially compliant	Overall housekeeping was good and it was observed that absorbents were used to treat chemical spills in the hazchem store. The absorbents were ot yet cleaned and a spillage from a hazardous waste bin was not yet attended to. This indicates that some corrective actions are taken but are not entirely sufficient.
<b>On-site mitigation measures:</b>			
9, 145	(4) All spills (minor and major) must be cleaned and remediated to the satisfaction of the appointed environmental representative or the Department within 24 hours.	Partially compliant	Some spillages were observed treated with absorbent, which is then collected and placed into the hazardous waste bin for removal. Some spillages observed were not attended to within 24 hours (immediately).
10, 146	(5) Any spillages on site to be excavated to the visible depth of impact and disposed of for removal to a registered hazardous waste disposal site. Alternative in-situ remediation techniques may be used.	Partially compliant	Any spillages are removed by collecting the contaminated soil to the depth of contamination (as is visually observed). Hazardous waste disposal could not be confirmed as there were no hazardous waste manifests. Only one oil spill was observed.
<b>Legal requirements:</b>			
17	(1) Section 30 of the National Environmental Management Act (NEMA), Act 107 of 1998 describes measures to be taken to control emergency incidents. These requirements should be included in the development of the Emergency Response procedure.	Partially compliant	Not all s.30 requirements included into the emergency procedures, only some requirements in terms of fire and explosions.
18	(2) Section 20 of the National Water Act 36 of 1998 describes the procedure for the control of incidents involving Hazardous substances. These requirements should also be included in the Emergency response procedure.	Partially compliant	Not all s.20 requirements included into the emergency procedures, only some requirements in terms of fire and explosions.



EA ref.	Mitigation / Condition	Compliance	Verification / Comments
19	(3) GN R. 1237 published under the Mine Health and Safety Act of 1996 describes the requirements for the storage of hazardous substances. These requirements should be incorporated into the Hazardous substance management plan.	Partially compliant	Some of these measures are provided in the emergency procedure but not all.
<b>Specialist recommendations:</b>			
55, 123	(2) Implement live placement of soil where possible, improve organic status of soils, maintain fertility levels and curb topsoil loss.	Partially compliant	Available topsoil not sufficiently protected.
60, 128	(7) In the event that contractors are to be appointed these contractors to sign and undertake environmental compliance.	Partially compliant	The mining contractor is responsible for most of the environmental compliance observed on site.
61, 129	(8) Keep disturbed areas and stockpiles to minimum to prevent soil loss.	Partially compliant	Most areas that have been cleared remained as is at the time of the audit except the large landing strip that was built and not included into the authorised footprints.
63, 131	(10) Prevent surface runoff and seepage on site from contaminating stockpiled soils and stripped areas.	Partially compliant	Most surface runoff is not contaminated but does contain silt from erosion. The wash water from the workshop however enters surface areas and potentially soils.
65, 133	(12) Remediate and rehabilitate disturbed areas in accordance with development plan	Partially compliant	The rehabilitation plan is being updated and reviewed and new milestones will be set. Some areas are available for rehabilitation currently and should proceed but hasn't.
<b>Geohydrology –</b>			
27, 163	(3) A number of geosites (i.e. boreholes, springs and surface water drainages) and newly proposed boreholes were identified (refer to the Geohydrological report in <b>Appendix M</b> ) to be included into a monthly/quarterly monitoring programme.	Partially compliant	A groundwater monitoring programme is available in the specialist reports. No monitoring however is being done and only the baseline qualities are available.
<b>Legal requirements:</b>			
153	(1) Section 30 of the National Environmental Management Act (NEMA), Act 107 of 1998 describes measures to be taken to control emergency incidents. These requirements should be included in the development of the Emergency Response procedure.	Partially compliant	Not all s.30 requirements included into the emergency procedures, only some requirements in terms of fire and explosions.
154	(2) Section 20 of the National Water Act 36 of 1998 describes the procedure for the control of incidents involving Hazardous substances. These requirements should also be included in the Emergency response procedure.	Partially compliant	Not all s.20 requirements included into the emergency procedures, only some requirements in terms of fire and explosions.
155	(3) GN R. 1237 published under the Mine Health and Safety Act of 1996 describes the requirements for the storage of hazardous substances. These requirements should be incorporated into the Hazardous substance management plan.	Partially compliant	Some of these measures are provided in the emergency procedure but not all.
<b>Compliance with standards:</b>			
34, 170	(3) Development of emergency response plan with specific reference to spill prevention and remediation.	Partially compliant	An emergency procedure is available but do not sufficiently addresses chemical spills.
36, 172	(5) Development and implementation of a Hazardous substances management plan	Partially compliant	Hazardous substances controls are implemented and overall compliance in terms of hazchem controls were good. A hazardous substances management plan/procedure were not provided.
<b>Topo and Visuals</b>			
<b>Compliance with standards:</b>			

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
10, 31	(2) Adherence to the finalised approved lay out plan.	Partially compliant	There was a landing strip built (3-4ha) that was not part of the approved layout.
<b>Heritage</b>			
<b>On-site mitigation measures:</b>			
64	(3) Artefacts may not be removed under any circumstances.	Partially compliant	One artefact that was found on-site has been stored at the site offices.
67	(6) Works must be stopped immediately should any elements of cultural or heritage significance be found.	Partially compliant	Works were stopped when pottery were found near a drilling site. No items were however found on the drilling site or in footprint of the drilling site.
<b>Compliance with standards:</b>			
79	(1) Ensure compliance with the National Heritage Resources Act (NHRA), No. 25 of 1999.	Partially compliant	The graves and sites that are to be impacted have been fenced off and demarcated to prevent any damage. Other sites have been noted and will be protected when required. A pottery item was found and a SAHRA or LIHRA official was not contacted.
<b>Socio-economic</b>			
<b><u>Specialist recommendations</u></b>			
26, 123	(2) Establish appropriate recreation facilities, taking special cognisance of workers without families.	Partially compliant	A braai area is on site and regular 'braais' are done (weekly at the end of the week).
<b><u>Specialist recommendations:</u></b>			
60, 157	(1) Increase awareness on safety by presenting Awareness training and education on safety risks potentially experienced by employees that are associated with overcrowding including, paraffin poisoning, fires, burns, road safety.	Partially compliant	Regular training done but it could not be provided that all these risks have been included.
63, 160	(4) All personnel or visitors to be trained on safety issues before entering site.	Partially compliant	Not all personnel are inducted.
<b><u>On-site mitigation measures:</u></b>			
73, 170, 185	(4) Promote employment of women and youth.	Partially compliant	Where possible, women will be employed such as in administration positions. Youth employment is encouraged where possible, such as in lower experience positions. More can however be done to improve women and youth employment.
<b><u>On-site mitigation measures:</u></b>			
88	(4) Promote employment of women and youth.	Partially compliant	Where possible, women will be employed such as in administration positions. Youth employment is encouraged where possible, such as in lower experience positions. More can however be done to improve women and youth employment.
<b>Waste</b>			
<b><u>Implementation of EMS:</u></b>			

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
4, 21	(4) Regular inspections of designated waste management area and/or facilities.	Partially compliant	Regular observations and checks re done on the waste facilities but not recorded.
6, 23	(6) Continuous awareness training on Recycling, Reduction, Re-use, and avoidance of waste.	Partially compliant	No records of training or awareness on waste recycling, however, during the site visits, used oil and steels have been observed effectively separated and recycled. Employees interviewed understood that these needed to be separated. Training, record keeping, and recycling can be improved.
<b>On-site mitigation measures:</b>			
24, 56	(1) Characterise and quantify all waste streams associated to the authorised activities in terms of quantity, hazard, generation frequency and recyclability and define and implement disposal options as specified in the waste management plan.	Partially compliant	The residue facilities have been characterised. All other waste is already classified in the relevant norm and standards for disposal. Not all quantities not recorded.
25, 57	(2) As part of the characterisation define opportunities for source reduction, as well as reuse and recycling as opposed to simply disposing waste.	Partially compliant	Some waste rock will be re-used in rehabilitation for backfilling the open pits.
39, 71	(16) All domestic refuse generated by staff and sub-contractors must be disposed at a registered waste disposal facility by a suitably registered service provider on a regular basis (i.e. weekly).	Partially compliant	General waste is regularly removed by North-West recycling (Pty) Ltd. No proof was provided of correct disposal.
44, 76	(21) During transportation of waste, all waste service providers must comply with the codes of practice and guidelines for licensing of waste transport vehicles and the regulation and monitoring of transport operations.	Partially compliant	This could only be confirmed for the EWOR (Pty) Ltd. waste vehicle.
<b>Legal requirements:</b>			
45, 77	(1) Ensure requirements stipulated in the National Environmental Management: Waste Act (NEMWA) of 2008 are incorporated in the Waste Management Plan.	Partially compliant	No waste management plan. Waste management was observed on site with demarcated bins and collections. No waste manifest could be provided by the company.
46, 78	(2) GN R. 634 list a number of requirements related to Waste classification and management. These requirements as stipulated in the regulations must be incorporated into the Waste Management Plan.	Partially compliant	Waste classification was done as part of the WUL application. No waste management plan available although the WML application and this EMP could be seen as a waste management plan, or at least contains enough information to develop a waste management pan.
47, 79	(3) GN R. 921 list a number activities that requires a Waste Management Licence in terms of NEMWA. Listed activity number 11 ("The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a mining right in terms of the MPRDA (Act 28 of 2002)") will require a waste management licence in terms of the regulations.	Partially compliant	WML application submitted and awaiting approval from the competent authorities.
49, 81	(5) GN R. 635 sets the National norms and standards for the assessment of waste for landfill. The procedures for determining the class of waste for landfill must be incorporated into the Waste Management plan.	Partially compliant	Waste classification done on the waste rock and other residue material as part of the WUL application. All other wastes generated on site are pre-classified.
<b>Compliance with standards:</b>			
53, 85	(1) Compliance with the National Environmental Management: Waste Act, act no 59 of 2008 and associated regulations.	Partially compliant	A WML application has been submitted. Some waste measures are implemented but still requires action. Waste classification has been done according to the N & S but need to be incorporated into a waste management plan.
<b>Water usage</b>			
<b>On-site mitigation measures:</b>			

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
4, 12	(2) Monitor water usage and ensure that areas of waste are identified and minimised.	Partially compliant	Water usage monitored. No areas identified to conserve water.
13	(3) Repair identified leaks and address issues of water wastage as soon as these are identified.	Partially compliant	No leaks observed. No water conservation or awareness thereon.
<b>Compliance with standards:</b>			
8	(2) Develop and implement a water usage record keeping procedure.	Partially compliant	Water usage monitored. No areas identified to conserve water.
16	(2) Develop and implement an infrastructure maintenance programme to include frequent inspections of water pipes and taps.	Partially compliant	No leaks observed. Infrastructure checked regularly. No record keeping.
<b>Chemical fires</b>			
<b>Implementation of EMS:</b>			
2, 58	(2) Develop an emergency procedure addressing in particular the management of chemical fires and spill response.	Partially compliant	An emergency procedure is available and addresses fire response. The procedure however lack enough detail on hazchem emergencies such as spills.
5, 61	(5) Employees must be familiar with and have received the appropriate training regarding the handling and storage practices, for all containers with which they will come into contact.	Partially compliant	No records of training on hazchem handling were provided although awareness of the correct handling could be provided through visual observations and interviews with the employees.
6, 62	(6) Document the types and amounts of hazardous materials present on the project site (including for example the name and description, classification, regulatory reporting threshold, quantities, characteristics, analysis of potential consequence, identification of location, details of responsible persons, detail of availability of spill response equipment etc.).	Partially compliant	No hazchem register available although stock control is taking place informally.
10, 66	(10) Communicating findings of concern to I&AP.	Partially compliant	This audit will go through a public participation process.
<b>On-site mitigation measures:</b>			
17, 73	(7) Ensure that all personnel that use or handle hazardous materials are trained in the use and potential dangers of the materials.	Partially compliant	No records of training on hazchem handling were provided although awareness of the correct handling could be provided through visual observations and interviews with the employees.
18, 74	(8) Implement all measures detailed in the spill prevention procedure in the event of a spill.	Partially compliant	Absorbents were observed and used. The spills that have been treated with absorbent has however been left unattended and should be cleaned immediately and removed to a hazardous waste bin.
20, 76	(10) Implement management controls (procedures, inspections, communications, training, and drills) to address residual risks that have not been prevented or controlled through engineering measures.	Partially compliant	The bund walls and other measures are residual measures. Some residual measures can still be implemented.
22, 78	(12) Chemical products must be secured when not needed to prevent tampering and vandalism.	Partially compliant	Hazchem stores are not secured (closed, lockable) although the containers are securely sealed.
24, 80	(14) Each shift supervisor or safety officer is to report on the integrity of the hazardous material storage.	Partially compliant	The hazchem store is regularly checked but not after each shift as is required.
30, 86	(20) No combustible material (e.g. wood, rags, carton boxes, etc.) are to be kept in the presence of flammable liquids.	Partially compliant	Spills were cleaned in the hazchem store, but the absorbent were left unattended which could increase flammability/combustibility.
<b>Legal requirements:</b>			
45, 101	(4) GN R. 1237 published under the Mine Health and Safety Act of 1996 describes the requirements for the storage of hazardous substances. These requirements should be incorporated into the Hazardous substance management plan.	Partially compliant	Some of these measures are provided in the emergency procedure but not all.

EA ref.	Mitigation / Condition	Compliance	Verification / Comments
52, 108	(11) Requirements stipulated by SANS 301: 2011 (Storage tank facilities for hazardous chemicals) must be incorporated into the Hazardous Substance Management plan and be implemented.	Partially compliant	No hazardous substances management plan but the hazchem facilities are largely compliant with SANS 301:2011 requirements
<b>Compliance to standards:</b>			
56, 112	(4) Develop a frequent inspection programme to include inspections of hazardous substances storage facilities.	Partially compliant	Regular informal inspections are done but not recorded.
<b>Traffic</b>			
<b>On-site mitigation measures:</b>			
3	(2) All storm water control mechanisms to be maintained.	Partially compliant	Storm water on the roads were controlled
4	(3) Clean and repair any damages caused by the haul vehicles to public or private roads.	Partially compliant	It is assumed that this refers only to the immediate vicinity of the operation, where the operation's road enters the tar road.
<b>Specialist recommendations:</b>			
20	(2) Providing for exclusive turning lanes on the D1261 / Access to the mine intersection.	Partially compliant	Gravel turning lanes are available at the mine turnoff, but no tar turning lanes with sigs or markers.
<b>Compliance with standards:</b>			
32	(1) Develop and implement a traffic management plan.	Partially compliant	The specialist traffic report is the currently available traffic management plan. Other standards are available for road safety.



## 2.2. Sufficiency review

### 2.2.1. Sufficiency of EMP commitments

The sufficiency assessment of each of the EMP commitments are detailed in Table 8 below. There were 5 commitments which were found to be insufficient and required amendment. These 5 commitments were largely repetitive and can be summarized as follows:

- the removal of PM<sub>10</sub> and PM<sub>2.5</sub> monitoring requirements, although a specialist requirement, should be revised given the compliant dust fallout results at the fallout buckets. The national dust control regulations states that *“An air quality officer may require any person to undertake continuous ambient air quality monitoring for PM10 in accordance with a notice published in terms of section 9 of the Act, if the dustfall monitoring report contemplated in regulation 5 indicates non-compliance with regulation 3.”* Regulation 3 is the residential and industrial dust fallout rates;
- the removal of the stockpile wetting requirements as it is the auditor’s opinion that the wetting of the stockpile’s is not necessary as a mitigation measure, as is also supported by the dust fallout results. Wetting of the stockpiles, considering the small potential effect on dust fallout, would be a wastage of water; and
- the removal or revision of the requirement to clean and repair damage caused by hauling on public roads. The auditor is of the opinion that it is nearly impossible to apportion impact to BCR when numerous other companies’ trucks are hauling product on the same roads. This commitment is not suggested to be removed but be revised (see recommendations below).

**Table 9:** Sufficiency performance table

Audit area	Sufficiency split				Commitments	
	Sufficient	%	Not sufficient	%	Applicable commitments	Not applicable
<b>EMP</b>						
<b>Actions</b>	<b>1687</b>	<b>100%</b>	<b>3</b>	<b>0%</b>	<b>1690</b>	<b>2</b>
Air quality	169	98%	4	2%	173	2
Biodiversity	226	100%	0	-	226	0
Groundwater	205	100%	0	-	205	0
Surface water	302	100%	0	-	302	0
Soils	208	100%	0	-	208	0
Topography	32	100%	0	-	32	0
Heritage	80	100%	0	-	80	0
Socio-economic	194	100%	0	-	194	0
Waste	85	100%	0	-	85	0
Noise	24	100%	0	-	24	0
Water usage	16	100%	0	-	16	0
Chemical fires	112	100%	0	-	112	0
Transport (traffic)	32	97%	1	3%	33	0
<b>Auditing</b>	<b>1</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>1</b>	<b>0</b>
<b>Closure</b>						
<b>Closure</b>	-	-	-	-	0	0
<b>Overall sufficiency</b>	<b>1688</b>	<b>99.7%</b>	<b>3</b>	<b>0.3%</b>	<b>1691</b>	<b>2</b>

The overall EMP sufficiency were above average and good. As a very detailed EMP, there is sufficient actions to address the risks that were identified. The assessment of the sufficiency was perhaps hampered by the below average compliance to the mitigations as it is difficult to assess whether the mitigations are effective if it is not implemented. In these cases, the assessments were largely theoretical based on the auditor’s opinion and experience of whether such mitigations have been

found to work in other operations. In the next EMP audits additional insufficiencies might be identified that was not identified in this audit.

## 2.2.2. Mitigation gaps

All the high-level management areas have been listed in Table 9 below. These management areas were then assessed to ascertain whether any measures are available and then referring to the above sufficiency criteria to determine whether they are sufficient. Thus, as an example, if measures (commitments / actions / conditions) are provided in either the EA or EMP to manage air quality but were found, in the sufficiency assessment above, to be insufficient, then the measures provided will be assessed as '*Yes, but not sufficient*'. If no measures are provided, then it will be assessed as '*No*' which would mean that there is no measures and a potential management gap.

**Table 10: Mitigation gaps**

	Measures provided in the EA	Measures provided in the EMP
Air quality management	✓	✓
Biodiversity management	✓	✓
Water management	✓	✓
Waste management	✓	✓
Hazardous substances	✓	✓
Noise management	✓	✓
Heritage management	✓	✓
Socio-economic management	✓	✓

✓ - Yes    ≈ - Yes, but not sufficient    ✗ - No

The assessment indicated that no mitigation gaps were found, which means that all risk areas have been effectively addressed in the EMP and EA. The amendments that are proposed for the 3 commitments listed above in section 2.2.1 are more to align the EMP commitments to what is practical and implemented and not necessarily to address a mitigation shortcoming, meaning, all the other commitments of air quality

and traffic are sufficient on their own (without these 3 amendments) to address these impact areas.

**Table 11: Commitments found not to be sufficient**

Mitigation Method	Compliance	Verification / Comments	Sufficiency	Recommendations / comments
<b>Air quality</b>				
(5) Wetting of stockpile areas.	<b>Not compliant</b>	Wetting of stockpiles have not been observed during the site visits and no proof has been if it is taking place.	<b>Not sufficient</b>	It is suggested that this should be revised given the compliant dust fallout results at the fallout buckets
<b>Traffic management</b>				
(3) Clean and repair any damages caused by the haul vehicles to public or private roads.	<b>Partially compliant</b>	It is assumed that this refers only to the immediate vicinity of the operation, where the operation's road enter the tar road.	<b>Not sufficient</b>	This action to be changed as it is nearly impossible to apportion impact to BCR when numerous other companies's trucks are hauling product on the same roads

## 3. RECOMMENDATIONS

### 3.1. Compliance recommendations

As discussed in section 2.1, the main compliance issues have been summarised below together with its proposed recommendations. Due to the sheer bulk of the compliance issues identified (a total of 491

simplified to 209), the compliance recommendations are not detailed for each non-compliance but is summarised into the main priority areas that should, if implemented, address the majority of the non-compliances.

**Table 12:** Main compliance recommendations

No.	Compliance issue noted	Recommendation
1	The overall lack of environmental management system and control, such as auditing/inspection, incident reporting, training and awareness, and legal compliance.	It is recommended to appoint a qualified employee/person to oversee and manage the development and implementation of a basic environmental management system (EMS). Initial focus should be on establishing and implementing basic procedures for the protection of biodiversity (including streams), management of waste, management of water, handling and storage of hazchems, protection of soil, and system procedures for reporting incidents, conducting audits/inspections, and ensuring legal compliance. The focus should be on ensuring that the requirements of the EMP and EA is integrated into the procedures and that all employees are effectively trained on their responsibilities in terms of the EMS. Following this, the appointed person needs to oversee the implementation and ensure that the issues identified (through inspections/audits) are effectively addressed (corrective and preventative actions). The main performance trackers should be to show continual improvement such as an improvement in compliance (more full compliance less partial and non-compliances), improvement in storm water control, improvement in concurrent rehabilitation, etc.
2	Lack of stormwater controls	A detailed stormwater management plan (SWMP), complete with detailed designs from a registered civil engineer, have been provided to the auditor and is available. This SWMP needs to be revised, updated and implemented. A phased approach to implementation is fine and priority should be given to the areas of higher erosion.
3	No alien and invasive plant control or monitoring	Develop and implement an alien and invasive species removal programme
4	No water use licence (WUL)	Understandably, the application process for the WUL was in the process of initiating, with a pre-application meeting having already taken place in 2016. Some new activities have since taken place, such as the landing strip, which might require the WUL application documents to be updated. The existing IWWMP and WUL application documentation needs to be updated and BCR need to proceed with the WUL application.
5	Constructing the landing strip without the required authorisation	Obtain legal advice on way forward. If the activity is found to trigger activity 7 of listing notice 3 (GNR 985 of 2014 and as amended by GN 324 of 2017 and GN 706 of 2018) or activity 27 of listing notice 1 (GNR 983 of 2014 and as amended by GN 327 of 2017 and GN 706 of 2018) then an application needs to be made in accordance with section 24G of NEMA. If these activities are found not to be triggered then an amendment still need to be made in accordance with Chapter 5 part 2 of the EIA regulations (GNR 982 of 2014 and as amended by GN 326 of 2017 and GN 706 of 2018).

6	Poor biodiversity management and protection	Conduct awareness on no-go zones. Considering the clearing of the 3-4ha for a landing strip, re-emphasize the strict controls on operational footprints and ensure all activities remain within these footprints. Where possible, ensure concurrent rehabilitation are undertaken to initiate the natural restoration processes.
7	Hazardous waste management.	Ensure that a registered waste transporter is used to remove the hazardous waste regularly to a licenced waste disposal site that can accommodate the hazardous waste type. Ensure that records of each removal and disposal is retained and in accordance with the record keeping requirements of the waste classifications and management regulations (GNR. 634 of 2013).
8	Water monitoring	Implement ground and surface water monitoring by taking into consideration the recommendations in the specialists reports.

### 3.2. EMP amendments (recommendations)

As discussed in section 2.2, the sufficiency issues have been summarised below together with its proposed amendment recommendations:

**Table 13:** Sufficiency recommendations

No.	Sufficiency issue noted	Amended action
1	Wetting of stockpile areas.	<p><u>Comment:</u> It is the auditor's opinion that the wetting of the stockpile's is not necessary as a mitigation measure, as is also supported by the dust fallout results. Wetting of the stockpiles, considering the small potential effect on dust fallout, would be a wastage of water.</p> <p><u>Recommendation:</u> <b>This commitment is recommended for removal.</b></p>
2	Clean and repair any damages caused by the haul vehicles to public or private roads.	<p><u>Comment:</u> The auditor is of the opinion that it is nearly impossible to apportion impact to BCR when numerous other companies' trucks are also hauling product on the same roads. This commitment is not suggested to be removed but be revised.</p> <p><u>Recommendation:</u> <b>BCR should engage the relevant authority who is responsible for road maintenance on the affected public roads to find solutions to the effects of hauling pressures on these roads. This should be done together with the other companies who does heavy hauling on these roads.</b></p>

## 4. CONCLUSION

All the commitments audited (EMP and EA) amounted to 1812. Of these 1812 commitments, 1473 (81.3%) were auditable while 339 (19.7%) were not applicable. Of these auditable actions the total number (EMP and EA) of fully compliant commitments were 603 (41%), while the total number of partially compliant commitments was 358 (24%), and non-compliant commitments 512 (35%). This is, compared to similar audits on other projects, below average and likely towards the lower quantile. With the sheer bulk of compliance issues raised during this audit (non-compliances and partial compliances), BCR needs to prioritize the issues raised in this report and ensure that the necessary attention is given to these issues, especially the areas of erosion, biodiversity and legal.

Being situated in an area of high endemism, rehabilitation is crucial to restore some of the nearly 30 ha of indigenous flora that has been lost to the project. BCR has the potential to initiate concurrent rehabilitation and use the available time to trial with some rehabilitation initiatives that will improve restoration, while developing the systems and structures to ensure that no further damage is done to the surrounding flora other than what was approved in the EIA/EMP process.



# **Appendix 1**

## **Full audit checklist**

# **Appendix 2**

## **CV of auditor**

# **Appendix 3:**

# **Photos**