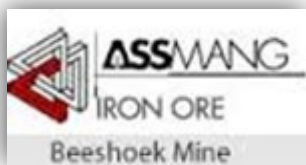


Beeshoek Iron Ore Mine

2019 Annual Environmental Audit in terms of NEMA, 1998 and ECA, 1989



Report Purpose

Providing the client and Regulatory Authority with an understanding of the environmental compliance in terms of the all Environmental Authorisations in terms of the National Environmental Management Act (NEMA) and the Environmental Conservation Act (ECA).

To address any potential amendments to the Environmental Authorisations and/or Environmental Management Programmes (EMPr's) through Regulation 34 of the Environmental Impact Assessment Regulations, 2014.

Report Status

Final V3

Report Reference

EnviroGistics Ref.: 21912

Departmental Ref.: Permit 12/9/11/P49, Permit 12/2014, Permit 20/2015, Permit 17/2011 and NC 30/5/1/2/3/2/1 (223) MR

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BEESHOEK IRON ORE MINE 2019 EMPR ENVIRONMENTAL AUDIT

Departmental Ref: Permit 12/9/11/P49, Permit 12/2014, Permit 20/2015, Permit 17/2011 and NC 30/5/1/2/3/2/1 (223) MR

Project Ref: 21912

Version: Final

Quality Control

Report Title	Beeshoek Iron Ore Mine: 2018 Environmental Audit: NEMA and ECA	
Report Ref. No.	21912_F3	
Report Status	Final	
Report Purpose	For Submission	
	Signature	Date
Report Author	Tanja Bekker	16 August 2019
	Michelle Pretorius	30 August 2019

Amendments

Report Ref:	Nature of Amendment	Date	Report Output Ref:
21912_W	Inclusion of Audit Evidence	22 August 2019	21912_W2
21912_W2	External Review	30 August 2019	21912_D1
21912_D1	Inclusion of Audit Evidence – submission of reports	3 September 2019	21912_F
21912_F2	Inclusion of Legal Review	17 October 2019	21912_F2

Distribution

Distributed To:	Purpose:	Date	Format/Amount
Msimelelo Silomntu; Crystal Vries	Clarification of Audit Evidence	16 August 2019	Electronic
Michelle Pretorius	External Review	23 August 2019	Electronic
Msimelelo Silomntu; Crystal Vries	First Draft	2 September 2019	Electronic
Msimelelo Silomntu; Crystal Vries	First Draft	4 September 2019	Electronic
Msimelelo Silomntu; Crystal Vries	Final	4 October 2019	Electronic
Msimelelo Silomntu; Crystal Vries	Final 2	17 October 2019	Electronic
Msimelelo Silomntu; Crystal Vries	Final 3	30 November 2019	Electronic



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1 INTRODUCTION AND TERMS OF REFERENCE

1.1 Purpose of the Environmental Audit Report

The purpose of this Environmental Audit is **three-fold**:

Firstly, in terms of Beeshoek Iron Ore Mine's (hereafter referred to as Beeshoek, Beeshoek Mine or the mine) legal requirements the following is required:

A Environmental Audit Report to provide the client with feedback in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the Environment Conservation Act, 1989 (Act No. 73 of 1989) (ECA) for Permit 12/9/11/P49 (Landfill Site), Permit 12/2014 (BF Waste Rock Dump), Permit 20/2015 (Village Haul Road), Permit 17/2011 (Road Deviation) and NC 30/5/1/2/3/2/1 (223) MR (Storm Water Dam North Upgrade). Condition 14 of all three of the permits states that: "The applicant must carry out regular environmental audits to establish compliance with the conditions of this authorisation and contracts." Permit 12/9/11/P49 requires as part of Condition 8.2.1 that "The permit holder must appoint an independent external auditor to audit the site biennially and this auditor must compile an audit report documenting the findings of his/her audit, which must be submitted by the permit holder according to Condition 9.9". Condition 14 of Permit 12/2014 requires that "The applicant must carry out regular environmental audits to establish compliance with the conditions of the authorisation and contracts."

The purpose of this Environmental Audit Report is to provide the client with feedback in terms of the mine's compliance in terms of the EMPr's and associated Environmental Authorisations. .

Secondly, to give effect to the 2014 NEMA Environmental Impact Assessment (EIA) Regulations. Regulation 26 (1e) states that an environmental authorisation must specify the frequency of auditing of compliance with the conditions of the environmental authorisation and of compliance with the EMPr, and where applicable the closure plan in order to determine whether such EMPr and closure plan continuously meet mitigation requirements and addresses environmental impacts, taking into account processes for such auditing prescribed in terms of these Regulations: provided that the frequency of the auditing of compliance with the conditions of the environmental authorisation and of compliance with the EMPr may not exceed intervals of five years.

In terms of Section 34 of the 2014 NEMA EIA Regulations, the holder of an environmental authorisation (this now includes Approvals in terms of the NEMA, ECA, and the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA), must, for the period during which the environmental authorisation and EMPr, and where applicable the closure plan, remain valid-

- a) ensure that the compliance with the conditions of the environmental authorisation and the EMPr, and where applicable the closure plan, is audited; and
- b) submit an environmental audit report to the relevant competent authority.

Thirdly, to list the identified amendments required for the Environmental Authorisation and/or EMPr's, as well as list the recommended Stakeholder Consultation Process to be followed, where applicable.

The following table presents the format of the audit report:

Table 1: Reference Table

#	Section	Requirements	Section in this Report
	34(2)	The environmental audit report contemplated in subregulation (1) must-	
1	34(2)(a)	be prepared by an independent person with the relevant environmental auditing expertise;	2.3

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#	Section	Requirements	Section in this Report
	34(2)(b)	provide verifiable findings, in a structured and systematic manner, on-	
2	34(2)(b)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; and	5.3
3	3(2)(b)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;	4, 5.2, 5.5
4	34(2)(c)	contain the information set out in Appendix 7; and	See this report
5	34(2)(d)	be conducted and submitted to the competent authority at intervals as indicated in the environmental authorisation.	1.1
	34(3)	The environmental audit report contemplated in subregulation (1) must determine-	
6	34(3)(a)	the ability of 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 on an ongoing basis and to sufficiently provide for the, avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and	4, 5.2, 5.3
7	34(3)(b)	the level of compliance with the provisions of environmental authorisation, EMPr and where applicable the closure plan.	5.2
	34(4)	Where the findings of the environmental audit report contemplated in subregulation (1) indicate-	
8	34(4)(a)	insufficient mitigation of environmental impacts associated with the undertaking of the activity; or	5.3, 5.4
9	34(4)(b)	insufficient levels of compliance with the environmental authorisation or EMPr and, where applicable the closure plan;	5.3, 5.4
10		the holder must, when submitting the environmental audit report to the competent authority in terms of subregulation (1), submit recommendations to amend the EMPr or closure plan in order to rectify the shortcomings identified in the environmental audit report.	Noted, see Section 4 for recommendations made by auditor.
11	34(5)	When submitting recommendation in terms of subregulation (4), such recommendations must have been subjected to a public participation process, which process has been agreed to by the competent authority and was appropriate to bring the proposed amendment of the EMPr and, where applicable the closure plan, to the attention of potential and registered interested and affected parties, including organs of state which have jurisdiction in respect of any aspect of the relevant activity and the competent authority, for approval by the competent authority.	5.6 – recommended to be undertaken in conjunction with new EIA Process scheduled for commissioning early 2020.
12	34(6)	Within 7 days of the date of submission of an environmental audit report to the competent authority, the holder of an environmental authorisation must notify all potential and registered interested and affected parties of the submission of that report, and make such report immediately available-	Noted
13	34(6)(a)	to anyone on request; and	Noted
14	34(6)(b)	on a publicly accessible website, where the holder has such a website.	Noted
Appendix 7			
	3(1)	An environmental audit report prepared in terms of these Regulations must contain-	
15	3(1)(a)i	the independent person who prepared the environmental audit report; and	2.3
16	3(1)(a)ii	the expertise of independent person that compiled the environmental audit report;	2.3.2

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#	Section	Requirements	Section in this Report
17	3(1)(b)	a declaration that the independent auditor is independent in a form as may be specified by the competent authority specified by the competent authority;	5.9
18	3(1)(c)	an indication of the scope of, and the purpose for which, the environmental audit report was prepared;	1.1
19	3(1)(d)	a description of the methodology adopted in preparing the environmental audit report;	2.2
	3(1)(e)	an indication of the ability of the EMPr, and where applicable, the closure plan to-	
20	3(1)(e)i	sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an on-going basis;	4, 5.2, 5.4
21	3(1)(e)ii	sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and	4, 5.2, 5.4
22	3(1)(e)iii	ensure compliance with the provisions of environmental authorisation, EMPr, and where applicable, the closure plan;	4, 5.2, 5.2, 5.4
23	3(1)(f)	a description of any assumptions made, and any uncertainties or gaps in knowledge;	5.5
24	3(1)(g)	a description of any consultation process that was undertaken during the course of carrying out the environmental audit report;	5.6
25	3(1)(j)	a summary and copies of any comments that were received during any consultation process; and	Recommended to be undertaken in conjunction with new EIA Process scheduled for commissioning early 2020.
26	3(1)(k)	any other information requested by the competent authority.	Noted

The Environmental Audit is undertaken to determine the following:

- ☞ Compliance with conditions pertaining to the Environmental Authorisations and EMPr approval; and
- ☞ The appropriateness (adequacy) of the Environmental Authorisation to ensure that it covers all the activities and developments on-site and, in the process, to identify information required to update the EMPr's if required.

The objectives of this Environmental Audit Report are to:

- ☞ Provide the management of the mine, as well as the Department of Mineral Resources (DMR) with an understanding of the level of compliance towards the Environmental Authorisation; and
- ☞ Supply a basis for the initiation of corrective action.

1.2 Introduction

The Iron Ore Division of Assmang Ltd (hereafter referred to as Assmang) is made up of the Beeshoek and the Khumani Iron Ore Mines, both located in the Northern Cape Province.

Beeshoek is located approximately 7km west of the town of Postmasburg. The mine falls under the jurisdiction of the Tsantsabane Local Municipality, which is an administrative area in the ZF Mgcawu District Municipality. The mining area is situated on the properties Beesthoek and Olynfontein in the Kuruman Registration Division (RD).

The R385 roadway, as well as the Sishen–Saldanha railway line, also known as the Ore Export Line (OREX), traverse the mine. The overall area is characterised by intensive mining development. Various servitudes traverse the mine, which include roads, telephone lines and electricity lines.

Assmang is the holder of the new order rights in terms of the MPRDA in respect of high-grade hematite iron ore deposits at Beeshoek on the farms Beesthoek and Olyfontein. The mining method currently entails an opencast mining operation, which consists of three (3) opencast pits. The current resources of the mine are 98 million tonnes with a reserve of 46 million tonnes.

Mining at Beeshoek was established in 1964 with a basic hand sorting operation. In 1975 a full washing and screening plant was installed. Because of increased production, Beeshoek South (South Mine), a southern extension of Beeshoek Mine, was commissioned during 1999 on the farms Beesthoek and Olyfontein.

Broadly, Beeshoek Mine can be categorised as follows:

- ☞ North Mine: This area comprises active as well as historical mining areas. Several active opencast pits and mine residue dumps of various categories are located within this area. The area also includes the iron ore beneficiation plant.
- ☞ Housing (almost fully decommissioned and demolished) and administration: This area comprises the older housing on the mine, as well as the offices and related administration buildings. This area is separated from the north eastern mining area (North Mine) by means of the railway line running from Postmasburg to Saldanha.
- ☞ Village and recreational area (fully demolished); and
- ☞ South Mine: This area includes the latest mining developments comprising large opencast pits and associated waste rock dumps. This area also includes a crushing and screening area as pre-preparation of the Run of Mine (ROM) iron ore before being routed by overland conveyor to the iron ore beneficiation plant located within the north eastern mining area (North Mine).

Beeshoek is certified for Safety, Health, Environment and Quality (SHEQ) management systems according to ISO 14001, OHSAS 18001 and ISO 9001.

The mine is operating with all required environmental authorisations in terms of the:

- ☞ NEMA, and also the original approval in terms of the ECA:
 - Licence 1 (in terms of ECA)
 - Licence Ref.: Permit 12/9/11/P49
 - Purpose: Landfill site.
 - Date: 30 October 2008
 - Licence 2
 - Licence Ref.: Permit 17/2011
 - Purpose: Road Diversion
 - Date: 3 March 2011
 - Licence 3
 - Licence Ref.: Permit 12/2014
 - Purpose: BF Waste Rock Dump (WRD) (now the Village WRD)
 - Date 7 March 2014
 - Licence 4
 - Licence Ref.: Permit 20/2015
 - Purpose: Village WRD Haul Road
 - Date: 3 June 2015
 - Licence 5
 - Licence Ref.: Permit NC 30/5/1/2/3/2/1 (223) MR
 - Purpose: Storm Water Dam North Upgrade
 - Date: 10 March 2017
- ☞ MPRDA:
 - EMPr 1 (pre-alignment, and used for information purposes – no longer audited):
 - EMPr Report
 - Purpose: Beeshoek Mining Operation
 - Date: August 2004
 - EMP 2:
 - Licence Ref.: NC30/5/1/2/3/2/1/223EM



- Purpose: EMPr Alignment for activities on Beeshoek
- Date: 7 June 2010
- ☞ National Water Act, 1998 (Act No. 36 of 1998) (NWA):
 - Licence Ref.: 10/D73A/ABGJ/2592
 - Purpose: Licence for all Section 21 Water Uses and Government Notice No. 704 (GN704) triggered activities (such as backfilling)
 - Date: 21 August 2018

1.3 Catchment Description

Beeshoek Mine is located within quaternary catchment D73A, which measures 3 238km² in size. The overall catchment is part of a large endoreic area. The main drainage feature within this area is the Groenwater Spruit, which has a catchment of approximately 1 000km². The Groenwater Spruit discharges into a major local depression at Vleiputs.

The local catchment upslope of the mine is small, since it is located near a range of koppies which forms the water shed between the Groenwater Spruit and the unnamed adjacent catchment. The general drainage starts off in a westerly direction, from the koppie to the north and east of the mine's northern workings. From the North Mine, the drainage is in a south westerly direction, before turning south at the southern portion of the South Mine area.

The above, combined with the sandy soils that are prevalent in the area, should result in high infiltration with limited runoff during normal rainfall events. No distinct drainage paths exist, but some minor preferential pathways are evident, and runoff could be concentrated in these pathways.

1.3.1 Licence Holder Details

The following table provides the details of the Licence Holder.

Table 2: Licence Holder Contact Details

Licence Holder:	Assmang (Pty) Ltd: Beeshoek iron Ore Mine		
Registration no (if any):	35007343/06		
Trading name (if any):	N/A		
Contact person:	Mr Msimelelo Silomntu (Environmental Superintendent)		
Physical address:	The mining area is situated on the properties Beeshoek and Olynfontein in the Kuruman RD. The specific farms include: Beeshoek 448, portion 0, Beeshoek 448, portion 1 and Olynfontein 475, portion 4.		
Postal address:	Private Bag X3002, Postmasburg		
Postal code:	8420	Cell:	+27 (0) 63 520 9191
Telephone:	+27 (0) 53 311 6666		
E-mail:	Msimelelo.Silomntu@assmang.co.za		

2 COMPLIANCE ASSESSMENT METHODOLOGY

2.1 Methodology

The following methodology was implemented to assess the compliance of Beeshoek Mine to its MPRDA , NEMA, and NWA and associated EMPr Conditions:

- Gathering of Information;
- Checklist Formulation;
- Site Visit and Staff engagements;
- Compliance Assessment; and
- Feedback.

2.1.1 Gathering of Information

The most relevant documents were reviewed. Budgetary constraints make it impossible to review absolutely all the documents and spending days on site. The audit was conducted by doing numerous spot-checks on site as well as assessing licence or permit conditions. The external audit included discussions with the responsible environmental and engineering staff at the Operations.

Information required for the Environmental Audit Report was provided by Ms. Crystal Vries during the site visit. The following documents were reviewed by EnviroGistics (Pty) Ltd and consulted during the assessment:

- Permits:
 - Permit 17/2011 for the Road Diversion
 - Permit 12/2014 for the BF WRD (Village WRD)
 - Permit 20/2015 for the Village Haul Road
 - EMP Alignment in terms of the MPRDA and associated Record of Decision (ROD) NC 30/5/1/2/3/2/1 (223) EM
 - Water Use Licence (WUL), Reference 10/D73A/ABGJ/2592
- Chemical Water Analysis:
 - Aquatico Water Quality Reports for 2019
 - Dust Watch Air Quality Reports for 2019
- Past Environmental Audits:
 - 2016-2018 Environmental Audits for the purposes of the Environmental Audit.
- Department of Water and Sanitation (DWS) consultation
 - Beeshoek Integrated WUL (IWUL) Amendment Request, letter dating 2018 and 2019
- Other Information:
 - All reference material is listed in the Environmental Audit Table included in Section 4 of this report.
 - Water Reports up until July 2019 (levels and qualities used).

2.1.2 Checklist Formulation

EnviroGistics (Pty) Ltd conducts its Environmental Audits on an electronic spreadsheet as presented in this report. The detail findings of the audit are incorporated together with compliance score levels in the spreadsheet. The findings are results of the evaluation of the collected audit evidence against audit criteria.

For ease of cross referencing, the Audit Findings and Scores within the spreadsheet follow the same order as laid out in the various licences and permits being assessed, but only lists those conditions which are measurable

as being in compliance or not (i.e. conditions which cannot be measured are not included). The spreadsheet is formulated based on all provided information.

2.1.3 Site Assessment and Schedule

A site visit was undertaken on 16-18 July 2019. During the site visit, the following areas were visited:

☞ South Mine:

- Village Opencast Pit (“Village Pit”);
- East Pit;
- GK Pit;
- West Pit;
- East WRD;
- West WRD;
- Banded Iron Stone (BIS) and Contaminated Stockpiles;
- ROM Stockpiles;
- Village WRD;
- Rehabilitation Areas;
- Laydown Areas;
- New Haul Road;
- Workshop areas; and
- General mining area.

☞ Administrative Area:

- Demolition activities of houses; and
- Area where Storm Water Dam is being constructed.

☞ North Mine:

- Workshop areas;
- General mining area;
- Plant area;
- Railway area;
- Landfill Site;
- Slimes Dam and surrounding area;
- HH WRD; and
- Discard Dump.

2.1.4 Rating Methodology

The specific audit spreadsheet prepared by EnviroGistics (Pty) Ltd was utilised to report on environmental compliance at the mine. Each finding or observation received a compliance score in terms of the following:

Table 3: Rating Methodology

Compliance Score	Implication	Description
N/A	Not Applicable	Not applicable and will not be implemented or not discussed/assessed.
T/N	Take Note	The condition is applicable, and the client is aware of the requirement and must keep note of the condition in the near future.
Dup	Duplication	The same conditions which are not rated again.
NLR	No Longer	If a phase is completed and the condition does not relate to the subsequent phases.



BEESHOEK IRON ORE MINE 2019 EMPR ENVIRONMENTAL AUDIT

Departmental Ref: Permit 12/9/11/P49, Permit 12/2014, Permit 20/2015, Permit 17/2011 and NC 30/5/1/2/3/2/1 (223) MR

Project Ref: 21912

Version: Working Document

Compliance Score	Implication	Description
	Relevant	
TBA	To Be Amended	Conditions to be amended in terms of NEMA (2014 as amended), Regulation 34.
0	Major Non-Compliance	Relates to the absence of a requirement needed to be implemented or the total breakdown of a process. A number of minor non-compliances listed against the same requirement may represent a total breakdown of a process and thus could collectively be a major non-compliance.
1	Minor Non-Compliance	The requirement is partially implemented or non-compliant.
2	Observation	Relates to a matter about which the Assessor is concerned but which cannot be clearly stated as a non-compliance. Observations also indicate trends which may result in a future non-compliance.
3	Compliant	The project management plans and procedures are executed in a managed fashion (planned, tracked, verified and adjusted) based upon defined activities, inputs and outputs. Objective evidence is available for each process.

2.1.5 Reporting and Feedback

After the site visit, a formal feedback meeting was held with the mine’s Engineering Department, Workshop Manager, Mining Team, and Environmental Department to present the general feedback on the observations made during the site visit. The site notes were also presented to the Licence Holder for their review.

The working Audit Report was provided to the client on the 14 August 2019 for feedback and input. During this time additional proof was obtained to assess conditions, such as proof of submission of reports, proof of monitoring activities and availability of training material. The first draft report was submitted to the Licence Holder on 2 September 2019.

2.2 Details of Environmental Assessment Practitioner

2.2.1 The Company

EnviroGistics (Pty) Ltd (hereafter referred to as “EnviroGistics”) was appointed, as the independent Environmental Assessment Practitioner (EAP) to undertake the required Compliance Assessment.

EnviroGistics, established in 2015, provides Independent Environmental Planning, Permitting, and Consulting Services to a vast array of clients throughout the mining, construction and development industry. EnviroGistics’ independence is ensured with Ms Tanja Bekker being both registered with the South African Council for Natural Scientific Professions (SACNASP), as well as with the Environmental Assessment Practitioners Association of South Africa (EAPASA), complying with the highest requirements of the South African Environmental Legislation. The company holds further no equity in any other project. EnviroGistics operates with the goal of fulfilling its vision and mission, breaking away from a general consulting mould, striving to form an integrate part of a project team. For this reason, clients will be provided with experienced, practical, technically sound, independent, objective and value adding advice, ensuring support on environmental planning, permitting and compliance matters.

EnviroGistics is an independent company and has no vested interest in the outcome of the environmental assessment.

2.2.2 Expertise of the Environmental Assessment Practitioner

Ms. Bekker is registered as a Professional Natural Scientist in the field of Environmental Science with SACNASP and is also a registered Environmental Assessment Practitioner (EAP) with EAPASA, a legal requirement stipulated by NEMA. She is further certified as an ISO 14001 Lead Auditor. Her qualifications include BSc. Earth



Sciences (Geology and Geography), BSc. (Hons.) Geography, and MSc. Environmental Management. In addition to these tertiary qualifications, she obtained a Certificate in Project Management, and completed the Management Advancement Programme at Wits Business School.

With more than 17 years' working experience in environmental management and the consulting industry and managing various Large Account Clients, she understands the South African Regulatory System, and can advise clients with due diligence on their environmental regulatory requirements and offer a solution driven service to their project life cycle. She is equipped with exceptional project management and coordination skills, which especially enhances the service she offers clients within the environmental permitting system.

Her key focus is environmental management and compliance with extensive experience in the mining industry. Project Management and Coordination of projects form a critical component of her duties, which include project planning, initiation of projects, client, authority and stakeholder consultation, specialist coordination, budget control, process control, quality control and timeframe management. Her interest lies in a client advisory capacity, being involved during due diligence investigations, pre-project development and assisting the client and engineering team in adding value to develop the project in an environmentally sustainable manner, considering client costs and liabilities, as well as considering the implication of environmental authorisation conditions and requirements on project deliverables. Her involvement in projects has spanned over the project life cycle from Due Diligence Investigations, Pre-Feasibility Investigations, Prospecting Right Applications, Mining Right Applications, Environmental Reporting and implementation and auditing of Environmental Management Plans and Authorisations.

Table 4: EAP Contact Details

Name	Tanja Bekker
Designation	Environmental Assessment Practitioner
Postal Address	PO Box 22014, Helderkruijn, 1733
Physical Address	21 Gladiolus Street, Roodekrans, 1724
Telephone Number	+27 (0) 82 412 1799
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Email Address	tanja@envirologistics.co.za

The following table presents the expertise of the EAP to carry out the Compliance Assessment.

Table 5: Table listing auditors experience

Name	Position	Project Responsibility	Qualification	Professional Registrations	Experience
Tanja Bekker	Principal Environmental Assessment Practitioner	Compliance Assessor	M.Sc. Environmental Management (RAU, now University of Johannesburg)	Registered EAP with the Environmental Assessment Practitioners Association of South Africa (EAPASA) (EAPASA Reg. 2019/306) Professional Natural Scientists with the South African Council for National Scientific Professions (SACNASP: Pr.Sci.Nat. Reg No. 400198/09) Member of the International Association for Impact Assessment (IAIA)	17 Years
Hendrik Kruger	Environmental Assessment Practitioner	Compliance Assessor	Geography Hon. – University of Johannesburg	Member of the International Association for Impact Assessment (IAIA)	9 Years



3 LEGISLATIVE SETTING

South Africa has a comprehensive environmental governance framework underpinned by an extensive array of environmental laws. The past years have evidenced the wholesale reform of South Africa's environmental legal framework under the guidance of the Constitution.

Historically, the mining industry in South Africa has not been subjected to comprehensive environmental regulation. However, in recent years, this has changed significantly, and the industry is now required to comply with a multifaceted network of mining and environmental legislation. There are no shortages of policy and legal frameworks to ensure "responsible" mining in South Africa. The Minerals and Mining Policy for South Africa, 1998 affirmed that the State, as custodian of the nation's natural resources, will support mining development while maintaining and enhancing environmental awareness of the mining industry in accordance with national environmental policy, norms and standards.

3.1 The Constitution

The Constitution reigns supreme and the advancement of human rights is one of the foundations of South Africa's democracy. Furthermore, the Bill of Rights plays a central role in the democratic regime because it embodies a set of fundamental values which should always be promoted. An environmental right is contained in Section 24 and is, arguably, the cornerstone for environmental governance in South Africa which includes the mining industry. Section 24(a) proclaims the right of everyone "**to an environment that is not harmful to their health or well-being**". Mining companies are thus duty-bound to constitutional, legislative, and other measures to prevent pollution and ecological degradation, promote conservation and to develop in a sustainable manner.

The constitutional environmental right elevates the importance of environmental protection and conservation; and emphasises the significance that South Africans attach to a sound and healthy environment. In addition, the environmental right applies horizontally; and this implies that the mining industry must exercise a duty of care if liability, based on the constitutional environmental right, is to be avoided. The constitutional environmental right is given effect to by means of detailed statutory provisions ranging from framework to sectoral legislation which relate to mining.

3.2 The National Environmental Management Act

The *National Environmental Management Act, 1998* (Act No. 107 of 1998) (NEMA) is considered to be environmental framework legislation and has been enacted to, *inter alia*, establish a culture of compliance and enforcement in terms of which environmental laws must be heeded by the private sector.

3.2.1 Sustainability Principles and Duty of Care

NEMA provides for a comprehensive array of sustainability principles which cumulatively aim to create, among others, corporate socially responsible behaviour by establishing legal liability for environmental damage as well as damage to human health and well-being. Apart from these principles, NEMA also contains mechanisms, procedures and structures to facilitate pollution prevention, minimisation and remediation.

Chapter 7 of NEMA contains essential provisions dealing with liability for environmental damage in South Africa and two key elements form part thereof; namely pollution prevention and remediation. A duty of care is contained in Section 28, which encompasses the main liability provision which applies retrospectively and therefore also to historical pollution. Section 28(1) applies to all forms of pollution, including mining pollution, and is formulated generally by providing a duty of care to avoid, minimise and/or remedy pollution or



environmental degradation. In terms of this subsection, the duty imposes liability on an almost non-exhaustive category of persons, because it refers to "every person". Subsection (3) provides an indicative range of measures that can be considered as "reasonable measures" and these may include measures to investigate, assess and evaluate the impact on the environment; inform and educate employees about the environmental risks of their work and the manner in which their tasks must be performed in order to avoid causing significant pollution or degradation, contain or prevent the movement of pollutants or the causing of degradation, eliminate any source of the pollution or degradation and remedy the effects of the pollution or degradation.

Where a mine fails to take reasonable measures to prevent or minimise pollution, it can be directed to do so by the relevant authority and if it does not comply with the directive, measures will be taken by government on its behalf, but at the mine's expense.

3.2.2 Authorisation Requirements

NEMA serves as framework legislation in guiding the country's overall environmental protection effort. In respect of the listed activities in terms NEMA, Section 24F(1)(a) of NEMA stipulates the following:

"no person may- commence an activity listed or specified in terms of section 24(2)(a) or (b) unless the competent authority or the Minister of Minerals and Energy, as the case may be, has granted an environmental Authorisation for the activity..."

Section 24F is clear in its prohibition that only those "*listed or specified*" activities may not commence without prior environmental authorisation. Consequently, the activities conducted by the mine will only trigger an environmental authorisation when the said activities trigger a listed or specified activity referred to in Section 24F.

In addition to the aforementioned, kindly note the definition of "*commencement*" in Section 1 of NEMA which reads as follows:

"...the start of any physical implementation in furtherance of a listed activity or specified activity, including site preparation and any other action on the site..."

The law is clear in that the NEMA Regulations **do not have retrospective working** and accordingly, the activities on site must be assessed in accordance with "*when they commenced*".

Furthermore, Section 24(1) of NEMA requires that the potential consequences of or impacts on the environment of listed activities must be considered, investigated, assessed and reported on to the competent authority. Where environmental impact assessment has been identified as the instrument to be utilised in achieving the aforementioned, an application for environmental authorisation needs to be obtained.

Activities contained in Listing Notices 1 and 3 require a Basic Assessment process to be followed whilst activities in Listing Notice 2 require a Scoping and Environmental Impact Reporting (S&EIR) process to be followed.

3.2.3 Legalities regarding the Auditing Requirements

Of particular relevance to the annual legal compliance audit and performance assessments, Section 24Q of NEMA determines that, as part of the general terms and conditions for an environmental authorisation and in order to ensure compliance with the conditions of the environmental authorisation, every holder and every holder of an old order right must conduct such monitoring and such performance assessment of the approved environmental management programme as may be prescribed.

In addition to the above, Regulation 54A of the amended 2014 Environmental Impact Assessment (EIA) Regulations stipulates that where a right or permit issued in terms of the MPRDA or an authorisation issued in



terms of the previous NEMA Regulations (and the associated EMPr or Environmental Management Plan (EMP)) is still in effect after 8 December 2014, the requirements contained in Part 3 of Chapter 5 of the 2014 EIA Regulations (i.e. the auditing provisions) apply to such EMPr's/ EMPs **and the first environmental audit report must be submitted to the competent authority no later than 7 December 2019** and at least every 5 years thereafter for the period during which such right, permit, authorisation, EMPr or EMP is still in effect.

3.3 The National Environmental Management: Waste Act

3.3.1 General Provisions

The *National Environmental Management: Waste Act, 2008* (Act No. 59 of 2008) (NEMWA) fundamentally reformed the law regulating waste management, and for the first time provides a coherent and integrated legislative framework addressing all the steps in the waste management hierarchy. The objects of the NEMWA are to protect health, well-being and the environment by providing reasonable measures for, *inter alia*, remediating land where contamination presents, or may present, a significant risk of harm to health or the environment.

The objectives of the NEMWA are structured around the steps in the waste management hierarchy, which is the overall approach that informs waste management in South Africa. The waste management hierarchy consists of options for waste management during the lifecycle of waste, arranged in descending order of priority; i.e.: waste avoidance, reduction, re-use, recycling, recovery, treatment, and safe disposal as a last resort.

NEMA, as previously mentioned, introduced several additional guiding principles into South African environmental legislation, including the life-cycle approach to waste management, producer responsibility, the precautionary principle and the polluter pays principle (i.e. the sustainability principles as contained in Section 2 of NEMA). Section 5(2) of the NEMWA stipulates that the Act should be interpreted and guided in accordance with these sustainability principles.

The NEMWA, furthermore, echoes the duty of care provision in terms of Section 28 of NEMA, by obliging holders of waste to take reasonable measures to implement the waste management hierarchy. Section 16(1) of the NEMWA provides that:

“A holder of waste must, within the holder’s power, take all reasonable measures to –

- a) avoid the generation of waste and where such generation cannot be avoided, to minimise the toxicity and amounts of waste that are generated;***
- b) reduce, re-use, recycle and recover waste;***
- c) where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally sound manner;***
- d) manage the waste in such a manner that it does not endanger health or the environment or cause a nuisance through noise, odour or visual impacts;***
- e) prevent any employee or any person under his or her supervision from contravening this Act; and***
- f) prevent the waste from being used for an unauthorised purpose.”***

3.3.2 Waste Classification Regulations

Regulation 2 of the *National Environmental Management Waste Act 59 of 2008: Waste Classification and Management Regulations* (GN R634 in GG 36784 of 23 August 2013) (Waste Classification Regulations) states that the purpose of these Regulations is to:

- ☞ regulate the classification and management of waste in a manner which supports and implements the provisions of the Act;***



- ☞ establish a mechanism and procedure for the listing of waste management activities that do not require a WML;
- ☞ prescribe requirements for the disposal of waste to landfill;
- ☞ prescribe requirements and timeframes for the management of certain wastes; and
- ☞ prescribe general duties of waste generators, transporters and managers.

In terms of the application of the Regulations, Regulation 3 determines that the Regulations apply uniformly in all Provinces of the Republic of South Africa and to all waste generators, waste transporters and waste managers.

It is paramount to note that the classification, characterisation and management of residue deposits and stockpiles are governed in terms of the Residue Stockpile Regulations. Accordingly, the Waste Classification Regulations will be applicable to other waste generated on the Mine.

Regulations 4(1) and 8(1)(a) specify that wastes listed in Annexure 1 of these Regulations do not require classification nor assessment in terms of SANS 10234.¹ Annexure 1 wastes entail the following:

- ☞ Domestic waste;
- ☞ Business waste not containing hazardous waste or hazardous chemicals;
- ☞ Non-infectious animal carcasses;
- ☞ Garden waste;
- ☞ Waste packaging;
- ☞ Waste tyres;
- ☞ Building and demolition waste not containing hazardous waste or hazardous chemicals;
- ☞ Excavated earth material not containing hazardous waste or hazardous chemicals;
- ☞ Asbestos waste;
- ☞ Polychlorinated biphenyl (PCB) waste or PCB containing waste (> 50mg/kg or 50ppm);
- ☞ Expired, spoilt or unusable hazardous products;
- ☞ General waste, excluding domestic waste, which contains hazardous waste or hazardous chemicals;
- ☞ Mixed, hazardous chemical wastes from analytical laboratories and laboratories from academic institutions in containers less than 100 litres; and
- ☞ Health Care Risk Waste (HCRW).

Other than classification and assessment, the Waste Classification Regulations prescribe the management of waste in terms of, *inter alia*, the following:

- ☞ Safety Data Sheets (SDSs);
- ☞ Waste Treatment;
- ☞ Waste Disposal to Landfill; and
- ☞ Waste Manifest System.

3.3.3 NEMWA Disposal Norms and Standards

Regulation 8 of the Waste Classification Regulations determines that; unless in a response to an emergency to protect human health, property or the environment:

- ☞ 8(1)(a) waste generators must ensure that their waste is assessed in accordance with the *National Environmental Management Waste Act 59 of 2008: National Norms and Standards for Disposal of Waste to Landfill* (GN R636 in GG 36784 of 23 August 2013) (NEMWA Disposal Norms and Standards);
- ☞ 8(1)(b): waste generators must ensure that the disposal of their waste to landfill is done in accordance with the NEMWA Disposal Norms and Standards;

¹ "Waste classification" means establishing, in terms of SANS 10234—

- ☞ whether a waste is hazardous based on the nature of its physical, health and environmental hazardous properties (hazard classes); and
- ☞ the degree or severity of hazard posed (hazard categories).

"SANS 10234" means the latest edition of the South African National Standard Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

- 8(1)(c): waste managers disposing of waste to landfill must only do so in accordance with the NEMWA Disposal Norms and Standards.

In addition to the abovementioned, it is paramount to note that Regulation 3(4) of the Residue Stockpile Regulations **repealed** the section which applied the NEMWA Disposal Norms and Standards to mineral waste.

3.3.4 NEMWA Storage Norms and Standards

In terms of the new 2013 NEMWA Listed Activities, the storage of waste no longer requires a WML. It must however be noted that the storage of general and hazardous waste is now governed in terms of a newly added Category C in terms of the 2013 NEMWA Listed Activities. Should the thresholds be met, the storage of the specific waste must comply with the NEMWA Storage Norms and Standards.

A legal enquiry to the DEA confirmed the following with regards to the application of the *National Environmental Management Waste Act 59 of 2008: National Norms and Standards for the Storage of Waste* (GN R926 in GG 37088 of 29 November 2013) (NEMWA Storage Norms and Standards):

- When the NEMWA Storage Norms and Standards refer to a “new facility”, it relates to new facilities established after the promulgation of the Norms and Standards;
- The NEMWA Storage Norms and Standards are applicable to facilities which were established prior to promulgation; and
- The NEMWA Storage Norms and Standards are only applicable to facilities which triggers Category C of the NEMWA Listed Activities.

In terms of transitional arrangements, kindly note that Regulation 7(5) of the 2013 NEMWA Listed Activities provides that a person who lawfully conducted a waste management activity that is no longer listed in Category A or B, but listed in Category C of the 2013 NEMWA Listed Activities, may continue with the waste management activity for the duration stipulated in the permit or WML until the expiry date of the permit or WML where after such a person must comply with the requirements or standards for that waste management activity.

It is recommended that where the Mine is uncertain about any aspect of applicability of the abovementioned governing provisions, in relation to a specific instance on the Mine, that a legal enquiry be submitted to the DEA for formal feedback.

3.3.5 2017 Waste Tyre Regulations

Kindly note that the *National Environmental Management: Waste Act 59 of 2008: Waste Tyre Regulations, 2017* (GN 1064 in GG 41157 of 29 September 2017) (2017 Waste Tyre Regulations) are silent in respect of transitional arrangements regarding registration in terms of the previous Regulations. The 2017 Waste Tyre Regulations differ in that it requires registration with the Bureau and not the Minister.

Regulation 5 stipulates that the following persons must register with the Bureau, in a format specified by the Bureau, **within 90 days** after the commencement of these Regulations:

- (d) A waste tyre stockpile owner; and
- (j) An owner or operator of a waste tyre storage site.

In terms of the new 2017 Waste Tyre Regulations, Regulation 7 stipulates that a waste tyre stockpile owner, who owned a waste tyre stockpile prior to 30 November 2012 and who had not already submitted a waste tyre stockpile abatement plan in terms of the repealed Regulations, **must within 120 days of the date of the commencement** of these Regulations, submit such a plan to the Minister for approval.

Furthermore, a waste tyre stockpile owner may not add to the stockpile after the commencement of these Regulations.



In addition to Regulation 7, Regulation 8 requires that any person producing a waste tyre stockpile abatement plan must take appropriate steps to bring the contents of a proposed waste tyre stockpile abatement plan to the attention of relevant organs of state, interested and affected parties and must call for comments to the plan.

Regulation 10 of the 2017 Waste Tyre Regulations governs the management of waste tyre stockpiles. Accordingly, the following conditions must be complied with:

- A waste tyre storage area must not exceed 30 000m²;
- A waste tyre storage plan must be developed by the waste tyre storage site owner;
- The waste tyre storage plan must be-
 - submitted to the relevant Chief Fire Officer of the municipality for endorsement;
 - available on site always;
 - made available on request to an official of the national or provincial department responsible for environmental affairs, or of the municipality.
- The site on which waste tyres are stored must meet the following minimum requirements –
 - clearly visible signs with operating hours, contact details and site regulations must be posted near the entrance to the facility;
 - a security attendant trained in fire prevention must always be on site ;
 - the site manager must always be on site when the facility is open;
 - a person designated to manage the site must ensure the site is secured and no unauthorized person can access the site;
 - no single pile of waste tyres may exceed a height of 3 metres, a length of 20 metres and a width of 10 metres;
 - all interior firebreaks between piles of waste tyres must be at least five metres wide;
 - the site must be flat and hard packed;
 - the site must make provision for storm water management;
 - the edges of the piles must be at least 8 metres from the perimeter fence, and any buildings, and the area between the piles and the fence and buildings must be clear of debris and vegetation;
 - all firebreaks must be at least 8 metres wide; and
 - waste tyre piles may not be located within 8 metres of a power line.

3.3.6 General Waste Norms and Standards

In October 2017, new Regulations were promulgated which provide a uniform national approach relating to the management of waste facilities that sort, shred, grind, crush, screen, chip or bale general waste.

Regulation 3 of the *National Environmental Management: Waste Act 59 Of 2008: National Norms and Standards for the Sorting, Shredding, Grinding, Crushing, Screening or Baling of General Waste, 2017* (GN 1093 in GG 41175 of 11 October 2017) (General Waste Norms and Standards) stipulates that the Regulations apply to:

- a waste facility that has an operational area that is 1 000m² and more; and
- a waste facility that has an operational area that is less than 1 000m² must comply with Regulation 4(4) of these Norms and Standards only.

Regarding the transitional arrangements, it is pertinent to note that Regulation 15 states the following:

“A person who has been lawfully operating a waste facility for the sorting, shredding, grinding, crushing, screening, chipping or baling of general waste prior to and on the date of coming into effect of these Norms and Standards, must register in terms section 4(2) of these Norms and Standards, and where after must comply with these Norms and Standards within 90 days after such registration.”

In terms of compliance with the General Waste Norms and Standards, the following governing provisions must be noted:



- ☞ Regulation 4 (1): A new waste facility must be registered with the competent authority in accordance with these Norms and Standards within 90 days prior to any construction taking place.
- ☞ Regulation 4(2): Existing waste facilities must register with the competent authority in accordance with these Norms and Standards within 90 days of publication of these Norms and Standards in the Government Gazette.

Chapter 3 governs the management of the facility and includes requirements on: access control and notices, operation, emergency preparedness plan, monitoring and inspection, auditing, reporting, and minimum requirements for the Decommissioning Phase.

3.4 The Mineral and Petroleum Resources Development Act

Since 2004, the *Mineral and Petroleum Resources Development Act, 2002* (Act No. 28 of 2002) (MPRDA) has been the principle piece of legislation that regulates the South African mineral and petroleum sector.

The MPRDA was enacted with the objectives of promoting local and rural development, ensuring equal access to minerals, and eradicating discriminatory practices in the industry, while still guaranteeing security of tenure to participants in the industry and increasing the industries international competitiveness.

In December 2014, Government commenced the rollout of the “*One Environmental System*”, which initiated the streamlining of the licensing processes for, *inter alia*, mining and environmental authorisations.

The system, announced by the President in his State of the Nation Address in February 2014, represented Government’s commitment to improve the ease of doing business and further enhance South Africa’s global competitiveness as a mining investment jurisdiction.

Under the One Environmental System, the Minister of the DMR, *inter alia*, issues environmental authorisations (and Waste Management Licences (WMLs)) in terms of NEMA and NEMWA, for mining and related activities. The Minister of the Department of Environmental Affairs (DEA) is the appeal authority for these authorisations. To enable the abovementioned One Environmental System, amendments to NEMA and the MPRDA were published with the objective to align NEMA and the MPRDA authorisation processes as well as to provide for cooperative governance between the DMR and the DEA.

The governing provisions in respect of EMPr’s were removed from the MPRDA and incorporated into Sections 24N, 24O, 24P, 24Q, 24R and 24S of NEMA. However, Regulation 55 remains applicable in that the MPRDA Regulations states that as part of the general terms of conditions for a mining right and in order to ensure compliance with and EMPr and to assess the continued appropriateness and adequacy of the EMPr a holder of such a right must, conduct performance assessments of the EMPr as required and submit such report to the Minister which demonstrate compliance. This assessment must be undertaken as specified in the approved EMPr, every two (2) year or as agreed to in writing by the Minister.

3.5 Legal Risk Summary

The sections which follow hereunder provide a general overview of the legal risk/ liability associated with non-compliance with governing legislation. Kindly note that only the most relevant sections will be highlighted.



3.5.1 Non-compliance with NEMA

3.5.1.1 *General provisions*

Section 24F of NEMA prohibits the commencement of an activity listed or specified in terms of Section 24(2)(a) or (b) unless the competent authority or the Minister responsible for mineral resources, as the case may be, has granted an environmental authorisation for the activity.

Section 49A(1)(a) stipulates that it is an offence to commence with an activity in contravention of Section 24F (1). Furthermore, and in terms of Section 49B, a person convicted of an offence is liable to a fine not exceeding R10 million or imprisonment for a period not exceeding 10 years, or to both such a fine and imprisonment.

3.5.1.2 *Section 28 – Duty of Care*

Section 28 of NEMA stipulates that every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.

The provision also applies to significant pollution or degradation that occurred prior to the commencement of NEMA and is likely to arise at a different time from the actual activity that caused the pollution or degradation.

The person obliged to take the reasonable measures as contemplated in Section 28(1) includes an owner of land or premises, a person in control of land or premises or a person who has a right to use the land or premises on which the activity is undertaken. A manager or the owner of the land can therefore be held liable for any environmental pollution or degradation caused.

The measures required to be undertaken, may include measures to:

- investigate, assess and evaluate the impact on the environment;
- inform and educate employees about the environmental risks of their work and the manner in which their tasks must be performed in order to avoid causing significant pollution or degradation of the environment;
- cease, modify or control any act, activity or process causing the pollution or degradation;
- contain or prevent the movement of pollutants or the cause of degradation;
- eliminate any source of the pollution or degradation; or
- remedy the effects of the pollution or degradation.

Sections 49A (1) (e) and (f) stipulate that a person is guilty of an offence if that person unlawfully and intentionally or negligently commits any act or omission which causes significant pollution or degradation of the environment or is likely to cause significant pollution or degradation of the environment and/or unlawfully and intentionally or negligently commit any act or omission which detrimentally affects or is likely to detrimentally affect the environment.

Furthermore, and in terms of Section 49B, a person convicted of an offence is liable to a fine not exceeding R10 million or imprisonment for a period not exceeding 10 years, or to both such a fine and imprisonment.

3.5.1.3 *Section 24Q - Monitoring and performance assessment*

As part of the general terms and conditions for an environmental authorisation and in order to –

- ensure compliance with the conditions of the environmental authorisation; and
- to assess the continued appropriateness and adequacy of the EMP;

every holder and every holder of an old order right must conduct such monitoring and such performance assessment of the approved EMP as may be prescribed.

Section 49A(1)(c) stipulates that a person is guilty of an offence if that person fails to comply with or contravenes a condition of an environmental authorisation granted for a listed activity or specified activity or an approved EMP. Furthermore, Section 49B(1) states that a person convicted of an offence in terms of Section 49A(1)(c) is liable to a fine not exceeding R10 million or to imprisonment for a period not exceeding 10 years, or to both such fine and such imprisonment.

3.5.1.4 Section 24G - Consequences of Unlawful Commencement of Activity

A Section 24G application relates to a “rectification process” by which an applicant –

- has commenced with a listed or specified activity without an environmental authorisation in contravention of Section 24F(1) of NEMA; or
- has commenced, undertaken or conducted a waste management activity without a WML.

It is pertinent to note that the Minister or MEC concerned may direct the applicant to –

- immediately cease the activity pending a decision on the application submitted in terms of this subsection;
- investigate, evaluate and assess the impact of the activity on the environment;
- remedy any adverse effects of the activity on the environment;
- cease, modify or control any act, activity, process or omission causing pollution or environmental degradation;
- contain or prevent the movement of pollution or degradation of the environment; and
- eliminate any source of pollution or degradation.

Furthermore, and as part of the Section 24G application process, the applicant **must pay an administrative fine**, which **may not exceed R5 million** and which must be determined by the Competent Authority.

The submission of an application or the granting of an environmental authorisation shall in no way derogate from –

- the environmental management inspector’s or the South African Police Services’ authority to investigate any transgression in terms of this Act or any specific environmental management Act; and
- the National Prosecuting Authority’s legal authority to institute any criminal prosecution.

3.5.1.5 Section 24G Fine Regulations

Regulation 2 determines that the purpose of the *NEMA: Section 24G Fine Regulations* (GN R698 in GG 40994 of 20 July 2017) (Fine Regulations) is to provide for the procedure to be followed and criteria to be considered to determine a fine in respect of a Section 24G of NEMA application for the rectification of illegal commencement.

The Fine Committee will take the following factors into account when determining the proposed quantum of the fine (Regulation 4):

- the information submitted by an applicant in terms of Section 24G(1)(b)(vii)-(viii);
- the completed application form, including Section C of Annexure A, Part 1 of which is to be completed by the applicant's environmental assessment practitioner;
- the impacts or potential impacts, including the cumulative impacts, of the activity or activities namely:
 - the socio-economic impact;
 - the biodiversity impact;
 - the impact on sense of place and/or heritage; and

- any pollution and/or environmental degradation which has been, is being or may be caused by the activity or activities.
- ☞ any technical or specialist advice or information on local knowledge received;
- ☞ the compliance history of the applicant;
- ☞ whether the applicant is a firm or a natural person; in this regard the fine committee and the competent authority must take into account whether or not-
 - any of the directors of the applicant firm are, or were, at the relevant time, directors of a firm.
- ☞ any other representations made by the applicant in terms of Annexure A Section C in respect of the quantum of the fine.

Regulation 5 provides a mechanism to the applicant to make representations in respect of the quantum of the fine.

Regulation 6(3) stipulates that the applicant must, within 14 days of receipt of the determination of the quantum of the fine, ensure that all interested and affected parties (as registered in terms of Regulation 8), are notified of, and provided with access to, the determination and the reasons for the determination.

Additionally, sub-regulation (4) determines that failure to pay the fine within the time period specified in the determination, the application shall lapse, and partial amounts paid to the competent authority, if any, will not be refunded to the applicant.

The recommendation, from the Fine Committee, for repeat contraveners must be to be penalised with the maximum fine. For the purposes of this regulation, the competent authority may consider the applicant's conduct since 7 January 2005 (Regulation 9).

Regulation 11 allows for consolidated applications and stipulates that where a consolidated application is submitted for more than one listed or specified activity or waste management activity, the Competent Authority may impose a single fine in respect of the consolidated application provided the activities are interrelated.

3.5.1.6 *Criminal Liability*

Section 34 of NEMA governs criminal liability and stipulates that whenever any person is convicted of an offence under any provision listed in Schedule 3 and it appears that such person has by that offence caused loss or damage to any organ of state or other person, including the cost incurred or likely to be incurred by an organ of state in rehabilitating the environment or preventing damage to the environment, the court may in the same proceedings at the written request of the Minister or other organ of state or other person concerned, and in the presence of the convicted person, inquire summarily and without pleadings into the amount of the loss or damage so caused.

All offences as listed in Section 49A of NEMA are considered Schedule 3 offences.

Section 34(2) states that upon proof of such amount, the court may give judgment therefor in favour of the organ of state or other person concerned against the convicted person, and such judgment shall be of the same force and effect and be executable in the same manner as if it had been given in a civil action duly instituted before a competent court.

Section 34(3) stipulates that whenever a person is convicted of an offence under any provision listed in Schedule 3 the court convicting such person may summarily enquire into and assess the monetary value of any advantage gained or likely to be gained by such person in consequence of that offence, and, in addition to any other punishment imposed in respect of that offence, the court may order –

- ☞ the award of damages or compensation or a fine equal to the amount so assessed; or
- ☞ that such remedial measures as the court may determine must be undertaken by the convicted person.



Section 34(4) states that whenever any person is convicted of an offence under any provision listed in Schedule 3 the court convicting such person may, upon application by the public prosecutor or another organ of state, order such person to pay the reasonable costs incurred by the public prosecutor and the organ of state concerned in the investigation and prosecution of the offence.

The following parties can be held criminally liable in terms of Section 34 of NEMA:

- ☞ The firm (“a body incorporated by or in terms of any law as well as a partnership”).
- ☞ Employer, as a result of the actions of any manager, agent or employee.
- ☞ Any manager, agent or employee in his/her personal capacity.
- ☞ Previous or current directors of a firm in his/her personal capacity.

3.5.1.7 Cancellation of Permits

Section 34C of NEMA stipulates that the court convicting a person of an offence in terms of this Act or a specific environmental management Act may –

- ☞ withdraw any permit or other authorisation issued in terms of this Act or a specific environmental management Act to that person, if the rights conferred by the permit or authorisation were abused by that person;
- ☞ disqualify that person from obtaining a permit or other authorisation for a period not exceeding five years;
- ☞ issue an order that all competent authorities authorised to issue permits or other authorisations be notified of any disqualification in terms of paragraph (b).

3.5.2 Non-compliance with the NEMWA

3.5.2.1 General provisions

Section 20 of NEMWA states that no person may commence, undertake or conduct a waste management activity, except in accordance with a WML issued in respect of that activity, if a licence is required. Section 67 of the NEMWA states that a person commits an offence if that person, *inter alia*, contravenes or fails to comply with a provision of Section 20. Furthermore, Section 68 states that a person convicted of an offence is liable to a fine not exceeding R10 000 000 or to imprisonment for a period not exceeding 10 years, or to both such fine and such imprisonment, in addition to any other penalty or award that may be imposed or made in terms of NEMA.

3.5.2.2 Non-compliance with Norms and Standards

Section 67(1)(f) of the NEMWA states that a person commits an offence if that person contravenes or fails to comply with a norm or standard established in terms of NEMWA. Furthermore, Section 68(2) states that a person convicted of an offence is liable to a fine not exceeding R5 000 000 or to imprisonment for a period not exceeding five years, or to both a fine and such imprisonment, in addition to any other penalty or award that may be imposed or made in terms of NEMA.

Further to the above, Section 34 of NEMA lists the offences listed in NEMWA as a Schedule 3-offences. Therefore, the risk related to not complying with Section 151 of the NWA, is compounded when one also considers the additional penalties in Schedule 3.

The significance of the aforesaid is that Section 34 of NEMA makes provision for both companies and its directors to be held personally liable for environmental crimes. This personal liability also applies to managers, agents or employees who have done or omitted to do an allocated task, while acting on behalf of their employer.



BEESHOEK IRON ORE MINE 2019 EMPR ENVIRONMENTAL AUDIT

Departmental Ref: Permit 12/9/11/P49, Permit 12/2014, Permit 20/2015, Permit 17/2011 and NC 30/5/1/2/3/2/1 (223) MR

Project Ref: 21912

Version: Working Document

3.5.2.3 Waste Classification Regulations

Section 13 of the Waste Classification Regulations stipulates that a person is guilty of an offence if that person fails to comply with a provision of the Waste Classification Regulations. Furthermore, a person convicted of an offence is liable to a fine not exceeding R10 million or to imprisonment for a period not exceeding 10 years, or to both such fine and such imprisonment.

4 COMPLIANCE ASSESSMENT

According to Regulation 34(3) of the 2014 NEMA EIA Regulations, an environmental audit report must determine:

- (a) the ability of 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 on an ongoing basis and to sufficiently provide for the, avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and
- (b) the level of compliance with the provisions of the environmental authorisation, EMPr and where applicable the closure plan.

The Environmental Audit is presented in a tabular format to provide the reader with an understanding of the following:

1. Environmental Management Programme (EMPr) and/or Environmental Authorisation Requirement;
2. Observation made in terms of Compliance;
3. Whether the mine is compliant, partially compliant, non-compliant, whether the condition is applicable or whether it should be taken notice of for further developments;
4. Recommendations on how to achieve compliance and/or improvements; and
5. Who the responsible department is.



Table 6: Environmental Audit - Landfill Site: Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008							
1,3	Site Security and Access Control						
1.3.1	The permit holder must prevent unauthorised access to the site, as far as practicable. The site must be fenced with a 1.8 fence, with gates of the same height at all entrances, to reasonably prevent unauthorised entry and curtail the spreading of wind-blown waste.	Compliant. A gate with a security guard is present during operational periods. Any access must be approved by the SHEQ Department, especially relating to removal of recyclable material (such as pellets).	Site observations	3	3	No recommendations.	-
1.3.2	The permit holder must ensure that all entrance gates are manned during the hours of operation and locked outside the hours of operation.	Compliant. A gate with a security guard is present during operational periods.	Site observations	3	3	No recommendations.	-
1.3.3	The permit holder must prevent the acceptance of waste not authorised at the site as per condition 3.1 below.	<p>A waste management strategy is in place on site.</p> <p>Waste Management Practices are managed by Interwaste (Pty) Ltd (Interwaste) on site. All waste is removed from the various bin stations to the Salvage Yard. At the Salvage Yard, waste is sorted on a concrete slab and then permissible waste is sent to the Landfill Site.</p> <p>All hazardous material is removed to the Holfontein Hazardous Waste Disposal Site (Holfontein) by Interwaste.</p> <p>All used oils are removed by Olegra Oil (Pty) Ltd (Olegra) to PPC Lime Acres. According to an assessment at a neighbouring mine this facility is permitted (Lime Acres Atmospheric Emission Licence (AEL): 23/4/2/58). This permit is not available at Beeshoek Mine.</p> <p>The waste received by the Landfill site is therefore only domestic and non-contaminated wastes. The Landfill Site Permit states that it can receive garden</p>	<p>Site observations</p> <p>Email communication between the mine and the NCDENC dated 27 August 2019.</p> <p>Waste Management Procedure: Ref SP_TEC_21022017_11908 Version 2, 21 February 2017</p> <p>GLB+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (November 2011 and December 2012)</p> <p>Interwaste Germiston Depot H:H Waste Storage and Treatment Facility, Ref: 12/9/11/P/P99, dated 16 March 2009</p> <p>Interwaste Waste Transporter Registration Ref: GPT-00-030 (valid until 3 May 2020)</p> <p>Integrated Environmental Authorisation for Interwaste facility - Klinkerstene Ref: 17/04/A18/MP311/10/01 for the GLB+ class waste facility, dated 27 May 2013</p> <p>Olegra oil collector registration, Ref: RF025171, valid until 31 August 2019</p> <p>PPC Lime Acres oil processor registration, Ref RF025185, valid until 31 August 2019</p>	3	3	No recommendations.	-

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008							
		waste, which is believed to be an administrative error, and should be rectified to fulfil the purposes of the mine. The mine has consulted with the Northern Cape Department of Environment and Nature Conservation (NCDENC) whereby it was agreed that the reference to "rubble" encompasses all domestic waste as well. This was confirmed by the NCDENC via email.		3			
1.3.4	Acceptance of waste may only take place between 06h00 and 18h00, Monday to Friday and 08h00 and 14h00, Weekends and Public Holidays.	Compliant. A gate with a security guard is present during operational periods.	Site observations	3	3	No recommendations.	-
1.3.5	Weatherproof, durable and legible notices in at least three official languages applicable in the area, shall be displayed at each entrance to the site. These notices shall prohibit unauthorised entry and state the hours of operation, the name, address and telephone number of the permit holder and the person responsible for the operation of the site.	Notices were present on site and included all required information.	Site observation	3	3	No recommendations.	-
2	Management						
2,1	General Management						
2.1.1	These activities must be managed and operated:						
(a)	in accordance with a documented management system and or an environmental management plan as per the EIA RoD, which identifies and minimises risks of pollution including those arising from operations, maintenance accidents and non-conformance and those drawn to the attention of the permit holder as a result of complaints; and	A detailed waste management strategy is implemented on site. Strong emphasis and commitment are present on site in terms of the implementation of this strategy.	Waste Management Procedure: Ref SP_TEC_21022017_11908 Version 2, 21 February 2017	3	3	No recommendations.	-
(b)	by sufficient persons who are competent in respect of the responsibilities to be undertaken	A designated person is currently appointed specifically to manage the Landfill Site. This person is appointed specifically by InterWaste, a licence	Site observations	3	3	No recommendations.	-

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008							
	by them in connection with the operation of the activities.	waste removal company. In addition, Mr. Silomntu from the mine is further appointed as the responsible person. Both these parties are regarded as Competent Persons. Both these parties are aware of roles and responsibility for the management of waste on site.					
2.1.2	Records demonstrating compliance with condition 2.1.1 must be maintained.	<p>A waste management strategy is in place on site.</p> <p>All hazardous material is removed to Holfontein by Interwaste.</p> <p>All used oils are removed by Olegra to PPC Lime Acres. According to an assessment at a neighbouring mine this facility is permitted (Lime Acres AEL Licence: 23/4/2/58). This permit is not available at Beeshoek Mine.</p> <p>The following key observations were made: * Interwaste GLB+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (December 2012). The original WML was issued on 20 November 2011. Condition 3.1(h) of the WML states that the WML must be renewed within a period for four years from the date of issue (no proof thereof is available). * Interwaste Germiston Depot H:H Waste Storage and Treatment Facility. This permit is still valid. * Interwaste Waste Transporter of General and Hazardous Waste. This permit is still valid. * Integrated Environmental Authorisation for Interwaste facility - Klinkerstene Ref: 17/04/A18/MP311/10/01 for the GLB+</p>	<p>Site observations</p> <p>Waste Management Procedure: Ref SP_TEC_21022017_11908 Version 2, 21 February 2017</p> <p>Beeshoek Internal WML Audit, May 2019</p> <p>GLB+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (November 2011 and December 2012)</p> <p>Interwaste Germiston Depot H:H Waste Storage and Treatment Facility, Ref: 12/9/11/P/P99, dated 16 March 2009</p> <p>Interwaste Waste Transporter Registration Ref: GPT-00-030 (valid until 3 May 2020)</p> <p>Integrated Environmental Authorisation for Interwaste facility - Klinkerstene Ref: 17/04/A18/MP311/10/01 for the GLB+ class waste facility, dated 27 May 2013</p> <p>Olegra oil collector registration, Ref: RF025171, valid until 31 August 2019</p> <p>PPC Lime Acres oil processor registration, Ref: RF025185, valid until 31 August 2019</p>	3	3	No recommendations.	-

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008							
		class waste facility. Condition 5.12.10 of this Environmental Authorisation states that the Environmental Authorisation is valid for a period of 30 years and the holder must initiate a review process 5 years from the date of issue (27 May 2013). No proof that the review process has been initiated by the supplier is available on record to ensure the mine's duty of care. * Olegra is registered an accredited Oil Collector by the ROSE Foundation (Recycling Oil Saves the Environment), Ref: RF025171. Note that this registration will lapse at the end of August 2019.					
2.1.3	Any person having duties that are or may be affected by the matters set out in this permit must have convenient access to a copy that must be kept at or near the place where those duties are carried out.	Compliant. A copy of the Environmental Authorisation is present on site.	Site observations	3	3	No recommendations.	-
2.2	Emergency Preparedness Plan						
2.2.1	The permit holder must maintain and implement an emergency preparedness plan and review it after each emergency and or major accident. The plan must among other include:	An Emergency Preparedness and Response Plan is present on site. A specific procedure is available for the Landfill Site and other environmental emergencies.	Emergency Preparedness and Response Plan, Ref: SP_SIP_200222017_11649, Dated 20 February 2017 Standard Procedures- Technical Services: SHERQ Landfill Site Management Procedure SP_TEC_03102018_14484	3	3	No recommendations.	-
a)	Vehicle/Machinery Fire & Malfunction						
b)	Landfill site fire						
c)	Spillage on route						
d)	Slope Failure						
e)	Natural disasters such as floods						
3	Permissible Waste						
3,1	Any portion of the site which has been constructed or developed according to condition 4 of this permit, may be used for the disposal of garden waste and uncontaminated rubble only.	The Landfill Site is well maintained. Third parties collect recyclable waste with permission from the mine. Some waste is stored outside of the main dumping area; this should either be removed or recycled as it may lead to ongoing and increased volumes of waste stored in this area.	Site observations Email communication between the mine and the NCDENC dated 27 August 2019.	2	3	The Licence Holder should obtain written confirmation from the DMR that the licence is interpreted correctly. A Regulation 29 Part 1 Amendment may be required for the purpose of rephrasing this condition.	SHEQ Department



		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008							
		<p>Interwaste removes all material from the mine to the domestic landfill site.</p> <p>The Landfill Site Permit states that it can receive garden waste, which is believed to be an administrative error, and should be rectified to fulfil the purposes of the mine. The mine has consulted with the Northern Cape Department of Environment and Nature Conservation (NCDENC) whereby it was agreed that the reference to "rubble" encompasses all domestic waste as well. This was confirmed by the NCDENC via email.</p>					
3,2	Any other inert waste may be disposed after approval by the Director.	<p>The Licence Holder is aware of this condition.</p> <p>Waste Management Practices are managed by Interwaste (Pty) Ltd (Interwaste) on site. All waste is removed from the various bin stations to the Salvage Yard. At the Salvage Yard, waste is sorted on a concrete slab and then permissible waste is send to the Landfill Site.</p> <p>All hazardous material is removed to the Holfontein Hazardous Waste Disposal Site (Holfontein) by Interwaste.</p> <p>All used oils are removed by Olegra Oil (Pty) Ltd (Olegra) to PPC Lime Acres. According to an assessment at a neighbouring mine this facility is permitted (Lime Acres Atmospheric Emission Licence (AEL): 23/4/2/58). This permit is not available at Beeshoek Mine.</p> <p>The waste received by the Landfill site is therefore only domestic and non-contaminated wastes (inert wastes)</p>	Site observations	3	3	No recommendations.	SHEQ Department
4	Construction						

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008							
4,1	General Construction Requirements						
4.1.1	The site or any portion thereof may only be used for the disposal of permissible waste if the site or any such portion has been constructed or developed according to the condition listed under condition 4 of this permit.	The Landfill Site Permit states that it can receive garden waste, which is believed to be an administrative error, and should be rectified to fulfil the purposes of the mine. The mine has consulted with the Northern Cape Department of Environment and Nature Conservation (NCDENC) whereby it was agreed that the reference to "rubble" encompasses all domestic waste as well. This was confirmed by the NCDENC via email.	Site observations Email communication between the mine and the NCDENC dated 27 August 2019.	Dup	Dup	The Licence Holder should obtain written confirmation from the DMR that the licence as it is interpreted correctly. A Regulation 29 Part 1 Amendment may be required for the purpose of rephrasing this condition.	SHEQ Department
4.1.2	Construction and further development within the site shall be carried out under the supervision of a registered professional engineer and according to the 'Minimum Requirements series'.	No further construction is undertaken. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
4.1.3	Works shall be constructed and maintained on a continuous basis by the permit holder to divert and drain from the site all runoff water arising on land adjacent to the site, which could be expected as a result of the estimated maximum perception dating a period of 24 hours within an average frequency of once in fifty years (50) (hereinafter referred to as the 'estimated maximum precipitation'). Such works shall, under the said rainfall event, maintain a freeboard of half a meter.	Water is diverted from site as far as practically possible by means of berms surrounding the facility.	Site observations	3	3	The maintenance of the berm should be included into the overall storm water management system.	SHEQ Department
4.1.4	Works shall be constructed and maintained on a continuous basis by the permit holder to divert and drain from the working face of the Site, all runoff water arising from the site, which could be expected as a result of the estimated maximum precipitation and to	Runoff is contained within the facility. In general, the facility was noted to be in good order. Covering of waste is undertaken once the waste volumes justifies the use of equipment.	Site observations	3	3	No recommendations.	-

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility	
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008								
		prevent such runoff water from coming into contact with leachate from the site. Such works shall, under the said rainfall event, maintain a freeboard of half a metre.						
4.1.5		The permit holder shall take all reasonable steps, such as suitable zoning and/or written agreements with adjacent landowners, to establish and maintain an unbuilt area or 'buffer zone' of 200 meters between the Site and the nearest residential area and/or light industrial areas during the operative life of the Site. Heavy industries which may cause nuisance conditions may be permitted within the buffer zone in terms of the applicable legislation.	No residential or other industrial areas are located within 200m of the facility.	Site observations	N/A	N/A	No recommendations.	-
4.1.6		The maximum height of the site above ground level shall not exceed 3 metres.	The site is undertaken within an old quarry.	Site observations	3	3	No recommendations.	-
4.1.7		The permit holder must construct berms at the highest point of the disposal site to prevent storm water from coming into contact with waste.	Water is diverted from site as far as practically possible by means of berms surrounding the facility.	Site observations	3	3	The maintenance of the berm should be included into the overall storm water management system.	SHEQ Department
4.1.8		Upgrading and or modification of the facility in terms of waste storage, treatment and handling should be communicated to the Director.	No further construction is undertaken at the Landfill Site. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
4.1.9		The permit holder shall make provision for sanitation facilities on site in line with the Occupational Health and Safety Act, 1993 (Act 85 of 1993)	Ablution facilities are made available on the site.	Site observations	3	3	No recommendations.	-
5		General Impact Management and Operation						
5.1		Impact Management						
5.1.1		Waste disposal and operation shall be done according to the relevant minimum requirements (where applicable), conditions of this	The Salvage Yard is being upgraded to undertake waste sorting and separation, which will further improve waste separation practices and allow	Site observations	3	3	The Salvage Yard upgrades should be finalised. It is further recommended that a larger area be provided for the separation of waste, as the current area only allows for the various skips.	-

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008							
		<p>Permit and any other written instruction by the Director in consultation with the Regional Director.</p> <p>for further improvement to waste received by the Landfill Site. A new surfaced area has been built for this purpose.</p> <p>The Landfill Site is undertaken within an old quarry. The site should be covered regularly. Overall and based on the outcomes of this audit, there is a strong commitment to Environmental compliance on site.</p>				In addition to this, a roofed area is recommended for the sorting area.	
5.1.2	Waste types other than uncontaminated rubble and garden waste must be redirected to a waste disposal site permitted for these waste types and classes.	<p>The Landfill Site is well maintained. Third parties collect recyclable waste with permission from the mine. Some waste is stored outside of the main dumping area; this should either be removed or recycled as it may lead to ongoing and increased volumes of waste stored in this area.</p> <p>Interwaste removes all material from the mine to the domestic landfill site.</p> <p>The Landfill Site Permit states that it can receive garden waste, which is believed to be an administrative error, and should be rectified to fulfil the purposes of the mine. The mine has consulted with the Northern Cape Department of Environment and Nature Conservation (NCDENC) whereby it was agreed that the reference to "rubble" encompasses all domestic waste as well. This was confirmed by the NCDENC via</p> <p>All hazardous material is removed to Holfontein by Interwaste.</p> <p>All used oils are removed by Olegra to PPC Lime Acres. According to an assessment at a neighbouring mine, this facility is permitted (Lime Acres AEL Licence: 23/4/2/58). This permit is not available at Beeshoek Mine.</p>	<p>Site observations</p> <p>Site observations Email communication between the mine and the NCDENC dated 27 August 2019.</p> <p>Waste Management Procedure: Ref SP_TEC_21022017_11908 Version 2, 21 February 2017</p> <p>Beeshoek Internal WML Audit, May 2019</p> <p>GLB+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (November 2011 and December 2012)</p> <p>Interwaste Germiston Depot H:H Waste Storage and Treatment Facility, Ref: 12/9/11/P/P99, dated 16 March 2009</p> <p>Interwaste Waste Transporter Registration Ref: GPT-00-030 (valid until 3 May 2020)</p> <p>Integrated Environmental Authorisation for Interwaste facility - Klinkerstene Ref: 17/04/A18/MP311/10/01 for the GLB+ class waste facility, dated 27 May 2013</p> <p>Olegra oil collector registration, Ref: RF025171, valid until 31 August 2019</p> <p>PPC Lime Acres oil processor registration, Ref: RF025185, valid until 31 August 2019</p>	2	3	<p>Interwaste GLB+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (December 2012) provided the Licence Holder with the WML for their landfill site. The original WML was issued on 20 November 2011. Condition 3.1(h) of the WML states that the WML must be renewed within a period for four years from the date of issue (no proof thereof is available). The Licence Holder should engage with Interwaste to obtain clarification on whether this licence is still in place.</p>	Environmental Department

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008							
		<p>The following key observations were made:</p> <ul style="list-style-type: none"> * Interwaste GLB+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (December 2012). The original WML was issued on 20 November 2011. Condition 3.1(h) of the WML states that the WML must be renewed within a period for four years from the date of issue (no proof thereof is available). * Interwaste Germiston Depot H:H Waste Storage and Treatment Facility. This permit is still valid. * Interwaste Waste Transporter of General and Hazardous Waste. This permit is still valid. * Integrated Environmental Authorisation for Interwaste facility - Klinkerstene Ref: 17/04/A18/MP311/10/01 for the GLB+ class waste facility. Condition 5.12.10 of this Environmental Authorisation states that the Environmental Authorisation is valid for a period of 30 years and that the holder must initiate a review process 5 years from the date of issue (27 May 2013). No proof that the review process has been initiated by the supplier is available on record to ensure the mine's duty of care. * Olegra is registered as an accredited Oil Collector by the ROSE Foundation, Ref: RF025171. Note that this registration will lapse at the end of August 2019, but was valid at the time of the audit. * PPC is registered as an accredited Oil Processor by the ROSE Foundation Ref: RF025185. Note that this registration will lapse at the end of August 2019, but was valid at the time of the audit.. 					

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008							
5.1.3	No heavy machinery must be in operation on the site between 17h00 in the evening and 06h00 the next morning.	Compliant.	Site observations	3	3	No recommendations.	-
5.1.4	The permit holder shall take reasonable steps to ensure that the site is operated in such a manner that nuisance conditions or health hazards, or the potential creation of nuisance conditions or health hazards, are prevented.	No areas were observed which could result in health hazards.	Site observations	3	3	No recommendations.	-
5.1.5	The permit holder shall take reasonable steps to ensure the health and safety of workers and employees on site, in terms of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993)	Compliant, Personal Protective Equipment (PPE) is available on site.	Site observations	3	3	No recommendations.	-
5.1.6	Waste deposited on the site may not be allowed to burn and suitable measures shall be implemented to prevent fires on the site or extinguish fires which may occur.	Compliant, no burning of waste is undertaken.	Site observations	3	3	No recommendations.	-
5.2	Operation						
5.2.1	Permit Holder must ensure that emissions from the activities shall be free from odour at levels likely to cause annoyance outside the site, as perceived by an authorised officer of the Department, residents and or interested and affected parties.	No areas of concern were observed during the site visit.	Site observation	3	3	No recommendations.	-
5.2.7	Permit Holder must ensure that emissions from the activities shall be free from noise at levels likely to cause annoyance or cause harm to interested and affected parties.	No areas of concern were observed during the site visit.	Site observation	3	3	No recommendations.	-
6	Monitoring						
6.1	Monitoring Methods and Parameters						
6.1.1	The permit holder must carry out all test required in terms of this permit in accordance with methods prescribed by and obtainable from the South African Bureau of	Compliant in terms of the overall monitoring network.	Aquatico Scientific (Pty) Ltd (Aquatico) April 2019 Monitoring Report Critical Evaluation of the Groundwater Quality Monitoring Network at Beeshoek Mine and the	3	3	No recommendations.	-

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008							
		Standards (SABS), referred to in the Standards Act, 1982 (Act 30 of 1982)	development of Groundwater Related EMPs, GPT April 2016				
6.2	Water Monitoring						
6.2.1	The permit holder must establish and maintain one borehole upstream and downstream of the site for the shallow aquifers within 6 months from the date of this permit.	Compliant in terms of the overall monitoring network. A detailed monitoring system is in place which includes the Landfill Site.	Critical Evaluation of the Groundwater Quality Monitoring Network at Beeshoek Mine and the development of Groundwater Related EMPs, April 2016	3	3	No recommendations.	-
6.2.2	Monitoring boreholes must be equipped with lockable caps. The Department and the DWAF reserves the right to take water samples at any time and to analyse these samples or have them analysed.	Compliant.	Site observations	3	3	No recommendations.	-
6.3	Background Monitoring						
6.3.1	Samples from the upstream boreholes where the ground water in the borehole is at an expected higher hydraulic pressure level of the groundwater under the site must be considered as background monitoring. Background groundwater monitoring must be conducted on a six-monthly basis during each monitoring occasion for water quality variables listed in Annexure I.	According to the latest water quality report by Aquatico for April 2019 the current Beeshoek Mine Water Monitoring Programme consists of two major components of monitoring: 1. Surface water monitoring – Monthly frequency 2. Groundwater monitoring – Quarterly frequency The parameters hexavalent chromium, chromium, Chemical Oxygen Demand (COD), cyanide, mercury, lead, and phenolic compounds are not being monitored for in this monitoring protocol.	Aquatico April 2019 Monitoring Report	0	3	The mine should consult with a groundwater specialist to determine the best way forward to monitor potential impacts from the Landfill Site in terms of upstream and downstream monitoring. The relevant constituents should also be considered. Based on these discussions the mine should consult with the DMR to ensure approval of the recommended monitoring programme for this facility specifically. The Licence Holder should monitor for all parameters required in the licence at boreholes upgradient and downgradient of the Landfill Site.	SHEQ Department
6.4	Detection Monitoring						
6.4.1	Monitoring must be conducted every six monthly at the downstream borehole for the water quality variables listed in Annexure II.	According to the latest water quality report by Aquatico for April 2019 the current Beeshoek Mine Water Monitoring Programme consists of two major components of monitoring: 1. Surface water monitoring – Monthly frequency 2. Groundwater monitoring – Quarterly frequency	Aquatico April 2019 Monitoring Report	0	3	The mine should consult with a groundwater specialist to determine the best way forward to monitor potential impacts from the Landfill Site in terms of upstream and downstream monitoring. The relevant constituents should also be considered. Based on these discussions the mine should consult with the DMR to ensure approval of the recommended monitoring programme for this facility specifically.	SHEQ Department

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008							
		Compliant in terms of the overall monitoring network it should be noted that COD is not being monitored for in this monitoring protocol.				The License Holder should monitor for all parameters required in the licence at boreholes upgradient and downgradient of the Landfill Site.	
7	Investigations						
7,1	If, in the opinion of the Director, environmental pollution, nuisance or health risk may be or is occurring on the site, the permit holder must initiate an investigation into the cause of the problem or suspected problem. Such investigation must include monitoring of the relevant environmental pollution; nuisance; health risk variables and water quality variables, at those monitoring points and such frequency as may be specified by the Director.	Water quality reports are submitted to the NCDENC as part of the submission of the Annual Internal Audit Report.	Site observations	3	3	No recommendations.	-
7,2	Should the investigation carried out as per conditions 7.1 above reveal any unacceptable levels of pollution, the permit holder must submit mitigation measures to the satisfaction of the Director.	The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
8	Auditing						
8,1	Internal Audits						
8.1.1	Internal Audits must be conducted annually by the permit holder and on each audit occasion an official report must be compiled by the relevant auditor to report the findings of the audits, which must be made available to the external auditor specified in condition 8.2.1.	Internal audits were conducted for the Landfill Site.	Internal Audit Report, May 2019 Proof of submission to the NCDENC, June 2019	3	3	No recommendations.	-
8,2	External Audits						
8.2.1.	The permit holder must appoint an independent external auditor to audit the site biennially and this auditor must compile an audit report documenting the findings of his/her audit, which must be submitted by the permit holder according to condition 9.9	External audit was finalised during November 2018. The External Audit was submitted with the Internal Audit Reports.	External Environmental Audit Report, 2018 Proof of submission June 2019	3	3	Proof of submission of the Annual Environmental Audit Report should be made available. Alternatively, it is recommended that a letter be drafted to the DMR (now the regulatory authority) and the NCDENC to confirm whether the information is still to be submitted to the NCDENC.	SHEQ Department

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008							
8.2.2	The audit report must:	<p>Compliant. The 2018 Audit report presented an interpretation of monitoring results in Section 4.1. Recommendations were presented in the compliance sheet, which detailed where urgent action was required.</p> <p>Section 5.2 presents, and interpretation of monitoring data as presented by the Licence Holder. Section 5.9 presents the recommendations in terms of timeframes by the auditor to address findings. This section as well as the compliance sheet also notes where improvement has been made from the previous audits, and also where recurring findings were observed.</p>	External Environmental Audit Report, 2018	3	3	No recommendations.	-
a)	specifically state whether conditions of this permit are adhered to						
b)	include an interpretation of all available data and test results regarding the operation of the site as all its impacts on the environment						
c)	specify target dates for the implementation of the recommendations by the permit holder to achieve compliance.						
d)	contain recommendations regarding non-compliance or potential non-compliance and must specify target dates for the implementation of the recommendations by the permit holder and whether corrective action taken for the previous audit nonconformities was adequate.						
e)	show monitoring results graphically and conduct trend analysis.						
8,3	Departmental Audits and Inspections						
8.3.1	The Department reserves the right to audit or inspect the site without prior notification at any time and frequency as may be determined by the Director	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	SHEQ Department
8.3.2	The permit holder must make any records or documentation available to the Director upon request, as well as any other information he/she may require	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	SHEQ Department
8.3.3	The findings of these audits or inspections must be made available to the permit holder within 30 days of the end of the audit or inspection. Information from the audits must be treated in accordance with the Promotion of Access to Information Act, 2000 (Act 2 of 2000)	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	SHEQ Department

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008							
9	Reporting						
9,1	The permit holder must, within 24 hr notify the Director and the Regional Director of the occurrence or detection of any incident on the site, or incident to the operation of the site, which has the potential to cause, or has caused pollution of the environment, health risks, nuisance conditions or water pollution.	No incident has occurred during the past year.	Site observations	T/N	T/N	No recommendations.	-
9,2	The permit holder must, within 14 days, or a shorter period of time, if specified by the Director and/or the Regional Director, from the occurrence is detection of any incident referred to in condition 9.1, submit an action plan, which must include a detailed time schedule, and resource allocation signed off by top management, to the satisfaction of the Director and/or the Regional Director of measures taken to-	No incident has occurred during the past year.	Site observations	T/N	T/N	No recommendations.	-
a)	correct the impact resulting from the incident						
b)	prevent the incident from causing any further impact; and						
c)	prevent a recurrence of similar incident						
9,3	In the event that measures have not been implemented within 21 days of the incident to address impacts caused by the incident referred to in condition 9.1, or measures which have been implemented are inadequate, the Director and/or the Regional Director may implement the necessary measures at the cost and risk of the permit holder.	No incident has occurred during the past year.	Site observations	T/N	T/N	No recommendations.	-
9,4	The permit holder must keep an incident report and complaints register, which must be made available to external auditor,	The mine has an IsoMetrix (Non Conformance Register - NCR) System which is utilised.	Site observations	3	3	No recommendations.	-



		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility	
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008								
		Departmental and DWAF auditors for the purpose of audit.						
9,5		The department must be notified without delay in the case of the following:						
	a)	any malfunction, breakdown or failure of equipment or techniques, accident or fugitive emission which has caused, is causing or may cause significant pollution;	Site observations	T/N	T/N	No recommendations.	-	
	b)	the breach of limit specified in this permit; and						
	c)	any significant adverse environmental and health effects						
9,6		Prior written notification shall be given to the Department of the following events and in the specified timescales:						
	a)	as soon as practicable prior to the permanent cessation of any operational activities	Site observations	T/N	T/N	No recommendations.	SHEQ Department	
	b)	full or practical cessation of the operational activities for a period likely to exceed 3 months	Site observations	T/N	T/N	No recommendations.	SHEQ Department	
	c)	full or practical resumption of the operation of all or part of the activities after a cessation notified under b) above	Site observations	T/N	T/N	No recommendations.	SHEQ Department	
	d)	prior to commencement of operations, the professional engineer appointed by the permit holder in line with condition 4.1.2 must make a signed declaration that condition 4.2.1 and 4.2.2 above have been adhered to.	Site observations	N/A	N/A	No recommendations.	-	
9,7		The Department must be notified within 7 days of any changes to the management of the site including the name of the incoming person together with evidence that such person has the required technical competence.	A new responsible person has been appointed as the Environmental Superintendent. A letter in this regard has been submitted to the DWS, DMR and NCDENC.	DWS Notification, 5 January 2017 DMR Notification, 5 January 2017 Annexure III Submission to NCDENC, May 2019	3	3	No recommendations.	-
9,8		The Department must be notified within 14 days of the following changes:						
	a)	Permit Holder trading name, registered name or register office address;	The Licence is in the name of Assmang Ltd and not Assmang (Pty) Ltd. Notification hereof was submitted as part of the Annexure III submission to the NCDENC.	Site Observation Permit Number 12/9/11/P49 Annexure III Submission to NCDENC, May 2019	3	3	No recommendations.	-

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008							
b)	Particulars of the Permit Holder ultimate holding company (including details of an ultimate holding where a Permit Holder has become subsidiary;	Not applicable.	Site observations	N/A	N/A	No recommendations.	-
c)	steps taken with a view to the Permit Holder, or any one of them, going into bankruptcy entering into composition or arrangement with creditors or, in the case of them being in a partnership, dissolving the partnership.	Not applicable.	Site observations	N/A	N/A	No recommendations.	-
9,9	Each external audit report referred to in condition 8.2 must be submitted to the Director within 30 days from the date on which the external auditor finalised the audit	External audit was finalised during November 2018. The report was submitted to the NCDENC with the Internal Audit (reference thereto provided in the Internal Audit Report, Annexure 4) during June 2019 and not within the required 30 days.	External Environmental Audit Report, 2018 Proof of submission June 2019	0	3	The External Audit report must be submitted to the Department within 30 days of finalisation.	SHEQ Department
10	Rehabilitation and Closure of the Site						
10,1	Closure of the Site						
10.1.1	Immediately following the cessation of rubble and garden deposition on the site, the surface of the site must be covered and maintained in such a way that:	Not applicable, the site is still operational.	Site observations	T/N	T/N	No recommendations.	-
a)	for the formation of pools due to rain is prevented;						
b)	free surface runoff of rainwater is ensured;						
c)	contamination of storm water is prevented						
d)	no objects or material which may hamper the rehabilitation of the site are present and;						
e)	little or no erosion occurs, until the approved rehabilitation plan referred to in condition 10.1 is completely implemented.						
10.1.2	The permit holder shall remain responsible for the site, or any of its impacts on the environment,	Noted. The site is still operational.	Site observations	T/N	T/N	No recommendations.	-

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility	
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008								
		after operations on the site have ceased.						
11		Leasing and Alienation of the Site						
11,1		Should the permit holder want to alienate or lease the site, he/she shall notify the Director in writing of such an intention at least 120 days prior to the said transaction	The Licence Holder is aware of this condition.	Site observations	N/A	N/A	No recommendations.	-
11,2		Should the permit holder want to transfer holder-ship of this, he/she shall notify and obtain approval from the Director for such a transfer, at least 120 days prior to the said transfer.	The Licence Holder is aware of this condition.	Site observations	N/A	N/A	No recommendations.	-
11,3		any subsequent permit holder shall be bound by the conditions of this permit	The Licence Holder is aware of this condition.	Site observations	N/A	N/A	No recommendations.	-
12		Recording						
12,1		The permit holder must keep records and update all the information referred to in Annexure III and submit this information to the Director and the Regional Director on an annual basis.	This information is available, and proof of submission is available.	Proof of submission, June 2019	3	3	No recommendations.	-
12,2		All records required or resulting from activities required by this permit must:						
	a)	be legible;						
	b)	be made as soon as amended in such a way that the original and any subsequent amendments remain legible and are easily retrievable;	This information is available, and proof of submission is available.	Proof of submission, June 2019	3	3	No recommendations.	-
	c)	if amended in such a way that the original and any subsequent amendments remain legible and are easily retrievable and						
	d)	be retained in accordance with a documented procedure which is approved by the Department						
12,3		The permit holder must record all borehole data and chemical analyses in the format attached as Annexure IV	According to the latest water quality report by Aquatico for April 2019 the current Beeshoek Mine Water	Aquatico April 2019 Monitoring Report Annexure III Submission, May 2019	1	3	All monitoring parameters must be monitored and captured as per the licence conditions.	Environmental Department

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008							
		<p>Monitoring Programme consists of two major components of monitoring:</p> <ol style="list-style-type: none"> 1. Surface water monitoring – Monthly frequency. 2. Groundwater monitoring – Quarterly frequency. <p>The parameters COD, lead, and phenolic compounds are not being monitored for in this monitoring protocol.</p>					
13	General						
13,1	This permit shall not be transferable unless such transfer is subject to condition 11.2	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
13,2	This permit shall not be construed as exempting the permit holder from compliance with the provisions of the National and Provincial Legislation and any relevant Ordinance, Regulation, By-laws and relevant National Standards and norms.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
13,3	Transgression of any condition of this permit could result in the validity of the permit being terminated by the Department	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
13,4	The permit holder must provide the Director with any information which he/she may require to enable him/her to fulfil the objectives of the Environmental Conservation Act, 1989 (Act 73 of 1989) as amended or any current legislation for waste management purposes.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
13,5	This permit is valid for a period of twenty (20) years and shall be reviewed every five years from the date of issue or at any time before or after that date. Based on the results of the review, compliance to permit conditions or recommendations from audit reports and or changing legislation,	Noted. The Licence Holder is aware of this condition. The license has not been reviewed by the Department to date.	Site observations	0	3	<p>It is recommended that a letter be drafted to the NCDENC and DMR informing the Departments of this requirement and requesting the review to be undertaken.</p> <p>During this review, the mine should request the Department to revise the stipulation of "garden waste" to domestic and uncontaminated waste.</p>	SHEQ Department

	2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
Environmental Conservation Act, Permit in terms of section 20 - 1998 (Permit 12/9/11/P49) - October 2008						
	the Permit could be amended or withdrawn, or validity therefore extended.					
	ECA Total		110	126	87%	

Table 7: Environmental Audit - BF Waste Rock Dump (Village Waste Rock Dump) - NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - March 2014

	2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014						
Scope of Authorisation						
1	Authorisation of the activity is subject to the conditions contained in this authorisation which conditions form part of environmental authorisation and are binding on the holder of the authorisation	Noted. The Licence Holder is aware of their responsibility.	Site Observations	T/N	T/N	No recommendations. This audit is undertaken to ensure that the Licence Holder is aware of their compliance to these conditions.
2	The holder of this authorisation shall be responsible for ensuring compliance with the conditions by any person acting on his or her behalf including but not limited to, an agent sub-contractor, employee or person rendering a service to the holder of the authorisation.	<p>Awareness flashes (talk topics) are undertaken monthly, which includes topics such as water. Other means of awareness and responsibility creation include: Meetings scheduled to communicate aspects relating to management, environmental, engineering, mining, safety and hygiene on site: * Weekly awareness flashes. * SHEQ Meetings - comprising of mining teams, supervisors, trade unions (monthly); * SHEQ Meetings - comprising of the Safety, Health, Environmental and Quality Departments (monthly); * SHEQ/GM Meetings - comprising of the GM and the SHEQ Department (weekly); * Contractor SHEQ Meeting - comprising of the Contractors (such as Interwaste, Lenfield Earthworks (Lenfield), Booysen Bore Drilling Co (Pty) Ltd (Booyesen Bore), etc), and the Environmental Department (monthly).</p> <p>A Water Conservation and Demand Management Plan (WCDMP) is currently being updated for the mine.</p> <p>When considering awareness of contractors and the effectiveness thereof, the following areas of concern were raised: * At the Booysen Bore Laydown Area, where they specifically serve the Village Opencast Pit area and utilises the haul roads: o Vehicle parking is taking place. The area is also used for minor vehicle maintenance as the formal workshop is located off-</p>	<p>WCDMP Meeting, 29 November 2017 WCDMP, 2017 Draft WCDMP, 2019 (in progress), August 2019 Site observations</p>	1	3	<p>Contractors must be made aware of their responsibility in terms of EMPr and Environmental Authorisation compliance.</p> <p>It is important that a system be implemented in which the contractors are made aware of what is and is not allowed at the laydown areas.</p>



		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
	BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014						
		<p>site. A large presence of hydrocarbon spills was observed; after this was pointed out, the personnel immediately started with clean up processes.</p> <ul style="list-style-type: none"> o Severe dust dispersion was present in this area, due to the soft soils in this area. A grader was present in this area to grade the surface, but the soft material is only moved to the side and dust remains a concern. o A skip is present for hazardous waste. This skip is not covered and not located in a contained facility. Waste mixing is taking place and unnecessarily increases the volume of hazardous waste to be disposed. <p>* At the Lenfield Temporary Vehicle Parking at the area north of the topsoil stockpile near the East Pit Area, the following areas of concern were raised:</p> <ul style="list-style-type: none"> o Diesel spills are present in this area. o This area is not a demarcated area for vehicle servicing, although this was taking place. o Alien and invasive plant species are present in this area. 					
3	The activity(s) which is authorised may only be carried out at a property indicated above	Noted and compliant.	Site observations	3	3	No recommendations.	-
4	Any changes to, or deviations from the project description set out in this authorisation must be approved in writing by the Department before such changes or deviations may be affected. In assessing whether to grant such approval or not the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation in terms of the regulations	Noted. The Licence Holder is aware of this condition. The BF WRD is approved to a height of 45m. The mine requires this height to be increased to about 120m from surface. An EIA process has been initiated to apply for this increase, with the relevant specialist studies such as air quality impact assessments.	EIA Scope of Work, July 2019	3	3	No height increase beyond 45m may be undertaken without the necessary Environmental Authorisations.	SHEQ Department and Mining Department.
5	This authorisation does not negate the holder of the authorisations responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.	Compliant, the BF WRD is included as part of the WUL.	WUL, 2018	3	3	No recommendations.	-
	General Conditions						
6	A copy of this authorisation must be kept at the property where the activity will be undertaken. The authorisation must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.	A copy of the licence is kept at the SHEQ office and is available to all employees.	Site observations	3	3	No recommendations.	-

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014							
7	Where any of the applicant's contact details change, including the name of the responsible person, the physical or postal address and/or telephonic details, the applicant must notify the Department as soon as the new details become known to the applicant.	Compliant.	DWS Notification, 5 January 2017 DRM Notification, 5 January 2017 Annexure III Submission to NCDENC, May 2019	3	3	No recommendations.	-
8	The holder of the authorisation must notify the Department, in writing, and within 24 hours if a condition 16 of this authorisation cannot be or is not adhered to. In all other cases, the holder of the authorisation must notify the Department, in writing, within 7 days if a condition of this authorisation is not adhered to. Any notification in terms of this condition must be accompanied by reasons for the non-compliance.	The Licence Holder is aware of this condition.	Site observations DMR Proof of Submission December 2018 NCDENC Proof of Submission, 27 June 2019	T/N	T/N	No recommendations.	-
9	Non-compliance with a condition of this authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the regulations.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
10	This authorisation is subject to the approval by the relevant local authorities i.e. In terms of any relevant legislation administered by those local authorities.	Noted. The Licence holder is operating in terms of an approved licence/ permit in terms of the NEMA, ECA and NWA for the overall operation. The disposal of sewage into the municipal system is also in place under agreement. During the site visit the agreement lapsed, but was immediately discussed with the municipality and rectified. Waste Classification was also undertaken on the WRD in terms of the requirements of the NEMWA Regulations.	Site observations Waste Classification Report, June 2016 WUL, 2018	3	3	No recommendations.	-
11	The activity may not commence without the necessary permits/licenses/approvals and/or service agreements, where it is relevant, from or with the relevant regulatory authorities whether national, provincial or local (these include but are not limited to National Department of Environmental Affairs and Tourism, National Department of Agriculture, Department of Housing and Local Government, Department of Water Affairs and Forestry, Department of Minerals and Energy, Department of Transport, Roads and Public Works, Department of Arts, Sports and Culture, South African Heritage	Noted. The Licence Holder is operating in terms of an approved licence/ permit in terms of the NEMA, ECA and NWA for the overall operation.	Site observations Waste Classification Report, June 2016 WUL, 2018	3	3	No recommendations.	-



		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
	BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014						
	Resources Agency, South African Civil Aviation Authority.						
12	The activity, including site preparation, may not commence before the 30-day appeal period expires or until such time as the Department has considered any appeals that have been lodged.	The Environmental Authorisation was issued in March 2014. A letter notifying the NCDENC on the intention to commence construction was submitted on 16 July 2016. This letter makes reference to the permit and also the appointed Environmental Control Officer (ECO). Stakeholders were also notified of the appeal process by Ms. Mahaba (GCS (Pty) Ltd (GCS)) on 19 March 2014.	Letter from Beeshoek to NCDENC dated 16 July 2014 Email dated 19 March 2014	3	3	No recommendations.	-
a.	One week's written notice must be given to the Administration clerk (Impact Management Unit) before commencement with the activity -						
b.	such notice shall make clear reference to the site location details and the reference number given above.						
c.	The said notice must also include proof of compliance with the following conditions described herein: i. Conditions: 11 and 23						
13	The applicable conditions of the authorisation must form part of all contractors' and sub-contractors' conditions of contract. A performance-based requirement with regard to environmental impact management must be included in all contracts related to any aspect of this authorisation	<p>No performance-based requirement has been developed for contractors to manage. However, the mine is undertaking the following to create awareness:</p> <ul style="list-style-type: none"> Weekly awareness flashes; Monthly SHEQ meetings with mining teams, supervisors and trade unions; Monthly SHEQ meetings with GM and managers; Weekly SHEQ/ GM meetings; Contractor SHEQ Meetings monthly attended by all contractors including Interwaste, Lenfield, Booyesen Bore etc. <p>When considering awareness of contractors and the effectiveness thereof, the following areas of concern were raised around the Village WRD:</p> <p>* At the Booyesen Bore Laydown Area, where they specifically serve the Village Opencast Pit area and utilises the haul roads:</p> <ul style="list-style-type: none"> o Vehicle parking is taking place. The area is also used for minor vehicle maintenance as the formal workshop is located off-site. A large presence of hydrocarbon spills was observed; after this was pointed out, the personnel immediately started with clean up processes. o Severe dust dispersion was present in this area, due to the soft soils in this area. A grader was present in this area to grade the surface, but the soft material is only moved to the side and dust remains a concern. o A skip is present for hazardous waste. This skip is not covered and not located in a contained facility. Waste mixing is taking place and unnecessarily increases the volume of hazardous waste to be disposed. 	Site observations.	1	3	A performance-based requirement should be implemented on site.	SHEQ Department



		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014							
14	The applicant must carry out regular environmental audits to establish compliance with the conditions of the authorisation and contracts.	Annual compliance audits are undertaken by the mine on all Environmental Authorisations as required.	Environmental Audit, November 2018	3	3	No recommendations.	-
15	Records relating to the compliance/non-compliance with the conditions of the authorisation and contracts must be kept in good order. Such records must be made available to the Department within 7 days of receipt of a written request by the Department for such records.	Compliant, an IsoMetrix system is in place.	Site observations	3	3	No recommendations.	-
16	Any complaints regarding the said development must be brought to the attention of the Department within 24 hours after receiving the complaint. A complaints register must be kept up to date for inspection by the Department.	No complaints have been raised in the past 12 months in terms of the information provided to the auditor.	Site observations	3	3	No recommendations.	-
17	Officials in the employ of the Department shall be given access to the property as described above (see detailed description of the activity) of the purposes of assessing and/or monitoring compliance with the conditions contained in this RoD. Where the activity is located on a third party's property the applicant shall be responsible to arrange access for departmental officials.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
18	This Department may add to, change and/or amend any of the conditions in this authorisation if, in the opinion of the Department, the additions, change of amendment is environmentally justified. In event that such impacts exceed its significance as predicted in the independent consultant's environmental scoping report and supporting documentation, the authorisation may be withdrawn after proper procedures were followed.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
19	In the event of any dispute concerning the significance of a particular impact, the opinion of this department in respect of its significance will prevail.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
20	This Department and any national department, provincial department, local authority or committees appointed in terms of the conditions of this application or any other public authority or organisation shall not be held responsible for any damage or losses suffered by the applicant or	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-



		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014							
	his successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the applicant with the conditions of approval as set out in this document or any other subsequent document emanating from these conditions of approval.						
21	The applicant shall be responsible for all costs necessary to comply with the above conditions unless otherwise specified.	Noted. The Licence Holder is aware of this condition. All activities are undertaken in terms of operational costs. The rehabilitation of the facility is also included into the current rehabilitation plan.	Financial Rehabilitation Plan, May 2019	T/N	T/N	No recommendations.	-
22	The applicant must apply the principle of best practicable environmental option for all technologies used/implemented during construction.	No construction activities are being undertaken, the WRD is fully operational.	Site observations	NLR	NLR	No recommendations.	-
Appeal of authorisation							
23	N/A	No appeals were received.	Site observations	N/A	N/A	No recommendations.	-
24	N/A	No appeals were received.	Site observations	N/A	N/A	No recommendations.	-
25	N/A	No appeals were received.	Site observations	N/A	N/A	No recommendations.	-
Management of activity							
26	The Environmental Management Programme (EMPr) submitted as part of the application for environmental authorisation must be implemented.	Noted. Please see the results of this Environmental Audit.	2019 External Environmental Audit Report	T/N	T/N	No recommendations.	-
27	The disturbance of the environment must be restricted to the absolute minimum	Compliant, all activities are undertaken as part of the approved footprints.	Site observations	3	3	No recommendations.	-
Monitoring and Recording							
26	A site monitoring must be instituted to the satisfaction of this Department, access routes must be monitored during routine site maintenance visits	Dustwatch CC (Dustwatch) is undertaking the dust monitoring on site monthly and Aquatico is responsible for implementation of the water monitoring programme. According to the latest dust monitoring results undertaken by Dustwatch (3 May to 3 June 2019) all nine (9) monitoring points were compliant (below 1 200mg/m ² /day) for 2019 (no exceedance during the year of 2019). The report stated the following: <ul style="list-style-type: none"> The non-residential action level has been applied to all the units. If any units are located on residential property, then the action level of 600mg/m²/day will be applicable. The Kolomela four bucket unit results were all below 200mg/m²/day in this period with the south bucket yielding the highest result, 161mg/m²/day. The Sedibeng four bucket unit results were below 100 mg/m²/day in this period with the east bucket yielding the highest result, 88mg/m²/day. 	WUL, 2018 Dustwatch Monitoring Report, May to June 2019 Aquatico Water Monitoring Report, April 2019	3	3	No further recommendations.	-

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014							
		<ul style="list-style-type: none"> The Koeiespeen Gertse Plaas single bucket unit yielded 91mg/m²/day in this period. The Uitsig single bucket unit yielded 175mg/m²/day in this period. The Game Farm single bucket unit yielded 113mg/m²/day in this period. The South Reservoir single bucket unit yielded 206mg/m²/day in this period. The West Pit single bucket unit yielded 172mg/m²/day in this period. The Olynfontein Border single bucket unit yielded 154mg/m²/day in this period. The Training single bucket unit yielded 375mg/m²/day in this period. <p>According to the latest water quality report by Aquatico for April 2019, the current Beeshoek Mine Water Monitoring Programme consists of two major components of monitoring:</p> <ol style="list-style-type: none"> Surface water monitoring – Monthly frequency Groundwater monitoring – Quarterly frequency <p>The surface monitoring network comprises of the following: Potable water (6 localities) and Process water (2 localities), while the groundwater monitoring consists of 11 monitoring boreholes. All samples are analysed by Aquatico, a South African National Accreditation System (SANAS) Accredited Testing Laboratory, No T0685.</p>					
27	This Department retains the right to inspect or monitor the proposed project during both construction and operation, to ensure that it complies with the legislation and the conditions stipulated in this Environmental Authorisation.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
28	The holder of the authorisation must submit an environmental audit report to the Department upon the completion of the construction and rehabilitation of the activities. The environmental audit reports must -	Annual compliance audits are undertaken by the Mine on all Environmental Authorisations as required. In addition to this, the Mine is submitting quarterly rehabilitation programmes to the DMR.	Environmental Audit, June 2019	3	3	No recommendations.	-
	a - Indicate the date of the audit, the name of the auditor and the outcome of the audit.						
	b - Records relating to the monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.						
29	The applicant must appoint a suitable experienced ECO for the construction phase of the development that will have the responsibility	Mr. Msimelelo Silomntu has been appointed as the Environmental Superintendent to ensure that environmental conditions are implemented on site.	Site observations	3	3	No recommendations.	-



		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
	BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014						
	to ensure that the mitigation/rehabilitation measures and recommendations referred to in this authorisation are implemented.						
30	The ECO shall be appointment before commencement of any land clearing or construction activities.	Compliant. Mr. Johan Kleynhans was the appointed person during the initial construction activities.	Site observations	3	3	No recommendations.	-
31	The ECO shall keep record of all activities on site, problems identified, transgressions noted, and a task schedule of task undertaken by the ECO.	All site problems and transgressions are logged onto the Mine's IsoMetrix system. To date no specific non-compliance has been raised.	Site observations	3	3	No recommendations.	-
32	The ECO shall remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
33	Records relating to monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.	The water monitoring programme conducted at the mine is undertaken on a monthly (surface water) and quarterly (groundwater) basis. This includes potable water, process water and groundwater monitoring points. Quarterly groundwater monitoring reports are being compiled by Aquatico. The reports are submitted to the DWS, with proof available on site annually. Dustwatch is undertaking the dust monitoring and records in this regard are also available on site.	Aquatico Water Monitoring Report, April 2019 Dustwatch Monitoring Report, May to June 2019.	3	3	No recommendations.	-
	Commissioning of the activity						
34	14 days written notice must be given to the Department that the activity will commence. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence.	The Environmental Authorisation was issued in March 2014. A letter notifying the NCDENC on the intention to commence construction was submitted on 16 July 2014. This letter makes reference to the permit and also the appointed ECO.	Letter from Beeshoek to NCDENC dated 16 July 2014	3	3	No recommendations.	-
35	The authorised activity shall not commence within thirty (30) days of the date of signature of the authorisation.	The Environmental Authorisation was issued in March 2014. A letter notifying the NCDENC on the intention to commence construction was submitted on 16 July 2016. This letter makes reference to the permit and also the appointed ECO.	Letter from Beeshoek to NCDENC dated 16 July 2014	3	3	No recommendations.	-
36	Should you be notified by the minister of a suspension of the authorisation pending appeal procedures, you shall not commence with the activity unless authorised by the minister in writing.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
	Operation of the Activity						
37	14 days written notice must be given to the Department that the activity operational phase will commence.	The Environmental Authorisation was issued in March 2014. A letter notifying the NCDENC on the intention to commence construction was submitted on 16 July 2016. This letter makes reference to the permit and also the appointed ECO.	Letter from Beeshoek to NCDENC dated 16 July 2014	3	3	No recommendations.	-



		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014							
38	During operational phase of the development storm water drainage must be monitored. Must adhere to the storm water management plan as outlined in the Environmental Management Programme Report.	<p>No significant findings were observed in terms of environmental management and implementation around this area. Storm water management berms are constructed around the WRD. It should be noted that no formal Pollution Control Dam (PCD) has been constructed downgradient of the WRD. The EMP, 2013 states that: "Create a Pollution Control Dam (PCD) (+/- 1 900m³) in the south west corner (GN704)". This can be motivated by the fact that the latest 2016 Storm Water Management Plan stated that the runoff from the site can be regarded as "zero". This is also confirmed in the 2013 EMP: "Open drainage channels are necessary to convey dirty water to the PCD. This type of drainage channel can be constructed with a grassed earth channel since there is almost no runoff in this region and little chance of erosion. The required PCD (1 900m³) can be constructed in a similar way since there is almost no runoff and evaporation rates are extremely high." Runoff is currently, if it occurs, captured by the berms and not released into the environment and for this reason no formal PCD has been constructed.</p> <p>A further clarification considered in this audit, was the Waste Characterisation and Groundwater Monitoring Network study undertaken by Geo Pollution Technologies (Pty) Ltd (GPT) during 2017. The report found that based on the groundwater quality analyses, solid waste analyses and liquid waste analyses, as well as the statistical analysis of the data, it can be deduced that the chemical signatures of the three mediums (baseline groundwater, solid waste and liquid wastes) are quite similar. Additionally, the report states that the constituents found to exceed the relevant screening levels for each of the three mediums are also similar. Also, most of the sources are located within the dewatered area, directing any contaminants towards the active mining areas. The report concluded that effects of sources on the groundwater environment are likely to be negligible and are unlikely to be observed in samples as the chemical signatures of the different mediums are so similar.</p>	Site observations Beeshoek WRD Expansion EMP, 2013 Storm Water Management Plan, 2016 GPT, Waste Characterisation and Groundwater Monitoring Network Audit, 2017	TBA	TBA	The Licence Holder will remain non-compliant on this condition if the PCD is not constructed. This condition is not achievable and not required to manage environmental impacts based on the outcome of specialist studies. It is recommended that this condition be amended as part of the overall EMP Amendment process of 2019/2020. This condition could be regarded as a Regulation 34 Amendment or a Regulation 29 Amendment, as the condition is not sufficient based on the future expansions to the Village WRD proposed in the pending Environmental Authorisation Process.	SHEQ department
39	Possible ground water contamination must also be monitored over time.	The water monitoring programme conducted at the mine is undertaken on a monthly (surface water) and quarterly (groundwater) basis. This includes potable water, process water and groundwater monitoring points. Quarterly groundwater monitoring reports are being compiled by Aquatico. According to the April 2019 report, water monitoring at the mine is conducted on a monthly basis. The water monitoring programme, conducted by Aquatico, entails hydrochemical monitoring of surface water localities and hydrochemical monitoring of groundwater resources on a quarterly basis. The report concluded that none of the	Aquatico Water Monitoring Report, April 2019 GPT Waste Characterisation and Groundwater Monitoring Network Audit, 2017	3	3	No recommendations.	-

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014							
		<p>variables listed in the IWUL Groundwater Resource (Table 5 – Appendix IV of the IWUL) exceeded the specified limits at any of the sampled localities. It should be noted that the Nitrate (NO₃) concentration at WG34, WG37, WG62, WG70 and WG74 did however exceed the permissible limit of 10mg/l set out by the then Department of Water Affairs and Forestry (DWAF) Quality of Domestic Water Supplies. This is important as many of the boreholes supply water for potable purposes. This condition is however based on the fact that the WUL limits are adhered to and also based on the findings from the water studies as presented below, which raised no current or future risk. The reports are submitted to the DWS, with proof available on site annually.</p> <p>Other water studies undertaken include groundwater risk assessments and numerical models. The Waste Characterisation and Groundwater Monitoring Network study undertaken by GPT during 2017. The report found that based on the groundwater quality analyses, solid waste analyses and liquid waste analyses, as well as the statistical analysis of the data, it can be deduced that the chemical signatures of the three mediums (baseline groundwater, solid waste and liquid wastes) are quite similar. Additionally, the report states that the constituents found to exceed the relevant screening levels for each of the three mediums are also similar. Also, most of the sources are located within the dewatered area, directing any contaminants towards the active mining areas. The report concluded that effects of sources on the groundwater environment are likely to be negligible and are unlikely to be observed in samples as the chemical signatures of the different mediums are so similar.</p>					
40	The construction area must be demarcated, no construction activities should be allowed outside proposed footprint.	Compliant, all activities are undertaken within the approved footprints.	Site observations	3	3	No recommendations.	-
41	Monitoring of long-term soil pollution must be implemented.	Contaminated soils are stored in demarcated areas from where it is removed and disposed of as hazardous waste at licensed landfill sites.	Site observations	3	3	No recommendations.	-
42	Pollution creating activities must be minimised.	The following is based on the Waste Characterisation and Groundwater Monitoring Network study undertaken by GPT during 2017. The report found that based on the groundwater quality analyses, solid waste analyses and liquid waste analyses, as well as the statistical analysis of the data, it can be deduced that the chemical signatures of the three mediums (baseline groundwater, solid waste and liquid wastes) are quite similar. Additionally, the report states that the constituents found to exceed the relevant screening levels for each of the three mediums are also similar. Also, most of the sources are located within the dewatered area,	Site Observations Aquatico Water Monitoring Report, April 2019 GPT, Waste Characterisation and Groundwater Monitoring Network Audit, 2017	1	3	At the South Mine Bulk Diesel Storage area, it is recommended that the surfaced area in this vicinity be extended towards the bunded area and sloped towards the existing grid/sump area. At the Jig Plant, the option of including a lined channel leading to the sump should also be considered. The pump at the TMM Workshop Sump should be fixed.	

	2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014						
	<p>directing any contaminants towards the active mining areas. The report concluded that effects of sources on the groundwater environment are likely to be negligible and are unlikely to be observed in samples as the chemical signatures of the different mediums are so similar. WRDs and PCDs are therefore not considered a significant risk on site.</p> <p>The latest groundwater monitoring report of April 2019 also stated that none of the variables listed in the IWUL Groundwater Resource (Table 5 – Appendix IV of the IWUL) exceeded the specified limits at any of the sampled localities.</p> <p>During the site visit however, hydrocarbon management in certain areas were observed to require management, similarly some areas of potential contaminated storm water were also noted:</p> <ul style="list-style-type: none"> • At the Booysen Bore Laydown Area, a large presence of hydrocarbon spills were observed; after this was pointed out, the personnel immediately started with clean up processes. • At the Lenfield Laydown Area, diesel spills were present. • At the South Mine Engineering/ Crusher Workshop, crusher slings which are contaminated with hydrocarbons are stored uncontained in various areas within this workshop area. Some are stored on wooden pallets, but not contained and could lead to pollution. • At the South Mine Bulk Diesel Storage Area, various spills were present in this area on unsurfaced areas – according to the site interviews this could be due to the water truck spraying hydrocarbons from the surfaced areas. This is however unlikely when considering the spill, and it is more likely to be a drip tray which toppled over. • At the South Mine TMM Workshop, an area where rehabilitation has taken place is present to the east of the settlers – according to the site interviews the settlers overflowed due to the operator not starting the pump (to pump water to the tank for the wash bay). The pump is generally automatically operated but has broken and must now be operated manually. No procedure or protocol is in place to ensure regular and effective management of the system. A fault has been logged with the Electrical Department and apparently the necessary equipment has been ordered. The overflow has been well rehabilitated and contaminated soils taken to the contaminated soil containment sump. The risk however for a reoccurrence of this event will remain high until this system is fixed. • At the Plant area, various areas of concern were observed in terms of dirty water management, which include: <ul style="list-style-type: none"> o Overflow at the Jig Plant where pumps are located. The pump was operating at the time of the site visit, however there is no 				The implementation of lined/ concreted channels in the Plant area to convey dirty water to the downgradient settlers should be investigated.	



		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014							
		<p>specific, effective bund present and the area cannot accommodate the volumes of water. Water is discharging on open ground, into an uncontained area, forming gulley's and then reporting to a sump from where water is channelled to the settling dams. A pipe was also observed, where water is pumped from the Jig Plant into an uncontained area. This area must be investigated in terms of containment capacity.</p> <ul style="list-style-type: none"> o A repeat finding from the previous two years (2017 and 2018) is the water management around the Clarifier. Water around the pumps at the Thickener is channelled with a pipe into the open area around the Clarifier, creating erosion on the slopes, already visible from the road between the Thickener and the Clarifier. This has resulted in the area around the Clarifier being a wet marshy area. A berm has been placed around the Clarifier to contain water, but water is still running off beyond this berm. The pump at the Clarifier seems to not be capable of managing the volumes of water present. Four new water tanks area planned in this area. Water runoff forms gulley's and reports to a sump downgradient which connects to the downgradient settlers. o The Wash and Screen sump receives water from the downgradient settlers. This sump is not formally banded and highly silted. It is not clear whether the pump can operate with the volume of silt present. Leaks from the upgradient valves are present and also reporting water to this sump area. • At the North TMM Workshop, a large portion of the workshop area is surfaced, and all vehicles being maintained during the site visit was noted to be maintained on the surfaced area. The surfaced area is however not banded and any runoff will still be uncontained or run into the channel which is discharged into the open environment on the other side of the access road near the railway line. • Also at the North TMM Workshop, a circular area is present on the eastern portion of the workshop (east of the skips) which is not surfaced. Breakdown vehicles and a diesel tank are stored here, and spills are present. At the tank the use of absorbents was present. It should be noted that the incorrect absorbents for water systems are used in this area and not the ones issued by the SHEQ Department of surface contamination. 					
43	Burning of waste on site is strictly prohibited.	No burning of waste is allowed on site.	Site observations	3	3	No recommendations.	-
44	Noise levels must be kept to a minimum during construction phase	Area noise monitoring is undertaken monthly. No complaints have been received from surrounding stakeholders; an open channel of communication is maintained.	Site observations	3	3	No recommendations.	-
45	Relevant Occupational Health and Safety Standards must be observed all the times	Noted, no areas of concern were observed.	Site observations	3	3	No recommendations.	-

		2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014							
46	Permits to remove and/or destroy protected tree species (Camel Thorn and Shepperds Tree) must be form the Department of Forestry Northern Cape.	A tree removal permit was applied for and approved. Trees must be planted; trees were purchased by the mine from the Department. Due to the small size of the trees, these did not survive. The mine has informed the Department of this and no concern was raised.	Permit reference NCU 4360414	3	3	No recommendations.	-
47	Permits to remove and/or destroy Aloe hereroensis and Pachypodium succulent must be obtained from the Northern Cape Department of Environment and Nature Conservation	A tree removal permit was applied for and approved. Trees must be planted; trees were purchased by the mine from the Department. Due to the small size of the trees, these did not survive. The mine has informed the Department of this and no concern was raised.	Permit reference NCU 4360414	3	3	No recommendations.	-
48	The following conditions are recommended by the plant specialist report should be adhered to at all times.						
49	Large geophytes that are listed as a protected species, such as Boophane distyca and Harpagophytum procumbens should be found and rescued during a wetter season and transported to the buffer zone. A plant specialist must be consulted for the removal and relocation of as many of these geophytic and succulents' plants as possible.	All commitments in terms of the Department of Agriculture and Forestry (DAFF) were adhered to.	Site observations	3	3	No recommendations.	-
50	Relocated individuals of each species to a protected area such as the buffer zone before the commencement of the activities.	All commitments in terms of the DAFF were adhered to.	Site observations	3	3	No recommendations.	-
Site Closure and Decommissioning							
51	In case decommissioning of the project, the holder of the Environmental Authorisation must rehabilitate the site to the satisfaction of the Directorate: Environmental Management	Noted. The facility will not be decommissioned before the next audit schedule.	Site observations	N/A	N/A	No recommendations.	-
52	At closure the side slope must have been constructed at an angle of no steeper than 1:3. The Waste Rock Dump must be covered with a course (gravel/topsoil) medium which has been proven successful in the Beeshoek ongoing processes. Should it be determined that the vegetation self-succession does not establish, a growth medium must be placed on top of the rock and vegetation re-established.	Noted. The facility will not be decommissioned before the next audit schedule.	Site observations	N/A	N/A	No recommendations.	-
53	The ecosystem integrity must be promoted.	Noted. The facility will not be decommissioned before the next audit schedule.	Site observations	N/A	N/A	No recommendations.	-
Duration and period of validity							
	The activity(s) must commence within a period of three years form the date of issue. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation	Compliant, the activities have been commissioned.	Site observations	3	3	No recommendations.	-

BEESHOEK IRON ORE MINE 2019 EMPR ENVIRONMENTAL AUDIT
 Departmental Ref: NC 30/5/1/2/3/2/1/223EM
 Project Ref: 21912
 Version: Final

	2019 Observation	Source	Actual score	Max score	Recommendations	Responsibility
	BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014					
	must be made in order for the activity to be undertaken.					
	Compliance Score		99	105	94.3%	



Table 8: Environmental Audit - BF Waste Rock Dump (Village Waste Rock Dump) - NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - March 2014 EMPr Conditions

	Observation	Reference Documentation	Actual score	Max score	Recommendations	Responsibility
BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014						
Assmang Ltd: Beeshoek Iron Ore Mine BF Waste Rock Dump Expansion Environmental Management Programme Report September 2013						
1. Geology.	No condition to assess.	-	-	-	-	-
2. Topography. Activity - Alteration of surface topography. Recommended Mitigation Measures - For the WRD expansion, at closure the side slopes will have been constructed at an angle of no steeper than 1:3. The WRD will be covered with a course (gravel/topsoil) medium which has been proven successful in the Beeshoek ongoing rehabilitation processes. Should it be determined that vegetation self-succession does not establish, a growth medium will be placed on top of the rock and vegetation re-established. Action Plan - Designs should take cognizance of topographical features of the site. - Stockpiling of waste rock should be done in such a manner as to facilitate ongoing rehabilitation. - Demarcate footprint clearly as per design. - Limit vegetation removal to the footprint only. - Limit levelling to within the footprint only.	Compliant, the sloping of the side walls of the WRD forms part of the Rehabilitation Plan.	Financial Rehabilitation Plan, May 2019	3	3	No recommendations.	-
3. Soils, Land Use and Land Capability. Activity - Soil erosion, compaction and contamination. Recommended Mitigation Measures - The WRD dimensions will be limited to the already disturbed footprint area as far as practically possible. The designs of any permanent and potentially polluting structures (such as the proposed WRD expansion) will take account of the requirements for long term soil pollution prevention, and function and confirmatory monitoring. Action Plan - Demarcate the footprint area clearly. - Manage storm water flow with temporary erosion control measures where possible (cut-off trenches or berms).	All activities are restricted to the approved footprints. Berms have been constructed around the WRD to manage storm water. During the site visit, steep slopes and erosion were present. The mine is currently assessing the requirements in terms of area available to design the WRDs at closure at a slope of 1:3.	Site observations.	1	3	The designs for Life of Mine (LOM) at closure should be finalised for WRDs on site. This should be included into the 2019 EIA process.	Mining Department and SHEQ Department



	Observation	Reference Documentation	Actual score	Max score	Recommendations	Responsibility
BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014						
	- Schedule construction as soon as possible after site clearing.					
4. Terrestrial Biodiversity (Fauna and Flora). Activity - Loss of fauna and flora of conservation importance. Recommended Mitigation Measures - No protected geophytic plant species were observed during the site visit and removal or destruction of the protected plants at Beeshoek will not have a significant or detrimental effect on the populations in the region. It is however important to ensure that should any species of importance be identified are relocated prior to clearing and permits to remove and/or destroy protected tree and plant species (Camel thorn, and Shepperd's tree) will have to be obtained from the Department of Forestry, Northern Cape. Action Plan- Compile list of protected and RD species, compile relocation programme.	A tree removal permit was applied for and approved. Trees must be planted; trees were purchased by the mine from the Department. These trees were small and young and therefore did not survive. The mine has informed the Department of this and no concern was raised.	Permit reference NCU 4360414	3	3	No recommendations.	-
5. Surface Water Activity - Polluted water from the WRD area and the mine will flow in a south western direction. Recommended Mitigation Measures - Adhere to approved Water Use License and conditions. Contain all dirty water runoff. Action Plan - Implement a storm water management plan. Activity - Erosion on WRD through intense stormwater run-off. Recommended Mitigation Measures - Construct berms on top of WRD and vegetate side as much as possible. Action Plan - Implement a storm water management plan.	A berm has been constructed to the southwest of the facility. No areas of concern have been observed. A detailed storm water management plan has been submitted to the DWS as part of the 2016 Integrated Waste and Water Management Plan (IWWMP) as well as the WUL Amendment application. The management programme states that runoff from residue deposits should be regarded as zero. This WUL has been approved. However, in terms of the EMP, 2013 a PCD is committed to. It should be noted that no formal PCD has been constructed downgradient of the WRD. The EMP, 2013 states that: "Create a Pollution Control Dam (PCD) (+/- 1 900m ³) in the south west corner (GN704)". This can be motivated by the fact that the latest 2016 storm water management programme stated that the runoff from the site can be regarded as "zero". This is also confirmed in the 2013 EMP: "Open drainage channels are necessary to convey dirty water to the PCD. This type of drainage channel can be constructed with a grassed earth channel since there is almost no runoff in this region and little chance of erosion. The required PCD (1 900m ³) can be constructed in a similar way since there is almost no runoff and evaporation rates are extremely high." Runoff is currently, if it occurs, captured by the berms and not released into the environment, and for this reason no PCD was constructed. For the purposes of assessment of this condition, the mine is operating in terms of the approved 2016 Storm Water Management	Site observations EMP, 2013 Storm Water Management, May 2016	TBA	TBA	The Licence Holder will remain non-compliant on this condition 38 of the Environmental Authorisation if the PCD is not constructed. This condition is not achievable and not required to manage environmental impacts based on the outcomes of specialist studies. It is recommended that this condition be amended as part of the overall EMP Amendment process of 2019/2020. This condition could be regarded as a Regulation 34 Amendment or a Regulation 29 Amendment, as the condition is not sufficient based on the future expansions to the Village WRD proposed in the pending Environmental Authorisation Process.	SHEQ Department



	Observation	Reference Documentation	Actual score	Max score	Recommendations	Responsibility
BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013 - ISSUED March 2014						
	Plan specific to WRDs, and has obtained an GN704 exemption to use waste rock in the construction of the berms. The condition of the PCD has however not been replaced or amended by the Licence Holder.					
6. Riparian Zones on and off site, and wetlands downstream of the site. N/A	No condition to assess.	-	-	-	-	-
7. Groundwater. Activity - Groundwater quality. Recommended Mitigation Measures - Implement action plans and monitoring at all phases to minimise impacts. Action Plan - A monitoring borehole should be installed downstream from the operation.	<p>According to the latest water quality report by Aquatico for April 2019, the current Beeshoek Mine Water Monitoring Programme consists of two major components of monitoring:</p> <ol style="list-style-type: none"> 1. Surface water monitoring – Monthly frequency 2. Groundwater monitoring – Quarterly frequency <p>The surface monitoring network comprises of the following: Potable water (6 localities) and Process water (2 localities), while the groundwater monitoring consists of 11 monitoring boreholes. All samples are analysed by Aquatico. a SANAS Accredited Testing Laboratory, No T0685. The necessary boreholes are in place to determine the impact of facilities on site. The Licence Holder is further including additional boreholes around the mine in line with the GPT monitoring report audits' recommendations.</p>	Water Monitoring Programme Quarterly Water Quality Report, July 2017 Aquatico Water Monitoring Report, April 2019 Updated numerical model of the predicted groundwater drawdown resulting from mining of the Village Pit at Beeshoek Mine, GPT July 2017	3	3	Water quality reports should be submitted to the DWS quarterly.	SHEQ Department
8. Air Quality. N/A	No condition to assess.	-	-	-	-	-
9. Noise.N/A	No condition to assess.	-	-	-	-	-
10. Visual. Activity - Addition to visual change to landscape. Recommended Mitigation Measures - Design infrastructure to take cognisance of the environment where possible. Action Plan - Slope design to be as gradual as possible. - Concurrent rehabilitation and re-vegetation must be implemented.	The facility is still within operational phase and ongoing rehabilitation can only be commissioned once the total footprint has been achieved. The slope is currently designed in line with the operational process. The mine is currently assessing the designs of the WRD facilities to determine whether the deposition strategy can be amended to dispose of material with closure in mind as slopes are currently steep.	Site observations	1	3	<p>Ongoing rehabilitation should be initiated as soon as practically possible.</p> <p>The designs of the WRDs should be finalised as a matter of urgency.</p> <p>Associated Code of Practices should be developed for the operation of WRDs on site and to ensure that closure strategies are considered during the operational phase.</p>	SHEQ and Mine Planning Department
11. Archaeology and Heritage. N/A	No condition to assess.	-	-	-	-	-
12. Socioeconomics. N/A	No condition to assess.	-	-	-	-	-
Compliance Score			13	18	72%	

Table 9: Environmental Audit - Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
	Scope of Authorisation						
	Area: 22 59'24"; 28 18:7.2"; 22 59'20'20.42", 28 18'32.4"; 22 59'27.6", 28 18'54"	The haul road is located within the area approved.	Site observation	3	3	No recommendations.	-
1	Authorisation of the activity is subject to the conditions contained in this authorisation which conditions form part of environmental authorisation and are binding on the holder of the authorisation	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
2	The holder of this authorisation shall be responsible for ensuring compliance with the conditions by any person acting on his or her behalf including but not limited to, an agent sub-contractor, employee or person rendering a service to the holder of the authorisation.	<p>Awareness flashes (talk topics) are undertaken monthly, which includes topics such as water. Other means of awareness and responsibility creation include scheduled meetings to communicate aspects on management, environmental, engineering, mining, safety and hygiene on site:</p> <ul style="list-style-type: none"> * Weekly awareness flashes; * SHEQ Meetings - comprising of mining teams, supervisors, trade unions, etc. (monthly); * SHEQ Meetings - comprising of the Safety, Health, Environmental and Quality Departments (monthly); * SHEQ/ GM Meetings - comprising of the GM and the SHEQ Department (weekly); and * Contractor SHEQ Meeting - comprising of the contractors (such as Interwaste, Lenfield, Booysen Bore, etc); and the Environmental Department (monthly). <p>A WCDMP is currently being developed.</p> <p>When considering awareness of contractors and the effectiveness thereof, the following areas of concern were raised:</p> <ul style="list-style-type: none"> * At the Booysen Bore Laydown Area, where they specifically serve the Village Opencast Pit area and utilises the haul roads: <ul style="list-style-type: none"> o Vehicle parking is taking place. The area is also used for minor vehicle maintenance as the formal workshop is located off-site. A large presence of hydrocarbon spills was observed; after this was pointed out, the personnel immediately started with clean up processes. 	Site observations	1	3	Measures must be put in place to ensure that contractors adhere to the requirements as set by the Environmental Department.	SHEQ Department



	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
		<ul style="list-style-type: none"> o Severe dust dispersion was present in this area, due to the soft soils in this area. A grader was present in this area to grade the surface, but the soft material is only moved to the side and dust remains a concern. o A skip is present for hazardous waste. This skip is not covered and not located in a contained facility. Waste mixing is taking place and unnecessarily increases the volume of hazardous waste to be disposed. <p>* At the Lenfield Temporary Vehicle Parking at the area north of the topsoil stockpile near the East Pit Area, the following areas of concern were raised:</p> <ul style="list-style-type: none"> o Diesel spills are present in this area. o This area is not a demarcated area for vehicle servicing, although this was taking place. o Alien and invasive plant species are present in this area. 					
3	The activity(s) which is authorised may only be carried out at a property indicated above	The haul road is located within the area approved.	Site observation	3	3	No recommendations.	-
4	Any changes to, or deviations from the project description set out in this authorisation must be approved in writing by the Department before such changes or deviations may be affected. In assessing whether to grant such approval or not the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation in terms of the regulations	The haul road is located within the area approved. No changes or deviations have been experienced. The mine is currently considering decommissioning the road and rerouting it to allow for the expansion of the opencast operations. An Environmental Authorisation Process is currently underway to apply for this rerouting.	Site observation	3	3	No construction may take place without the necessary environmental and water use authorisations in place.	SHEQ department
5	This authorisation does not negate the holder of the authorisations responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.	The haul road is constructed according to the site layout presented in this EMP. Safety berms have been constructed using waste rock and overburden. For this purpose, GN704 exemption was received from the DWS.	GN704 Exemption application, July 2017 WUL, 2018	3	3	No recommendations.	-
	General Conditions						
6	A copy of this authorisation must be kept at the property where the activity will be undertaken. The authorisation must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the	The licence is present on site.	Site observations.	3	3	No recommendations.	-

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
	authorisation who works or undertakes work at the property.						
7	Where any of the applicant's contact details change, including the name of the responsible person, the physical or postal address and/or telephonic details, the applicant must notify the Department as soon as the new details become known to the applicant.	Compliant.	DWS Notification, 5 January 2017 DMR Notification, 5 January 2017 Annexure III Submission to NCDENC, May 2019	3	3	No recommendations.	-
8	The holder of the authorisation must notify the Department, in writing, and within 24 hours if a condition 16 of this authorisation cannot be or is not adhered to. In all other cases, the holder of the authorisation must notify the Department, in writing, within 7 days if a condition of this authorisation is not adhered to. Any notification in terms of this condition must be accompanied by reasons for the non-compliance.	The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
9	Non-compliance with a condition of this authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the regulations.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
10	This authorisation is subject to the approval by the relevant local authorities i.e. In terms of any relevant legislation administered by those local authorities.	Noted. The Licence Holder is operating in terms of an approved licences/ permits in terms of the NEMA, ECA and NWA for the overall operation. The haul road is constructed according to the site layout presented in the EMP. Safety berms have been constructed using waste rock and overburden. For this purpose, GN704 exemption has been issued to the mine as part of the WUL, 2018.	Site observations Exemption application, July 2017 WUL, 2018	3	3	No recommendations.	-
11	The activity may not commence without the necessary permits/licenses/approvals and/or service agreements, where it is relevant, from or with the relevant regulatory authorities whether national, provincial or local (these include but are not limited to National Department of Environmental Affairs and Tourism, National Department of Agriculture, Department of Housing and Local Government, Department of Water Affairs and Forestry, Department of Minerals and Energy, Department of Transport, Roads and Public Works, Department of Arts, Sports and Culture,	Noted. No specific municipal approvals are required for the operation of the haul road. The Licence Holder is operating in terms of an approved licences/ permits in terms of the NEMA, ECA and NWA for the overall operation. The disposal of sewage into the municipal system is also in place under agreement. During the site visit the agreement lapsed, but was immediately discussed with the municipality and rectified.	Site observations GN704 Exemption application, July 2017	3	3	No recommendations.	-



	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
	South African Heritage Resources Agency, South African Civil Aviation Authority.	The haul road is constructed according to the site layout presented in the EMP. Safety berms have been constructed using waste rock and overburden. For this purpose, GN704 exemption has been issued to the mine as part of the WUL, 2018.					
12	The activity, including site preparation, may not commence before the 30-day appeal period expires or until such time as the Department has considered any appeals that have been lodged.	The Environmental Authorisation was issued in June 2015. A letter of intent to start the project was submitted by Beeshoek to the NCDENC on 11 August 2015. The planned construction stated in this letter was scheduled for 30 August 2015.	Letter dated 11 August 2015	3	3	No recommendations.	-
a.	One week's written notice must be given to the Administration clerk (Impact Management Unit) before commencement with the activity -						
b.	such notice shall make clear reference to the site location details and the reference number given above.						
c.	The said notice must also include proof of compliance with the following conditions described herein: i. Conditions: 11						
13	The applicable conditions of the authorisation must form part of all contractors' and sub-contractors' conditions of contract. A performance-based requirement with regard to environmental impact management must be included in all contracts related to any aspect of this authorisation	<p>No performance based requirement has been developed for contractors to manage</p> <p>When considering awareness of contractors and the effectiveness thereof, the following areas of concern were raised around the haul road in question:</p> <p>* At the Booysen Bore Laydown Area, where they specifically serve the Village Opencast Pit area and utilises the haul roads:</p> <ul style="list-style-type: none"> o Vehicle parking is taking place. The area is also used for minor vehicle maintenance as the formal workshop is located off-site. A large presence of hydrocarbon spills was observed; after this was pointed out, the personnel immediately started with clean up processes. o Severe dust dispersion was present in this area, due to the soft soils in this area. A grader was present in this area to grade the surface, but the soft material is only moved to the side and dust remains a concern. o A skip is present for hazardous waste. This skip is not covered and not located in a contained facility. Waste mixing is taking place 	Site observations	1	3	Contractors must be made aware of their responsibility in terms of EMP and EA compliance. A performance-based requirement should be implemented on site.	SHEQ department



	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
		and unnecessarily increases the volume of hazardous waste to be disposed.					
14	The applicant must carry out regular environmental audits to establish compliance with the conditions of the authorisation and contracts.	Annual compliance audits are undertaken by the mine on all permits as required.	Environmental Audit, November 2018	3	3	No recommendations.	-
15	Records relating to the compliance/noncompliance with the conditions of the authorisation and contracts must be kept in good order. Such records must be made available to the Department within 7 (seven) days of receipt of a written request by the Department for such records.	Compliant, an IsoMetrix system is in place.	Site observations	3	3	No recommendations.	-
16	Any complaints regarding the said development must be brought to the attention of the Department within 24 hours after receiving the complaint. A complaints register must be kept up to date for inspection by the Department.	No complaints have been raised in the past 12 months in terms of the information provided to the auditor.	Site observations	3	3	No recommendations.	-
17	Officials in the employ of the Department shall be given access to the property as described above (see detailed description of the activity) of the purposes of assessing and/or monitoring compliance with the conditions contained in this RoD. Where the activity is located on a third party's property the applicant shall be responsible to arrange access for departmental officials.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
18	This Department may add to, change and/or amend any of the conditions in this authorisation if, in the opinion of the Department, the additions, change of amendment is environmentally justified. In event that such impacts exceed its significance as predicted in the independent consultant's environmental scoping report and supporting documentation, the authorisation may be withdrawn after proper procedures were followed.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
19	In the event of any dispute concerning the significance of a particular impact, the opinion of this department in respect of its significance will prevail.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
20	This Department and any national department, provincial department, local authorities or committees appointed in terms of the conditions of this application or any other public authority or organisation shall not be held responsible for any damage of losses suffered by the applicant or his successor in title in any instance where construction	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-



	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
	or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the applicant with the conditions of approval as set out in this document or any other subsequent document emanating from these conditions of approval.						
21	The applicant shall be responsible for all costs necessary to comply with the above conditions unless otherwise specified.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
22	The applicant must apply the principle of best practicable environmental option for all technologies used/implemented during construction.	Construction activities have been completed.	Site observations	N/A	N/A	No recommendations.	-
	Appeal of authorisation						
23	The holder of the authorisation must notify every registered interested and affected party, in writing and within 7 (seven) calendar days, of receiving notice of the Departments decision to authorise the activity.	The Environmental Authorisation was issued in June 2015. A letter of intent to start the project was submitted by Beeshoek to the NCDENC on 11 August 2015. The planned construction stated in this letter was scheduled for 30 August 2015. The letter refers to the fact that Interested and Affected Parties have been notified and that this is attached to the letter (proof thereof was not provided in the letter reviewed by the auditor) and therefore compliance could not be assessed.	Letter dated 11 August 2015	2	3	The proof of notification submitted to Interested and Affected Parties must be made available during audits.	SHEQ Department
24	The notification referred to in 23 must:	The Environmental Authorisation was issued in June 2015. A letter of intent to start the project was submitted by Beeshoek to the NCDENC on 11 August 2015. The planned construction stated in this letter was scheduled for 30 August 2015. The letter refers to the fact that Interested and Affected Parties have been notified and that this is attached to the letter (proof thereof was not provided in the letter reviewed by the auditor and therefore compliance could not be assessed).	Letter dated 11 August 2015	Dup	Dup	The proof of notification submitted to Interested and Affected Parties must be made available during audits.	SHEQ Department
	specify the date on which the authorisation was issued						
	inform the interested and affected party of the appeal procedures provided for in Chapter 7 of the regulations; and						
	advise the interested and affected party that a copy of the authorisation and reasons for the decision will be furnished on request.						
25	If the applicant should appeal against the Environmental Authorisation, he/she must inform all interested and affected persons that such an appeal is being lodged with the MEC and if requested, the applicant/appellant must provide those persons with the reasonable access to a full copy of the appeal within a reasonable time before expiry of the thirty day appeal period.	No appeals were received.	-	N/A	N/A	No recommendations	-
	Management of Activity						

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
26	The Environmental Management Programme (EMPr) submitted as part of the application for environmental authorisation must be implemented.	Noted. Please see the results of this Environmental Audit.	Environmental Audit Report, 2019	T/N	T/N	The recommendations as made in this Environmental Audit should be implemented on site.	SHEQ department
27	The EMP is a living document and must be updated as determined or required.	The mine is currently in the process of applying for various new activities in the form of an integrated Environmental Authorisation and will also include amendment of the approved EMP into this Environmental Authorisations process into one holistic document. As part of this document, the mine is requesting that all Type 3 wastes may be disposed onto approved facilities, i.e. that Discard (as a type 3 waste) can be deposited onto for instance HL WRD (also a type 3 waste). The mine has further streamlined the various EMPs into an overall surface layout to allow for easier management of waste rock in terms of environmental considerations and overall management.	Site Observations Draft EMP Consolidation, December 2016 Environmental Authorisation Scope of Work, July 2019	3	3	The Amendment of various conditions of EMPr's/ EMPs a part of the 2019/2020 EMPr Amendment Process must be considered as far as practically possible in line with all environmental legislation requirements.	SHEQ
28	The disturbance of the environment must be restricted to the absolute minimum.	Compliant, all activities are undertaken within the approved footprints.	Site observations	3	3	No recommendations.	-
	Monitoring and Recording						
26	A site monitoring must be instituted to the satisfaction of this Department, access routes must be monitored during routine site maintenance visits.	Dustwatch is undertaking the dust monitoring on site monthly and Aquatico is responsible for the water monitoring programme. According to the latest dust monitoring results undertaken by Dustwatch (3 May to 3 June 2019) all nine (9) monitoring points were compliant (below 1 200mg/m ² /day) for 2019 (no exceedance during the year of 2019). The report stated the following: <ul style="list-style-type: none"> • The non-residential action level has been applied to all the units. If any units are located on residential property, then the action level of 600mg/m²/day will be applicable. • The Kolomela four bucket unit results were all below 200mg/m²/day in this period with the south bucket yielding the highest result, 161mg/m²/day. • The Sedibeng four bucket unit results were below 100 mg/m²/day in this period with the east bucket yielding the highest result, 88mg/m²/day. • The Koeiespeen Gertse Plaas single bucket unit yielded 91mg/m²/day in this period. 	WUL, 2018 Dustwatch Monitoring Report, May to June 2019. Aquatico Water Monitoring Report, April 2019	3	3	No further recommendations.	-

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
		<ul style="list-style-type: none"> • The Uitsig single bucket unit yielded 175mg/m²/day in this period. • The Game Farm single bucket unit yielded 113mg/m²/day in this period. • The South Reservoir single bucket unit yielded 206mg/m²/day in this period. • The West Pit single bucket unit yielded 172mg/m²/day in this period. • The Olynfontein Border single bucket unit yielded 154mg/m²/day in this period. • The Training single bucket unit yielded 375mg/m²/day in this period. <p>According to the latest water quality report by Aquatico for April 2019, the current Beeshoek Mine Water Monitoring Programme consists of two major components of monitoring:</p> <ol style="list-style-type: none"> 1. Surface water monitoring – Monthly frequency 2. Groundwater monitoring – Quarterly frequency <p>The surface monitoring network comprises of the following: Potable water (6 localities) and Process water (2 localities), while the groundwater monitoring consists of 11 monitoring boreholes. All samples are analysed by Aquatico. a SANAS Accredited Testing Laboratory, No T0685.</p>					
27	The Department retains the right to inspect or monitor the proposed project during both construction and operation, to ensure that is complies with the legislation and the conditions stipulated in this Environmental Authorisation.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
28	The holder of the authorisation must submit an environmental audit report to the Department upon the completion of the construction and rehabilitation of the activities. The environmental audit report must	Annual compliance audits are undertaken by the mine on all permits as required.	External Environmental Audit, November 2018	3	3	No recommendations.	-
	indicate the date of the audit, the name of the auditor and the outcome of the audit.						
	Records relating to the monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.						

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
29	The applicant must appoint a suitably experienced Environmental control Officer (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation/rehabilitation measures and recommendation measures referred to in this authorisation are implemented.	Mr. Msimelelo Silomntu has been appointed to ensure that environmental conditions are implemented on site.	Site observations	3	3	No recommendations.	-
30	The ECO shall be appointed before commencement of any land clearing or construction activities.	Compliant. Mr. Johan Kleynhans was the appointed person during the initial construction activities.	Site observations	3	3	No recommendations.	-
31	The ECO shall keep record of all activities on site, problems identified, transgressions noted, and a task schedule of task undertaken by the ECO.	All site problems and transgressions are logged onto the mine's IsoMetrix system. To date no specific non-compliance has been raised.	Site observations	3	3	No recommendations.	-
32	The ECO shall remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation.	Noted. The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
33	Records relating to the monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.	The water monitoring programme conducted at the mine is undertaken on a monthly (surface water) and quarterly (groundwater) basis. This includes potable water, process water and groundwater monitoring points. Quarterly groundwater monitoring reports are being compiled by Aquatico. The reports are submitted to the DWS, with proof available on site annually. Dustwatch is undertaking the dust monitoring and records in this regard are also available on site.	Dustwatch Monitoring Report, May to June 2019. Aquatico Water Monitoring Report, April 2019	3	3	No recommendations.	-
	Commissioning of the activity						
34	Fourteen (14) days written notice must be given to the department that the activity will commence. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence.	The Environmental Authorisation was issued in June 2015. A letter of intent to start the project was submitted by Beeshoek to the NCDENC on 11 August 2015. The planned construction stated in this letter was scheduled for 30 August 2015.	Letter dated 11 August 2015	3	3	No recommendations.	-
35	The authorised activity shall not commence within thirty (30) days of the date of signature of the authorisation.	The Environmental Authorisation was issued in June 2015. A letter of intent to start the project was submitted by Beeshoek to the NCDENC on 11 August 2015. The planned construction stated in this letter was scheduled for 30 August 2015.	Letter dated 11 August 2015	3	3	No recommendations.	-
36	Should you be notified by the minister of a suspension of the authorisation pending appeal	No further construction is taking place. The activities are operational.	Site observations	NLR	NLR	No recommendations.	-



	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
	procedures, you shall not commence with the activity unless authorised by the minister in writing.						
	Operation of the Activity						
37	Fourteen (14) days written notice must be given to the department that the activity operational phase will commence.	The Environmental Authorisation was issued in June 2015. A letter of intent to start the project was submitted by Beeshoek to the NCDENC on 11 August 2015. The planned construction stated in this letter was scheduled for 30 August 2015.	Letter dated 11 August 2015	3	3	No recommendations.	-
38	Any waste generated during construction and operational phase must be disposed of at a waste disposal site for such waste.	No significant findings were observed in terms of environmental management and implementation around this area.	Site observations	3	3	No recommendations.	-
39	No on site burning or burying of solid waste is permitted.	No burning of waste is allowed on site.	Site observations	3	3	No recommendations.	-
40	The construction area must be demarcated, no construction or dumping activities should be allowed outside the proposed footprint.	No further construction is taking place.	Site observations.	NLR	NLR	No recommendations.	-
41	The removal of natural vegetation must be limited to the footprint of the proposed development.	Compliant, the activities are within the approved area.	Site observations	3	3	No recommendations.	-
42	The destruction/disturbance of individual protected trees must be avoided during the construction of the proposed haul road. Alternatively, a permit for the removal of any protected species must be applied for and granted by the relevant department.	No further construction is taking place.	Site observations	3	3	No recommendations.	-
43	The necessary flora permits must be applied for and granted by the Northern Cape Department of Environment and Nature Conservation for all plant species protected under the Northern Cape Nature Conservation Act, 2009 (Act No. 9 of 2009) should he be oud existing on site.	A tree removal permit was applied for and approved. Trees to be planted were purchased by the mine from the Department. These trees were small and young and therefore did not survive. The mine has informed the Department of this and no concern was raised.	Permit reference NCU 4360414	3	3	The Licence Holder should reinvestigate the planning of trees.	SHEQ Department
44	Any spillages of diesel and oil must be reported and cleared up immediately. IN the event of oil or diesel spills, the contaminated soil must be placed in a waste skip and disposed of at a licensed landfill site for such material.	No significant spills were observed on haul roads. However at the Booyens Bore Laydown Area, at the haul road, a large presence of hydrocarbon spills were observed; after this was pointed out by the auditors, the personnel immediately started with clean up processes. Contaminated soils are placed in hazardous skips and removed to containment sumps, from where the soils are removed by Interwaste as part of hazardous waste. It should be noted that the contaminated soil containment sump on South Mine was overfilled with spills present outside of the contained area.	Site observations	1	3	Regular inspections should be made at contractor's laydown areas to ensure that well managed environmental processes are implemented. The contaminated soil sump at the South Mine should be cleaned more frequently to allow for capacity in the event of a major spill.	-

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
45	Ensure that soil compaction is limited to the proposed footprint of the activity.	Compliant, the activities are within the approved area.	Site observations	3	3	No recommendations.	-
46	Ensure that during construction and operational phase the proposed haul road is wetted to minimise fugitive dust emissions.	Wet suppression is being undertaken on site. No areas of concern were observed during the site visit. In addition to this, the Mine is investigating the implementation of a dust suppressant (currently supplied by ECAT), which is being successfully used on the South Mine. The implementation of a dust suppressant is also considered as part of water conservation and demand management - by reducing the need for water in the use of dust suppression. No areas of concern have been raised in the dust monitoring reports either.	Site Observations Dustwatch CC Monitoring Report, May to June 2019.	3	3	No recommendations.	-
47	Dust control measures must be implemented during clearing phase and must comply with the dust regulation promulgated under the Air Quality Act, 2004 (Act NO. 39 of 2004).	Wet suppression is being undertaken on site and was regularly observed by the auditors during the site visit. No areas of concern around the haul roads were observed during the site visit. In addition to this, the Mine is investigating the implementation of a dust suppressant (currently supplied by ECAT), which is being successfully used on the South Mine. The implementation of a dust suppressant is also considered as part of water conservation and demand management - by reducing the need for water in the use of dust suppression. According to the latest dust monitoring results undertaken by Dustwatch (3 May to 3 June 2019) all nine (9) monitoring points were compliance (below 1 200mg/m ² /day) for 2019 (no exceedance during the year of 2019). The report stated the following: <ul style="list-style-type: none"> • The non-residential action level has been applied to all the units. If any units are located on residential property, then the action level of 600mg/m²/day will be applicable. • The Kolomela four bucket unit results were all below 200mg/m²/day in this period with the south bucket yielding the highest result, 161mg/m²/day. • The Sedibeng four bucket unit results were below 100 mg/m²/day in this period with the east bucket yielding the highest result, 88mg/m²/day. 	Site Observations Dustwatch Monitoring Report, May to June 2019.	3	3	No recommendations.	-



	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
		<ul style="list-style-type: none"> The Koeiespeen Gertse Plaas single bucket unit yielded 91mg/m²/day in this period. The Uitsig single bucket unit yielded 175mg/m²/day in this period. The Game Farm single bucket unit yielded 113mg/m²/day in this period. The South Reservoir single bucket unit yielded 206mg/m²/day in this period. The West Pit single bucket unit yielded 172mg/m²/day in this period. The Olynfontein Border single bucket unit yielded 154mg/m²/day in this period. The Training single bucket unit yielded 375mg/m²/day in this period. 					
48	If any new evidence of archaeological sites or artefacts, paleontological fossils, graves or other heritage resources is found during development or construction, SAHRA and an archaeologist and/or palaeontologist, depending on the nature of the resources found, must be alerted immediately.	The Licence Holder is aware of this requirement. No additional clearing is being undertaken	-	T/N	T/N	No recommendations.	SHEQ department
49	The spreading of declared weeds and alien invasive plant species must be controlled and monitored at all times.	During prior Environmental Audits (2017) it was indicated that concerns have been raised by Kolomela regarding the spreading of weeds, specifically fountain grass, into the Kolomela mining area (south of Beeshoek). A document was developed: Biodiversity Control, 2017 which details various areas (nine in total) which have been earmarked for weed eradication. Although alien and invasive plant species were visible on site, the mine has commenced with the implementation of eradication processes.	Site observations Biodiversity Control, 21 November 2017 External Environmental Audit, 2017	2	3	The weed eradication programme should be implemented and maintained as part of a scheduled maintenance programme on site. It is recommended that an environmental forum be developed between Kolomela and Beeshoek to discuss dust, groundwater and invasive plant concerns and/or cumulative strategies.	SHEQ department
50	All mitigation measures detailed in the Environmental Management Programme report must be implemented.	No significant findings were observed in terms of environmental management and implementation around this area.	Site observations	3	3	No recommendations.	-
	Site Closure and Decommissioning						
51	In case of decommissioning of the project, the holder of the Environmental Authorisation must properly rehabilitate the site to the satisfaction of the Directorate: Environmental Quality Management.	The site is still in operational phase.	Site observations	T/N	T/N	No recommendations.	-
52	The ecosystem integrity must be promoted at all times.	The site is still in operational phase.	Site observations	T/N	T/N	No recommendations.	-

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	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
			Compliance Score	103	111	92,8%	

Table 10: Environmental Audit - Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010 – EMPr Conditions

Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
Environmental Management Programme in terms of National Environmental Management Act 1998 (Act No. 107 of 1998) for the proposed Village Haul Road						
1. Soils, Land Use And Land Capability. Activity - Bad Vehicle Movement. Recommended Mitigation Measures - The impact cannot be mitigated to desired level, however limit disturbance to the length and width of the proposed haul road. Action Plan - Demarcate the footprint area clearly. - Manage storm water flow with temporary erosion control measures where possible (cut-off trenches or berms). - Schedule construction as soon as possible after site clearing. Activity - Exposed soil Road surface. Recommended Mitigation Measures - Oils spill from vehicles must be collected and treated or disposed of in the correct manner. Action Plan - Adhere to the current spill response procedure.	Compliant, no areas of concern were observed in terms of erosion around the roads. Limited oil spills were present on the haul roads. Hydrocarbon management procedures in terms of spill collection is present on site.	Site observation	3	3	No recommendations.	-
2. Surface Water. Activity - Dirty water runoff. Recommended Mitigation Measures - Adhere to approved Water Use License and conditions. - Contain all dirty water runoff. Action Plan - Implement a storm water management plan. Activity - Erosion. Recommended Mitigation Measures - Maintain the berms constructed on either side of the road. Action Plan - Implement a storm water management plan.	All measures are implemented in line with the storm water management system. Due to the low run off factor, no water is discharged from the site. Safety berms are constructed with waste rock to manage water runoff and safe vehicle traffic on the roads. Exemption from GN704 for the use of waste rock is available on site.	Site observation WUL, 2018 Storm Water Management Plan, 2016	3	3	No recommendations.	-
3. Air Quality Activity - Vehicle movement, soil stripping. Recommended Mitigation Measures - Dust suppression must take place in order to minimise the dispersion of dust to the surrounding areas. Action Plan - Daily dust suppression especially during windy days.	The mine has an air quality monitoring programme in place. The monitoring is being undertaken by Dustwatch. No dust was however observed around the haul road specifically during the site visit.	Dustwatch Monitoring Report, May to June 2019. Site observations	3	3	No recommendations.	-
4. Visual. Activity - Soil stripping. Recommended Mitigation Measures - Ensure that the road is constructed as per the footprint and that no other areas are stripped as a result. Action Plan - Concurrent rehabilitation and re-vegetation must be implemented.	All activities are being undertaken in line with the approved EMPr. The road is constructed within the approved area. Concurrent rehabilitation is undertaken on principle on site where areas are available, such as to the west of the Village Pit (borrow pit area), the HH WRD and the East Pit WRD. Various historical opencast pits have	Site observation	3	3	No recommendations	-



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Departmental Ref: NC 30/5/1/2/3/2/1/223EM
Project Ref: 21912
Version: Final

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014 - Issued on 19 June 2015. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
		<p>successfully been rehabilitated.</p> <p>The haul road is located within the area approved. No changes or deviations have been experienced. The mine is currently considering decommissioning the road and rerouting it to allow for the expansion of the opencast operations. An Environmental Authorisation Process is currently underway to apply for this rerouting.</p>		12	12		
	Compliance Score			12	12	100 %	

Table 11: Environmental Audit - Road Deviation - Permit 17/2011 Ref No: NC/SIY/TSA/BEESHOEK1/10/2010 - May 2011

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
Construction of a Road NEMA Permit 17/2011 Ref No: NC/SIY/TSA/BEESHOEK1/10/2010 - ISSUED May 2011. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010							
1	Authorisation of the activity is subject to the conditions contained in this authorisation which conditions form part of environmental authorisation and are binding on the holder of the authorisation	Noted.	Site observations	3	3	No recommendations.	-
2	The holder of this authorisation shall be responsible for ensuring compliance with the conditions by any person acting on his or her behalf including but not limited to, an agent sub-contractor, employee or person rendering a service to the holder of the authorisation.	Noted, the road has been diverted and handed over to the Provincial Road Department. The mine is responsible for the historic road only.	No documentation in this regard is available	2	3	The mine should ensure that the documents in terms of the servitudes and registrations are available on site.	SHEQ Department
3	The activity(s) which is authorised may only be carried out at a property indicated above	Compliant.	Site observations	3	3	No recommendations.	-
4	Any changes to, or deviations from the project description set out in this authorisation must be approved in writing by the Department before such changes or deviations may be affected. In assessing whether to grant such approval or not the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation in terms of the regulations	Compliant. No deviations were required.	Site observations	3	3	No recommendations.	-
5	This authorisation does not negate the holder of the authorisations responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.	Noted, the road has been diverted and handed over to the Roads Department. The mine is responsible for the remnants of the historic road only.	No documentation in this regard is available	2	3	The mine should ensure that the documents in terms of the servitudes and registrations are available on site.	SHEQ Department
General Conditions							
6	A copy of this authorisation must be kept at the property where the activity will be undertaken. The authorisation must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.	A copy of the authorisation is kept at the SHEQ Office.	Site observations	3	3	No recommendations.	-
7	Where any of the applicant's contact details change, including the name of the responsible person, the physical or postal address and/or telephonic details, the applicant must notify the Department as soon as the new details become known to the applicant.	Compliant.	DWS Notification, 5 January 2017 DMR Notification, 5 January 2017 Annexure III Submission to NCDENC, May 2019	3	3	No recommendations.	-
8	The holder of the authorisation must notify the Department, in writing, and within 24 hours if a condition 16 of this authorisation cannot be or is not adhered to. In all other cases, the holder of the authorisation must notify the Department, in writing, within 7 days if a condition of this authorisation is not adhered to. Any notification in terms of	Noted, the road has been diverted and handed over to the Provincial Road Department. The mine is responsible for the historic remnants of road only, which are in good condition and utilised as access to the Village Opencast Pit.	Site observations	3	3	No recommendations.	-

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Construction of a Road NEMA Permit 17/2011 Ref No: NC/SIY/TSA/BEESHOEK1/10/2010 - ISSUED May 2011. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
	this condition must be accompanied by reasons for the non-compliance.						
9	Non-compliance with a condition of this authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the regulations.	Noted the Licence Holder is aware of this condition.	Site observations	3	3	No recommendations.	-
10	This authorisation is subject to the approval by the relevant local authorities i.e. In terms of any relevant legislation administered by those local authorities.	Noted the Licence Holder is aware of this condition.	Site observations	3	3	No recommendations.	-
11	The activity may not commence without the necessary permits/licenses/approvals and/or service agreements, where it is relevant, from or with the relevant regulatory authorities whether national, provincial or local (these include but are not limited to National Department of Environmental Affairs and Tourism, National Department of Agriculture, Department of Housing and Local Government, Department of Water Affairs and Forestry, Department of Minerals and Energy, Department of Transport, Roads and Public Works, Department of Arts, Sports and Culture, South African Heritage Resources Agency, South African Civil Aviation Authority.	All Environmental Authorisations are in place at the mine. The road has been diverted and handed over to the Provincial Roads Department. The mine is responsible for the remnants of the historic road only.	Site observations	NLR	NLR	The mine should ensure that the documents in terms of the servitudes and registrations are available at the Environmental Office for auditing purposes.	SHEQ Department
12	The activity, including site preparation, may not commence before the 30-day appeal period expires or until such time as the Department has considered any appeals that have been lodged.	The construction activities only commenced during February 2012 based on available information and not within the 30-day appeal process.	Word document letter dated 25 January 2012	1	3	Proof that the letter was submitted to the Department should be obtained if possible.	SHEQ Department
a.	One week's written notice must be given to the Administration clerk (Impact Management Unit) before commencement with the activity -	A letter dated 25 January 2012, addressed to the NCDENC, was provided during the audit. The letter is still in word format and not signed, and submission thereof is also not available. The letter states that the mine intended to start the project during the month of February 2012.					
b.	such notice shall make clear reference to the site location details and the reference number given above.						
	c.	The said notice must also include proof of compliance with the following conditions described herein: i. Conditions: 11	It could not be verified that this letter was submitted to the Department.				
13	The applicable conditions of the authorisation must form part of all contractors' and sub-contractors' conditions of contract. A performance-based requirement with regard to environmental impact management must be included in all contracts related to any aspect of this authorisation	No construction is currently taking place, the remnants of the road is currently serving access to the Village Opencast Pit. The road is in good order, with clear signage in terms of traffic direction and speed present. No areas of concern were observed. The following meetings are scheduled to communicate aspects regarding management, environmental, engineering, mining, safety and hygiene on site: * Weekly awareness flashes;	Site observations	3	3	Note that this condition should be considered once the decommissioning of the road commences.	SHEQ Department

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Construction of a Road NEMA Permit 17/2011 Ref No: NC/SIV/TSA/BEESHOCK1/10/2010 - ISSUED May 2011. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
		<p>* SHEQ Meetings - comprising of mining teams, supervisors, trade unions, etc. (monthly);</p> <p>* SHEQ Meetings - comprising of the Safety, Health, Environmental and Quality Departments (monthly);</p> <p>* SHEQ/ GM Meetings - comprising of the GM and the SHEQ Department (weekly); and</p> <p>* Contractor SHEQ Meeting - comprising of the contractors (such as Interwaste, Lenfield, Booysen Bore, etc); and the Environmental Department (monthly).</p> <p>Once the historic road is decommissioned this condition should be adhered to.</p> <p>The only area of construction currently taking place, which could be used to assess the mine's procedure in terms of the communication and implementation of the Environmental Authorisations, is that of the North Storm Water Dam. The contractors on site has access to the Environmental Authorisations and is also undertaking their internal environmental audits under the supervision of an ECO.</p>					
14	The applicant must carry out regular environmental audits to establish compliance with the conditions of the authorisation and contracts.	Annual compliance audits are undertaken by the mine on all permits as required.	External Environmental Audit, November 2018	3	3	No recommendations.	-
15	Any complaints regarding the said development must be brought to the attention of the Department within 24 hours after receiving the complaint. A complaints register must be kept up to date for inspection by the Department.	No complaints have been raised by stakeholders during the past 12 months. No construction or decommissioning activities are currently being undertaken. The mine is capturing all complaints and incidents raised on site on the IsoMetrix system.	Site observations	T/N	T/N	No recommendations.	-
16	Officials in the employ of the Department shall be given access to the property as described above (see detailed description of the activity) of the purposes of assessing and/or monitoring compliance with the conditions contained in this RoD. Where the activity is located on a third party's property the applicant shall be responsible to arrange access for departmental officials.	Noted, the Licence Holder is aware of this condition.	Site observations	3	3	No recommendations.	-
17	This Department may add to, change and/or amend any of the conditions in this authorisation if, in the opinion of the Department, the additions, change of amendment is environmentally justified. In event that such impacts exceed its significance as predicted in the independent consultant's environmental scoping report and supporting documentation, the authorisation may be withdrawn after proper procedures were followed.	Noted, the Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-



	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Construction of a Road NEMA Permit 17/2011 Ref No: NC/SIY/TSA/BEESHOEK1/10/2010 - ISSUED May 2011. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
18	In the event of any dispute concerning the significance of a particular impact, the opinion of this department in respect of its significance will prevail.	Noted, the Licence Holder is aware of this condition. No disputes have been raised.	Site observations	T/N	T/N	No recommendations.	-
19	The developer must make sure that issues of waste and visual aspects are kept into limited and acceptable level during construction and operation phases, and appropriate management be practised,	<p>No construction or decommissioning activities are currently being undertaken.</p> <p>A waste management strategy is in place on site.</p> <p>General Waste Removal and Disposal: Interwaste removes all waste material from the mine to the domestic landfill site. The mine's Landfill Site Permit states that it can receive garden waste, which is believed to be an administrative error, and should be rectified to fulfil the purposes of the mine. The mine has consulted with the Northern Cape Department of Environment and Nature Conservation (NCDENC) whereby it was agreed that the reference to "rubble" encompasses all domestic waste as well. This was confirmed by the NCDENC via email.</p> <p>All hazardous material is removed to Holfontein by Interwaste.</p> <p>All used oils are removed by Olegra to PPC Lime Acres. According to an assessment at a neighbouring mine this facility is permitted (Lime Acres AEL Licence: 23/4/2/58). This permit is not available at Beeshoek Mine.</p> <p>The following key observations were made: * An internal audit has been undertaken on the Environmental Authorisation of the Beeshoek Landfill Site WML; * Interwaste GLB+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (December 2012). The original WML was issued on 20 November 2011. Condition 3.1(h) of the WML states that the WML must be renewed within a period for four years from the date of issue (no proof thereof is available). * Interwaste Germiston Depot H:H Waste Storage and Treatment Facility. This permit is still valid. * Interwaste Waste Transporter of General and Hazardous Waste. This permit is still valid.</p>	<p>Site observations</p> <p>Waste Management Procedure: Ref SP_TEC_21022017_11908 Version 2, 21 February 2017</p> <p>Email communication between the mine and the NCDENC dated 27 August 2019.</p> <p>Beeshoek Internal WML Audit, May 2019 GLB+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (November 2011 and December 2012)</p> <p>Interwaste Germiston Depot H:H Waste Storage and Treatment Facility, Ref: 12/9/11/P/P99, dated 16 March 2009</p> <p>Interwaste Waste Transporter Registration Ref: GPT-00-030 (valid until 3 May 2020)</p> <p>Integrated Environmental Authorisation for Interwaste facility - Klinkerstene Ref: 17/04/A18/MP311/10/01 for the GLB+ class waste facility, dated 27 May 2013.</p>	3	3	In general, waste management in and around the road area is will managed. General waste management practices in terms of duty of care - i.e. ensuring the licences and registrations of suppliers are implemented and adhered to should be assessed.	SHEQ department

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Construction of a Road NEMA Permit 17/2011 Ref No: NC/SIV/TSA/BEESHOEK1/10/2010 - ISSUED May 2011. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
		<p>* Integrated Environmental Authorisation for Interwaste facility - Klinkerstene Ref: 17/04/A18/MP311/10/01 for the GLB+ class waste facility. Condition 5.12.10 of this Environmental Authorisation states that the Environmental Authorisation is valid for a period of 30 years and the holder must initiate a review process 5 years from the date of issue (27 May 2013). No proof that the review process has been initiated by the supplier is available on record to ensure the mine's duty of care.</p> <p>* Olegra is registered as an accredited Oil Collector by the ROSE Foundation with the Registration No. RF02517. Note that this registration will lapse at the end of August 2019.</p> <p>* PPC is registered as an accredited Oil Processor by the ROSE Foundation with the Registration No. RF 025185. Note that this registration will lapse at the end of August 2019.</p>	<p>Olegra oil collector registration, Ref RF025171, valid until 31 August 2019</p> <p>PPC Lime Acres Oil processor registration, Ref RF025185, valid until 31 August 2019</p>				
20	The applicant shall be responsible for all costs necessary to comply with the above conditions unless otherwise specified.	Noted, the road has been diverted and handed over to the Provincial Roads Department. The mine is responsible for the historic road only. The mine will be responsible for the rehabilitation of the remnants of the historic road and for this reason this is included into the financial provision.	Financial Provision, May 2019	3	3	The mine should ensure that the documents in terms of the servitudes and registrations are available on site.	SHEQ Department
21	The applicant must apply the principle of best practicable environmental option for all technologies used/implemented during construction.	<p>Noted, the road has been diverted and handed over to the Provincial Roads Department.</p> <p>No construction or decommissioning activities are currently being undertaken.</p> <p>The mine will be responsible for the rehabilitation of the historic road and for this reason this is included into the financial provision.</p>	Financial Provision, May 2019	3	3	No recommendations.	-
22	Stockpile and similar areas must be rehabilitated to their original or better condition as soon as construction is complete	Compliant, no areas of concern were present. The mine has rehabilitated a borrow pit to the west of the Village Opencast Pit area, which were, according to on-site interviews, used in the construction of the roads.	<p>Financial Provision, May 2019</p> <p>Site observations</p>	3	3	No recommendations.	-
23	Access routes are to be kept as dust free as possible particularly during the construction period by using watering trucks.	Wet suppression is being undertaken on site and was regularly observed during the time on site. No areas of concern around the haul roads were observed during the site visit.	Site observations Dustwatch Monitoring Report, May to June 2019.	3	3	No recommendations.	-
		In addition to this, the mine is investigating the					

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Construction of a Road NEMA Permit 17/2011 Ref No: NC/SIV/TSA/BEESHOEK1/10/2010 - ISSUED May 2011. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
		<p>implementation of a dust suppressant (currently supplied by ECAT), which is being successfully used on the South Mine. The implementation of a dust suppressant is also considered as part of water conservation and demand management - by reducing the need for water in the use of dust suppression.</p> <p>According to the latest dust monitoring results undertaken by Dustwatch (3 May to 3 June 2019) all nine (9) monitoring points were compliant (below 1 200mg/m²/day) for 2019 (no exceedance during the year of 2019). The report stated the following:</p> <ul style="list-style-type: none"> • The non-residential action level has been applied to all the units. If any units are located on residential property, then the action level of 600mg/m²/day will be applicable. • The Kolomela four bucket unit results were all below 200mg/m²/day in this period with the south bucket yielding the highest result, 161mg/m²/day. • The Sedibeng four bucket unit results were below 100 mg/m²/day in this period with the east bucket yielding the highest result, 88mg/m²/day. • The Koeiespeen Gertse Plaas single bucket unit yielded 91mg/m²/day in this period. • The Uitsig single bucket unit yielded 175mg/m²/day in this period. • The Game Farm single bucket unit yielded 113mg/m²/day in this period. • The South Reservoir single bucket unit yielded 206mg/m²/day in this period. • The West Pit single bucket unit yielded 172mg/m²/day in this period. • The Olynfontein Border single bucket unit yielded 154mg/m²/day in this period. • The Training single bucket unit yielded 375mg/m²/day in this period. 					
24	To address the issue of erosion, number of access routes must be restricted, only to those that are strictly necessary for the development and construction/transportation vehicles must not be allowed to move off these roads.	The road has been constructed in terms of the original approved designs. The mine has three accesses from this road - one leading to the North Mine, one to the South Mine and one to the main offices. The mine has no control over future designs on this Regional Road.	Site observations	3	3	No recommendations.	-
	Appeal of authorisation						
25	N/A	No appeals were received.	Site observations	N/A	N/A	No recommendations.	-

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Construction of a Road NEMA Permit 17/2011 Ref No: NC/SIV/TSA/BEESHOEK1/10/2010 - ISSUED May 2011. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
26	N/A	No appeals were received.	Site observations	N/A	N/A	No recommendations.	-
27	N/A	No appeals were received.	Site observations	N/A	N/A	No recommendations.	-
	Management of Activity						
28	All areas disturbed during the commissioning of the activity must be rehabilitated.	No material is stored in the area. The road is in good condition, such is the surrounding area.	Site observations	3	3	No recommendations.	-
29	Best practice of waste avoidance, minimisation and disposal of waste at an appropriate facility must be implemented.	No material is stored in the area. The road is in good condition, such is the surrounding area.	Site observations	3	3	No recommendations.	-
	Monitoring						
30	The monitoring of the constructors, compliance with conditions of this Environmental Authorization is essential and must be done on a weekly basis. Any deviances from the conditions of this Environmental Authorization must be rectified immediately.	No construction is currently taking place. Once the historic road is decommissioned this condition should be adhered to.	Site observations	T/N	T/N	Note that this condition should be considered once the decommissioning of the road commences.	SHEQ Department
31	A copy of this authorisation and an EMP must always be available on-site so as to monitor compliance with the conditions outlined in both the documents (RoD and EMP). Both copies of an EMP and RoD must be used as on-site reference documents during all phases of this development.	A copy of the authorisation is available on site. The diverted Regional Road was handed over to the Provincial Roads Department. Proof of the handover was not available for review. In addition to this, proof that the Environmental Authorisation for the diversion is with the Roads Department was also not available. The mine is responsible for the historic remnants of the road only and for this purpose has a copy of the EMP and Environmental Authorisation on site.	No documentation in terms of the transfer is available	1	3	The mine should ensure that the documents in terms of the servitudes and registrations are available on site.	SHEQ Department
	Recording and Reporting to the Department						
32	Records relating to the compliance/non-compliance with the conditions of the authorisation and contracts must be kept in good order. Such records must be made available to any Official from Monitoring Compliance and Informants section of the Directorate: Environmental within 7 days of written request by the said Officer.	Noted, no non-compliances have been raised.	Noted, no non-compliances have been raised.	3	3	The mine has to inform the NCDENC in writing of the change in ownership of the road and the change in responsibility regarding environmental conditions.	SHEQ Department
33	Adequate preventative measures must be undertaken to avoid groundwater contamination when installing septic tanks; they must be put in banded concrete walls.	No septic tanks are present on site for the purposes of the road construction and the construction has been completed. A detailed monitoring programme is in place as per the approved WUL. The septic tanks on site is rather concrete conservancy tanks, regularly be emptied by outside contractors and taken to the municipal sewage treatment facility.	WUL, 2018	3	3	No recommendations.	-
34	Any complaints regarding the said development must be brought to the attention of the Department within 24 hours after receiving the complaint. A complaints register must be kept up to date for inspection by the Department. Where any of the applicants contact details change, including the name of the responsible person, the physical or postal address and/ or telephonic details, the applicant must notify the	Noted, no complaints have been raised. No construction or decommissioning activities are taking place at this moment.	Site observations	3	3	No recommendations.	-

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Construction of a Road NEMA Permit 17/2011 Ref No: NC/SIY/TSA/BEESHOEK1/10/2010 - ISSUED May 2011. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
	Department as soon as the new details become known to the applicant.						
	Commissioning of the activity						
35	7 days written notice must be given to the Department that the activity will commence. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence.	A letter dated 25 January 2012, addressed to the NCDENC was provided during the audit. The letter is still in word format and not signed, and submission or receipt thereof is not available. The letter states that the mine intends to start the project during the month of February 2012 It could not be verified that this letter was submitted to the Department.	Word document letter dated 25 January 2012	0	3	Proof that the letter was submitted to the Department should be obtained.	SHEQ Department
36	General waste must be collected in containers disposed of regularly at a permitted landfill site. Recyclable waste must be recovered for recycling purpose. NB: No temporary dumping of waste is allowed on site. Precautionary measures should be taken to prevent refuse from spreading from or on the site.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
37	Should protected trees and other vegetation be destroyed, relocated and/or disturbed, permits must be obtained from the Department of Water Affairs and Forestry and Department of Environment and Nature Conservation.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
38	Any complaint from the public during the construction and operation of this project must be attended to by the holder of this authorisation as soon as possible to the satisfaction of parties concerned	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
39	The authorised activity including site preparation shall not commence before the statutory (30) days of an appeal period has expired.	The construction activities only commenced during February 2012 based on available information and not within the 30-day appeal process. A letter dated 25 January 2012, addressed to the NCDENC was provided during the audit. The letter is still in word format and not signed. Submission and receipt thereof is also not available. The letter states that the Mine intends to start the project during the month of February 2012.	Word document letter dated 25 January 2012	3	3	No recommendations.	-
40	The safety of the participants must be ensured by having regular safety inspection and ensuring participants are equipped with necessary safety equipment's.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
41	Open fire is strictly prohibited on site.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
42	The uncovering of previously undetected archaeological artefacts, cultural remains, graves or protected and endangered biota be found on site, must be reported	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Construction of a Road NEMA Permit 17/2011 Ref No: NC/SIY/TSA/BEESHOEK1/10/2010 - ISSUED May 2011. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
	immediate to the SAHRA, failure to do so constitute an offence in terms of the National Heritage Resources Act, Act 25 of 1999 as amended.						
43	Untreated sewage must not be discharged directly into the natural environment.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
44	Spillage of petroleum products (fuel and lubricants) must be avoided. Temporary storage of petrochemical products and servicing of machinery and vehicles on site will be allowed except at a site specifically designed for that purpose. In terms of accidental spillage, contaminated soil must be removed for bioremediation or disposed of at a recognized facility for the substance concerned. Disturbed land must be rehabilitated and seeded with vegetation seed naturally occurring on the site.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
45	The development must comply with the Municipal by-law.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
46	Chemical Toilet facilities must be available for all workers on site during construction phase only i.e. Sewage waste must be disposed of at the Municipal sewage plant on a regular basis. No long drop toilets will be allowed. No open space or surrounding bush shall be used as toilet facility under any circumstances.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
47	It is the holder of this authorisation responsibility to ensure that an ongoing management and monitoring of the impacts of the activity on the Environment throughout the life cycle of the activity is put into practice.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
48	All the areas (e.g. stockpiling of material, machines, workshop. etc.) in the construction site must be clearly defined	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
49	The contractor must ensure that drip trays are always available to collect any fluid that may result from accidental spillage, overflow and or servicing. All equipment that leak must be repaired immediately and/or removed from site when necessary.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
50	It is the contractor's responsibility that all staff/employees are familiar with all the emergency procedures. The contractor must also ensure that emergency numbers are visible and available and always updated.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
51	The contractors must use Ready-Mix concrete, Alternatively, concrete can be mixed on mixing trays only and not exposed soil. Concrete must be mixed only in areas, which have been specially demarcated for this purpose	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
52	The contractor must take all the necessary precautionary measures to ensure that no fires are caused as a result of construction activities.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-



	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
Construction of a Road NEMA Permit 17/2011 Ref No: NC/SIY/TSA/BEESHOEK1/10/2010 - ISSUED May 2011. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010							
53	Old cement bags, mixing bags, platforms etc. should be disarmed in a wind and spill proof container. No cement bags closed or open should be left lying around the site. All visible remains of concrete should be physically removed as soon as possible, and disposed of at a suitable site.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
54	All vehicles, equipment and other assets belonging to the contractor must be removed from the property upon completion of the construction works.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
55	Topsoil removed during excavations must be kept separate from other material. Topsoil must be placed above other material during backfilling	The road has been constructed and is fully operational. When considering the backfilling of the borrow pit, this condition was adhered to, with the area now backfilled and vegetation establishment in progress.	Construction completed	NLR	NLR	No recommendations.	-
56	Precautionary principles must be followed as people's lives depend on the project.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
57	The central waste collection point must be specified - where it will be situated to ensure that no soil or underground water contamination takes place this should be done at least on a weekly basis.	The road has been constructed and is fully operational.	Construction completed	NLR	NLR	No recommendations.	-
58	Habitat fragmentation and Alien plant infestation should be prevented at all cost.	The road has been constructed and is fully operational. No concerns in terms of habitat fragmentation and invasive species on this road were observed. The road forms part of the internal mining system, will limited to no natural habitat present.	Construction completed	NLR	NLR	No recommendations.	-
Operation of the Activity							
59	All forms of pollution must be prevented, or where it cannot, should be minimised or remedied.	<p>During the site visit no areas of concern on the portion of the historic road owned and operated by the mine were observed. It should be noted that the regional road has been diverted and handed over to the Provincial Roads Department a number of years ago. The mine is responsible for the historic portions of the road only and for this reason this is included into the financial provision.</p> <p>No construction or decommissioning activities are currently being undertaken.</p> <p>No documentation on the responsibility of the road based on the handover is present on site. The responsibility of the R385 as the Roads Departments could be well assumed based on the fact that this road is a regional road under the management of the Roads Department.</p>	Site observations Financial Provision Report, May 2019	2	3	The mine should ensure that the documents in terms of the servitudes and registrations are available on site.	SHEQ Department
60	General waste must be collected in containers and disposed of weekly at a permitted Municipal licensed landfill site and	A detailed waste management strategy is implemented on site. No temporary waste dumping	Site observations	1	3	Waste separation at source is emphasised in terms of toolbox	SHEQ Department

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	<p>recyclable waste may be recovered for recycling purposes. NB: No temporary dumping is allowed on site. Precautionary measures should be taken to prevent refuse from spreading from or on the site.</p>	<p>is taking place.</p> <p>In order to assess the precautionary measures in this condition the Mine's overall waste management is considered: Waste Bins * Various, well-placed waste stations are clearly visible on site. These are clearly labelled and colour-coded.</p> <p>The following areas of concern were observed on site, but not around the road area: * At the Booysen Bore Laydown Area, a skip is present for hazardous waste. This skip is of a temporary nature but is not located in a formal laydown site or in a contained facility and is not covered. Waste mixing is taking place which unnecessarily increases the volume of hazardous waste to be disposed of. * At the South Mine Engineering/ Crusher Workshop the following were observed: o Rubber Skip – mixing with wood; o Temporary Steel Skip – not labelled; o Hazardous waste skip – has covers but is not closed; o General Waste skip – mixing with hazardous waste (creating unnecessary hazardous waste disposal); o Wood skip – mixing present; o Paper skip – mixing present. o Coloured skips – some mixing of waste present with paper in the organic bin and plastic in the glass bins. According to Mr. Silomntu the waste will further be separated at the landfill site; o Littering is present around the braai area at the Crusher Workshop as well as the Wash and Screen Maintenance Workshop; o Crusher slings which are contaminated with hydrocarbons are stored uncontained in various areas within this workshop area. Some are stored on wooden pallets, but not contained and could lead to pollution. * At the North Primary Crusher Workshop, good waste separation is in place, however, hazardous waste skips are not covered although lids are</p>	<p>Waste Management Procedure: Ref SP_TEC_21022017_11908 Version 2, 21 February 2017</p> <p>Beeshoek Internal WML Audit, May 2019</p> <p>:L:B+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (November 2011) and (December 2012)</p> <p>InterWaste Germiston Depot H:H Waste Storage and Treatment Facility, Ref: 12/9/11/P/P99, dated 16 March 2009</p> <p>Interwaste Waste Transporter Registration Ref: GPT-00-030 (valid until 3 May 2020)</p> <p>Integrated Environmental Authorisation for Interwaste facility - Klinkerstene Ref: 17/04/A18/MP311/10/01 for the GLB+ class waste facility, dated 27 May 2013</p> <p>Olegra oil collector registration, Ref: RF025171, valid until 31 August 2019</p> <p>PPC Lime Acres oil processor registration,</p>			<p>talks, talk topics, and training. Procedures are in place and well-developed disposal stations are present. Skips are also present on site. The undertaking of waste separation on site (based on the visual observations) during day to day operations is however not implemented in many instances (hydrocarbon and general waste). Performance based measures are recommended to ensure compliance with the requirements set by the mine's Environmental Department.</p> <p>The Salvage Yard upgrades should be finalised. It is further recommended that a larger area be provided for the separation of waste, as the current area only allows for the various skips. In addition to this a roofed area is recommended for the sorting area.</p> <p>Temporary hazardous waste skips should be equipped with lids if not located in a bunded area.</p> <p>Regular inspections should be undertaken by the responsible person at the workshop/laydown area where temporary skips are present to ensure correct disposal of waste.</p> <p>Where temporary skips are placed, these should be removed as soon as practically possible.</p> <p>The mine should ensure that all permits and WMLs of suppliers are up to date and should also consider undertaking external audits of facilities to ensure that the</p>	

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
Construction of a Road NEMA Permit 17/2011 Ref No: NC/SIY/TSA/BEESHOEK1/10/2010 - ISSUED May 2011. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010							
		<p>present. The skips are not optimally used as waste is not pushed to the centre of the skip, creating the sense of overfilling on the sides. Some hydrocarbon spills are present around the skips.</p> <ul style="list-style-type: none"> * At the Wash and Screen Maintenance Workshop, the braai area is characterised by some incorrect waste disposal and littering. <p>Salvage Yard All wastes are removed from the mine to the Salvage Yard in terms of interviews on site. The responsible person at the Salvage Yard informed the auditors that the waste will be removed to the Postmasburg Interwaste Depot from where the waste is either dispatched to the Postmasburg Community Project or hazardous waste to the permitted landfill site. From the Salvage Yard, the waste is also transported by Interwaste to the Beeshoek Landfill Site. Some key observations at the Salvage Yard include:</p> <ul style="list-style-type: none"> * A surfaced area for skips has been constructed. * A plan is in place to undertake formal sorting in this area – space for such separation will have to be created. * At the roofed bunded area, some diesel drums are stored on drum carriers but not in the contained area. * The furthest right bunded surface area is broken with paint containers stored in this area. * The overall area in the centre indicates some haphazard storage - but is overall in good condition. <p>At the Landfill Site, Interwaste is responsible for the record keeping of all wastes received. The site was in a good condition.</p> <p>Waste Removal and Disposal:</p> <ul style="list-style-type: none"> * An internal audit has been undertaken on the Environmental Authorisation of the Beeshoek Landfill Site WML; * Interwaste GLB+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (December 2012). The original WML was issued on 20 November 2011. Condition 3.1(h) of the WML states that the WML must be renewed 	Ref: RF025185, valid until 31 August 2019			suppliers are in compliance with their licences.	

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Construction of a Road NEMA Permit 17/2011 Ref No: NC/SIY/TSA/BEESHOEK1/10/2010 - ISSUED May 2011. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
		<p>within a period for four years from the date of issue (no proof thereof is available).</p> <p>* Interwaste Germiston Depot H:H Waste Storage and Treatment Facility. This permit is still valid.</p> <p>* Interwaste Waste Transporter of General and Hazardous Waste. This permit is still valid.</p> <p>* Integrated Environmental Authorisation for Interwaste facility - Klinkerstene Ref: 17/04/A18/MP311/10/01 for the GLB+ class waste facility. Condition 5.12.10 of this Environmental Authorisation states that the Environmental Authorisation is valid for a period of 30 years and the holder must initiate a review process 5 years from the date of issue (27 May 2013). No proof that the review process has been initiated by the supplier is available on record to ensure the Mine's duty of care.</p> <p>* Olegra is registered as an accredited Oil Collector by the ROSE Foundation with the Registration No. RF02517. Note that this registration will lapse at the end of August 2019.</p> <p>* PPC is registered as an accredited Oil Processor by the ROSE Foundation with the Registration No. RF 025185. Note that this registration will lapse at the end of August 2019.</p>					
61	The location of the proposed road to be constructed must remain at the co-ordinates 28 15' 31.5" S 22 58' 36.3"E	Compliant.	Site observations	3	3	No recommendations.	-
62	The proposed road to be constructed R385 Beeshoek road diversion must conform to the design and the specifications of Annexure 1 appended in the final EIR submitted by you on 16 Aug 2010.	<p>Compliant. The road has been diverted and handed over to the Provincial Roads Department. The mine is responsible for the remnants of the historic road only.</p> <p>No construction or decommissioning activities are currently being undertaken.</p> <p>The mine will be responsible for the rehabilitation of the historic road and for this reason this is included into the financial provision.</p> <p>The road has been constructed and designed as part of the designs submitted and is now the responsibility of the Provincial Roads Department.</p>	Site observations Financial Provision Report, May 2019	3	3	The mine should ensure that the documents in terms of the servitudes and registrations are available on site.	SHEQ Department
	Site Closure and Decommissioning						
63	Should the proposed development no longer be required, or if decommissioning is required for whatsoever reason then	Noted, the road has been diverted and handed over to the Roads Department. The mine is responsible	Financial Provision Report, May 2019	2	3	The mine should ensure that the documents in terms of the	SHEQ department

	Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
	Construction of a Road NEMA Permit 17/2011 Ref No: NC/SIV/TSA/BEESHOEK1/10/2010 - ISSUED May 2011. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
	the applicant must ensure that the structures are removed from site and the area rehabilitated to its original or better condition.	for the historic road only. No construction or decommissioning activities are currently being undertaken. The mine will be responsible for the rehabilitation of the historic road and for this reason this is included into the financial provision.				servitudes and registrations are available on site. The mine should notify the NCDENC and DMR prior to the commencement of decommissioning of the remnants of the historic road.	
64	All construction and storage sites and all areas disturbed by the project must be rehabilitated to their former or better condition. Those sites and areas must be re-vegetated with indigenous plants upon completion of the proposed development and must take place where necessary.	The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
65	And should the project be abandoned or decommissioned, a Closure Management Plan must be compiled, and the holder of the Environmental Authorisation must rehabilitate the site to the satisfaction of this Department.	The Licence Holder is aware of this condition.	Site observations	T/N	T/N	No recommendations.	-
	Non-compliance						
66	In the event of non-compliance by employees and contractors during the construction, operation and decommissioning phases of the project, the applicant will be held liable.	Noted, no non-compliances have been raised.	Noted, no non-compliances have been raised.	Dup	Dup	The mine has to inform the NCDENC in writing of the change in ownership of the road and the change in responsibility regarding environmental conditions.	SHEQ Department
67	The applicant shall be responsible for all costs necessary to comply with the above conditions unless otherwise specified.	Noted, the road has been diverted and handed over to the Provincial Roads Department. The mine is responsible for the historic road only. The mine will be responsible for the rehabilitation of the historic road and for this reason this is included into the financial provision.	Financial provision, July 2017	Dup	Dup	The mine should ensure that the documents in terms of the servitudes and registrations are available on site.	SHEQ Department
68	Provincial government Local government or committees appointed in terms of the conditions of this application or any other public authority or organisation shall not be held responsible for any damage of losses suffered by the applicant or his successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the applicant with the conditions of approval as set out in this document or any other subsequent document emanating from these conditions of approval.	Noted, the road has been diverted and handed over to the Roads Department. The mine is responsible for the remnants of the historic road only.	No documentation in this regard is available	2	3	The mine should ensure that the documents in terms of the servitudes and registrations are available on site.	SHEQ Department
	Duration and period of validity						
	The activity(s) must commence within a period of three years from the date of issue. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.	The road has been constructed and is fully operational.	Site observations	3	3	No recommendation	-

Scope of Authorisation	2019 Observation	Reference Material	Actual score	Max score	Recommendations	Responsibility
Construction of a Road NEMA Permit 17/2011 Ref No: NC/SIV/TSA/BEESHOEK1/10/2010 - ISSUED May 2011. National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations of 2010						
Compliance Score			91	105	86.66%	

Table 12: Environmental Audit - Storm Water Dam North - Environmental Authorisation: 10 March 2017

	Observations	Source	Actual score	Max score	Recommendations	Responsibility	
Environmental Authorisation: 10 March 2017							
NC 30/5/1/2/3/2/1 (223) MR							
Application for Environmental Authorisation in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) (as amended) (NEMA) and the Environmental Impact Assessment Regulations, 2014: Activities related to redesigning the existing water containment facility and the associated infrastructure on Portion 1 of Beeshoek NO.448 within the Magisterial District of Postmasburg, Northern Cape Province.							
1	This EA is conditional upon the implementation of the EMP identified and signed by the Regional Manager.	The Licence Holder is aware of this condition. The activities are implemented in line with the EMP and an ECO has been appointed by the appointed Engineer.	Site observations	3	3	No further recommendations.	-
2	This EA does not absolve the holder of its obligation to comply with the requirements of the NWA, Specific Environmental Management Acts and any other applicable legislation.	The Storm Water Dam North has been included into the WUL 2018.	WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018) Site observations	3	3	No further recommendations.	-
3	Subject to the commencement and duration requirements of the MPRDA (as amended), the EA for the listed construction activity is valid for a period for which the aforesaid right is granted provided that this activity must commence within 10 years.	The Licence Holder is aware of this condition. The construction activities were in progress during the site visit.	Site observations	3	3	No further recommendations.	-
4	The commissioning and decommissioning of individual activities within the overall listed construction activities must take place within the time periods as set out in the EMP.	The Licence Holder is aware of this condition. The construction activities were in progress during the site visit.	Site observations	3	3	No further recommendations.	-
5	The listed activity/ies, including site preparation, must not commence within 20 (twenty) calendar days of the date of the notification of the decision being sent to the registered Interested and Affected Parties ("I&APs"). In the event that an appeal is lodged with the appeal administrator, the effect of this environmental authorisation is suspended until such time as the appeal is decided.	The stakeholders were notified on 17 March 2017. Construction activities commenced during May 2019.	Environmental Authorisation dated 10 March 2017 (Ref: NC 30/5/1/2/3/2/1 (223) MR). Notification letter dated 17 March 2017 and proof of email sent by Environmental Assessment Practitioner dated 17 March 2017.	3	3	No further recommendations.	-
6	The applicant must in writing, within 14 (fourteen) calendar days of the date of this decision and in accordance with Regulation 4(2)	Compliant. Notification was given to all registered stakeholders on 17 March 2017.	Notification letter, 17 March 2017 Proof of email sent on 17 March 2017 at 13h49	3	3	No further recommendations.	-
7,1	Notify all registered and affected parties of -						
7.1.1	the outcome of the application;						
7.1.2	the reasons for the decision as included in Annexure 1;						
7.1.3	the date of the decision; and						
7.1.4	the date of issue of the decision;						

		Observations	Source	Actual score	Max score	Recommendations	Responsibility
7,2	draw the attention of all registered I&APs to the fact that an appeal may be lodged against the decision in terms of the National Appeals Regulation, 2014 detailed in Section F below; and						
7,3	draw the attention of all registered I&APs to the manner in which they may access the decision.						
7,4	Provide the registered Interested and Affected Parties with:						
7.4.1	name of the holder (entity) of this Environmental Authorisation;						
7.4.2	name of the responsible person for this Environmental Authorisation;						
7.4.3	postal address of the holder;						
7.4.4	telephonic and fax details of the holder; and						
7.4.5	e-mail address if any.						
7	The holder is responsible for ensuring compliance with the conditions by any person acting on his/her behalf, including an agent, sub-contractor, employee or any person rendering a service to the holder.	The Licence Holder is aware of this condition. The activities are implemented in line with the EMP and an ECO has been appointed by the appointed Engineer. The Engineers on site was aware of the EMP and had a copy on site.	Site Observations	3	3	No further recommendations.	-
8	The holder of the EA must implement an Emergency Preparedness Plan and review it biannually when conducting audit and after each emergency and major incident. The holder must notify the competent authority in writing, within 24 hours thereof of the occurrence.	An Emergency Preparedness and Response Plan is in place, this has not been updated to include the construction and operational activities of the Storm Water Dam. This Plan was scheduled to be updated on 17 August 2019.	Emergency Preparedness and Response Plan, Ref: SP_SIP_200222017_11649, Dated 20 February 2017	2	3	The Emergency Preparedness and Response Plan should be updated to make allowance for said activities. This should include emergencies such as floods, fly rock from blasting activities, liner damage, pump failure, etc.	SHEQ Department
9	This EA only authorises activities specified in the EMP/Closure Plan and a new authorisation must be applied for in respect of any new activity not specified as part of the EMP.	The Licence Holder is aware of this condition.	WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018)	3	3	No further recommendations.	-
10	A copy of the EA and the EMP must be kept at site where the listed activity/ies will be undertaken. Access to the site must be granted to any authorised official representing a competent authority. The EA and EMP must be available on site to the aforesaid authorised official on request at all times.	Compliant. A copy of the EMP and Environmental Authorisation is available on site.	Site observations.	3	3	No recommendations.	-
11	Only activities that are expressly specified in the EMP that forms part of this authorisation may be conducted, and additional or new activities not	The Licence Holder is aware of this condition. The Licence Holder is currently constructing a silt trap downgradient of the Plant - this forms part of the	Site observations. Meetings with Engineer: 2018 Environmental Audit	3	3	A communication procedure should be implemented in	All departments



		Observations	Source	Actual score	Max score	Recommendations	Responsibility
		specified herein must be applied for by the holder and authorised by the competent authority in the form of an amendment or an addendum to the aforesaid EMP before such activities may be commenced with. This condition is also applicable in the case of the amendment, addition, substitution, correction and removal or updating of any detail in the aforesaid EMP.				which any new projects planned by the Mining and/or Engineering Departments should first be assessed by the SHEQ Department to determine the potential Environmental Legal requirements associated with such projects.	
12	Whenever any of the applicant's contact details, physical or postal address and/or telephonic details change, the applicant must notify the competent authority in writing to that effect.	The licence is in the name of Assmang Ltd. No notification was given to the Competent Authority in terms of the name change regarding this licence.	License 223MR	1	3	The Licence Holder should inform the DMR of the change in company type in writing. This amendment will be a Regulation 29 Part 1 amendment. The Licence Holder is currently in progress of undertaking and EIA Process for the amendment of various activities on site and the implementation of new activities. This Part 1 amendment should be included in this process.	SHEQ Department
13	Non-compliance with a condition of this EA or EMP may result in the issuing of a directive in terms of Section 28 and or a compliance notice in terms of Section 31L of the NEMA.	The Licence Holder is aware of this condition.	-	T/N	T/N	No further recommendations.	-
14	Should any heritage remains be exposed during excavations or any actions on the site, these must immediately be reported to the Provincial Heritage Resources Authority (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 Provincial Heritage Resources Authority. Heritage	The Licence Holder is aware of this condition. No heritage remains have been encountered during the construction activities.	Site observations.	T/N	T/N	No further recommendations.	SHEQ Department

		Observations	Source	Actual score	Max score	Recommendations	Responsibility
		remains include: archaeological remains (including fossil bones and fossil shells); coins; 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.					
15	A qualified archaeologist must be contracted 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.	The Licence Holder is aware of this condition. No heritage remains have been encountered during the construction activities.	Site observations	T/N	T/N	It is recommended that a heritage finds procedures be developed for the mine as the area is rich in heritage and cultural resources and finds.	SHEQ Department
16	The holder must appoint a suitably experienced environmental control officer (ECO), or site agent where appropriate, before commencement of any land clearing to ensure compliance with the EMP and the conditions contained herein.	Mr. Msimelelo Silomntu is appointed as the Environmental Superintendent and Ms. Chrystal Vries and the Environmental Control Officer.	Site observations	3	3	Ensure that the appointments of these parties stipulate the various Environmental Authorisations they are responsible for.	SHEQ Department
17	The holder of the EA must annually assess the environmental liabilities of the operation by 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 the NEMA.	The Licence Holder is aware of this condition. This is undertaken annually on site.	Closure Cost Report, dated May 2018 by GlobeSight (Pty) Ltd and again during May 2019.	3	3	No further recommendations.	-
18	The holder of the authorisation must appoint an independent auditor to audit the site annually. This auditor must compile an audit report documenting the findings of the audit. The Audit report must contain:	Noted, the first external Environmental Audit Report was compiled by EnviroGistics, December 2017. The external audit reports were submitted to the DMR on 22 June 2018. A second external audit was conducted during October 2018 and completed on 29 November 2018. These reports were submitted to the DMR on 11 December 2018.	External Audit Report dated 21 February 2018 Proof of receipt from DMR dated 22 June 2018 Audit Report dated 29 November 2018 Proof of receipt from DMR dated 11 December 2018.	3	3	The next audit should be undertaken during August 2020 or earlier.	SHEQ Department
19,1	Specifically, state whether conditions of this environmental authorisation and EMP/Closure Plan are adhered to;						
19,2	Identify and assess any new impacts and risks as a result of undertaking the activity/ies, if applicable;						
19,3	Identify shortcomings in the EMP/Closure Plan, if applicable;						
19,4	Identify the need, if any, for any changes to the management, avoidance and mitigation measures provided for in the EMP/Closure Plan;						
19,5	If applicable, specify that the corrective action/s taken for the previous audits non-conformities, was adequate; and						

		Observations	Source	Actual score	Max score	Recommendations	Responsibility
19,6	Be submitted by the holder to the competent authority within 30 days from the date on which the auditor finalised the audit.	A 2018 external audit was conducted during October 2018 and completed on 29 November 2019. These reports were submitted to the DMR on 11 December 2018.	External Environmental Audit Report dated 29 November 2018. Proof of receipt from DMR dated 11 December 2018.	3	3	Note that the following audit must be submitted within 30 days of finalisation of the audit report.	SHEQ Department
	Should any shortcoming in terms of Regulation 34(4) be identified, the holder must submit recommendation to amend the EMP/Closure Plan in order to rectify any shortcoming identified with the aforementioned audit report.	The Licence Holder is aware of this condition. The purpose of the 2019 External Environmental Audit Report is in line with Regulation 34.	Environmental Audit Report, 2019	3	3	No recommendations.	-
20	An integrated waste management approach, which is based on waste minimisation and incorporates reduction, recycling, reuse and disposal, where appropriate must be employed. Any solid waste must be disposed of at a landfill licensed in terms of the applicable legislation.	<p>Overall general waste and environmental management at the Storm Water Dam North can be commended, with no areas of concern observed. All areas are clearly demarcated, and waste management practices are in place.</p> <p>When considering the overall integrated Waste Management Procedure implemented at the mine, the following was found: A waste management strategy is in place on site, with three (3) Waste Management Procedures available on site, of which the last two procedures listed below are still in draft: * Waste Management Procedure; * Waste Management Service Provider Procedure; and * Landfill Site Management Procedure.</p> <p>General Waste Removal and Disposal: Interwaste removes all material from the mine to the domestic landfill site. The Landfill Site Permit states that it can receive garden waste, which is believed to be an administrative error, and should be rectified to fulfil the purposes of the mine. The mine has consulted with the Northern Cape Department of Environment and Nature Conservation (NCDENC) whereby it was agreed that the reference to "rubble" encompasses all domestic waste as well. This was confirmed by the NCDENC via email. All hazardous material is remove to Holfontein by Interwaste.</p> <p>All used oils are removed by Olegra to PPC Lime Acres. According to an assessment at a neighbouring mine this facility is permitted (Lime Acres AEL Licence: 23/4/2/58). This permit is not available at Beeshoek</p>	<p>Waste Management Service Provider Procedure Version 1.9 (draft)</p> <p>Landfill Site Management Procedure (draft)</p> <p>Waste Management Procedure dated 5 June 2018 Version 1.9.</p> <p>Site observations</p> <p>Waste Management Procedure: Ref SP_TEC_21022017_11908 Version 2, 21 February 2017</p> <p>Email communication between the mine and the NCDENC dated 27 August 2019.</p> <p>Beeshoek Internal WML Audit, May 2019</p> <p>GLB+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (November 2011 and December 2012)</p> <p>Interwaste Germiston Depot H:H Waste Storage and Treatment Facility, Ref:</p>	3	3	No recommendations.	-



		Observations	Source	Actual score	Max score	Recommendations	Responsibility
		<p>Mine.</p> <p>The following key observations were made:</p> <ul style="list-style-type: none"> * An internal audit has been undertaken on the Environmental Authorisation of the Beeshoek Landfill Site WML; * Interwaste GLB+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (December 2012). The original WML was issued on 20 November 2011. Condition 3.1(h) of the WML states that the WML must be renewed within a period for four years from the date of issue (no proof thereof is available). * Interwaste Germiston Depot H:H Waste Storage and Treatment Facility. This permit is still valid. * Interwaste Waste Transporter of General and Hazardous Waste. This permit is still valid. * Integrated Environmental Authorisation for Interwaste facility - Klinkerstene Ref: 17/04/A18/MP311/10/01 for the GLB+ class waste facility. Condition 5.12.10 of this Environmental Authorisation states that the Environmental Authorisation is valid for a period of 30 years and the holder must initiate a review process 5 years from the date of issue (27 May 2013). No proof that the review process has been initiated by the supplier is available on record to ensure the Mine's duty of care. * Olegra is registered as an accredited Oil Collector by the ROSE Foundation with the Registration No. RF02517. Note that this registration will lapse at the end of August 2019. * PPC is registered as an accredited Oil Processor by the ROSE Foundation with the Registration No. RF 025185. Note that this registration will lapse at the end of August 2019. 	<p>12/9/11/P/P99, dated 16 March 2009</p> <p>Interwaste Waste Transporter Registration Ref: GPT-00-030 (valid until 3 May 2020)</p> <p>Integrated Environmental Authorisation for Interwaste facility - Klinkerstene Ref: 17/04/A18/MP311/10/01 for the GLB+ class waste facility, dated 27 May 2013</p> <p>Olegra oil collector registration, Ref: RF025171, valid until 31 August 2019</p> <p>PPC Lime Acres oil processor registration, Ref: RF025185, valid until 31 August 2019</p>				
21	No surface or groundwater may be polluted due to any actions on the site.	<p>The water monitoring programme conducted at the mine is undertaken on a monthly (surface water) and quarterly (groundwater). This includes potable water, process water and groundwater monitoring points. Quarterly groundwater monitoring reports are being compiled by Aquatico. According to the April 2019 report, water monitoring at the mine is conducted on a monthly basis. The water monitoring programme, conducted by Aquatico, entails hydrochemical monitoring of surface water localities and hydrochemical monitoring of groundwater resources</p>	<p>Aquatico Water Monitoring Report, April 2019</p> <p>GPT Waste Characterisation and Groundwater Monitoring Network Audit, 2017</p>	3	3	Once in operation, the Storm Water Dam North should form part of the monitoring network for surface water containment.	SHEQ Department

		Observations	Source	Actual score	Max score	Recommendations	Responsibility
		<p>on a quarterly basis. The report concluded that none of the variables listed in the IWUL Groundwater Resource (Table 5 – Appendix IV of the IWUL) exceeded the specified limits at any of the sampled localities. It should be noted that the Nitrate (NO₃) concentration at WG34, WG37, WG62, WG70 and WG74 did however exceed the permissible limit of 10mg/l set out by the DWAF Quality of Domestic Water Supplies. This is important as many of the boreholes supply water for potable purposes. This condition is however based on the fact that the WUL limits are adhered to and also based on the findings from the water studies as presented below, which raised no current or future risk.</p> <p>The reports are submitted to the DWS, with proof available on site annually.</p> <p>Other water studies undertaken includes groundwater risk assessments and numerical models. The Waste Characterisation and Groundwater Monitoring Network study undertaken by GPT during 2017. The report found that, based on the groundwater quality analyses, solid waste analyses and liquid waste analyses, as well as the statistical analysis of the data, it can be deduced that the chemical signatures of the three mediums (baseline groundwater, solid waste and liquid wastes) are quite similar. Additionally, the report states that the constituents found to exceed the relevant screening levels for each of the three mediums are also similar. Also, most of the sources are located within the dewatered area, directing any contaminants towards the active mining areas. The report concluded that effects of sources on the groundwater environment are likely to be negligible and are unlikely to be observed in samples as the chemical signatures of the different mediums are so similar.</p> <p>No surface water resources are in close proximity to the Storm Water Dam North.</p>					
22	The applicable requirements with respect to the relevant legislation pertaining to cutting, damaging, disturbing or destroying protected trees or trees from a natural forest must be adhered to.	The mine currently manages approximately 5 000ha of surface area, which approximately half is disturbed by mining activities in terms of the 2018 Biodiversity Action Plan. The activities associated with the Storm Water Dam North have been planned and are	Site observations Biodiversity Action Plan, February 2018	3	3	No further recommendations.	-



BEESHOEK IRON ORE MINE 2019 EMPR ENVIRONMENTAL AUDIT

Departmental Ref: NC 30/5/1/2/3/2/1/223EM

Project Ref: 21912

Version: Final

		Observations	Source	Actual score	Max score	Recommendations	Responsibility
		undertaken on already disturbed areas. The Licence Holder is aware of the sensitive tree species present on site. The Biodiversity Action Plan objective is to provide an integrated management plan to reach set objectives and align its operations with legislative requirements, internal policies and global best practice. The Biodiversity Action Plan indicates the area in which the construction activities are undertaken as "disturbed area" (Figure 2.5 of the 2018 Biodiversity Action Plan).					
23	The applicable requirements with respect to relevant legislation pertaining to occupational health and safety must be adhered to.	The activities are implemented in line with the EMP and an ECO is appointed by the Engineer. No areas of concern were observed, with clear demarcation, use of PPE and safety notices present. Regular Health and Safety Audits are also undertaken on site.	Site observations	3	3	No further recommendations.	-
24	The EA holder must before commencement of the construction activities consult with the communities and mines around regarding activities associated with the listed activity/is.	No communities or mines will be impacted upon by the construction activities, as it is located within the mining area. Stakeholder consultation was undertaken as part of the planning and Environmental Authorisation Process. The stakeholder consultation involved the notification of all registered stakeholders (municipalities, registered parties, surrounding mines and parties on the existing database). The process also involved site notices and the placement of advertisements in local newspapers.	EMP, Reference 21521 dated 20 June 2016	3	3	No further recommendations.	-
25	The EA holder shall not store any fuel either above or underground, with a combined capacity of 80 cubic metres or more without an authorisation in each of the above-mentioned sites. All fuels and lubricants that are allowed to be stored in the site must be stored inside a bounded area.	<p>No hydrocarbons or dangerous goods are stored in this area. The mine has an approved above-ground diesel storage area on site at both North and South Mines. These areas are located as follow:</p> <ul style="list-style-type: none"> • South Fuel Storage Area (28°18'43.91"S; 23° 0'16.30"E). This area comprises of four (4) 80m³ diesel storage tanks with a combined capacity of 332m³; • North Fuel Storage Area (28°17'2.45"S; 23° 0'0.09"E). This area comprises of five (5) storage tanks: <ul style="list-style-type: none"> o 1x 83m³ – Diesel Tank o 1x 23m³ – AC10W Hydraulic oil Tank o 1x 23m³ – AC50 Transmission oil Tank o 1x 23m³ – 15W40 CAT engine oil Tank o 1x 23m³ – Waste oil Tank; • Air Field has a Jet 1A fuel storage tank (28°16'1.19"S; 22°59'27.69"E) with a capacity of 56m³. • A Portable Long Distance Diesel tank (which does not require licensing as it is temporary and portable) has been established during 2015 at a capacity of 32m³. <p>The diesel storage facilities are operated by Total and the Environmental Authorisation for these are held by</p>	Permit Number 36/2005 Site observations.	3	3	It should be noted that if the ownership of the diesel storage area operations is changed, the Environmental Authorisation should be amended, and a copy thereof should be kept on site.	SHEQ



		Observations	Source	Actual score	Max score	Recommendations	Responsibility
		Total under Permit Number 36/2005 in terms of the ECA.					
26	Should the holder of the Authorisation ever cease, he/she must take required actions as prescribed by legislation at the time and comply with all the relevant legal requirements administered by any relevant and competent authority at that time.	The Licence Holder is aware of this condition. The facility is currently being constructed.	-	T/N	T/N	No further recommendations.	-
27	Any changes to or deviations from the activity description set out above must be approved in writing by the Department before such changes or deviations may be affected. In assessing whether to grant such approval or not, the Department may request information as it deems necessary to evaluate the significance and impacts of such changes or deviation and it may be necessary for the EA holder to apply for further authorisation in terms of the regulations.	The Licence Holder is aware of this condition.	-	T/N	T/N	No further recommendations.	-
Compliance Score				66	69	95,65%	



Table 13: Environmental Audit - Storm Water Dam North - Environmental Authorisation: 10 March 2017

			Observations	Actual score	Max score	Recommendations	Responsibility
Beeshoek SWD BAR Table 26 (20 June 2016)							
Planning Phase:							
Legal Requirements (Environmental Permits): South Africa Enviro-Legal Requirements							
Unlawful water and waste (mine residue) activities, which could lead to NWA Directives and Section 24G Rectification fines. -Legal Compliance.	A legal assessment of all Water Uses must be undertaken annually to ensure that all Water Uses are licensed.	The Storm Water Dam North has been included into the WUL 2018. Annual Legal Compliance Audits are further undertaken by the mines.	WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018) Site observations Comment provided by Adv. van der Westhuizen, October 2019	3	3	No further recommendations.	-
	The mine must familiarise themselves with the NEM:WA Regulations for the management of Mine Residue Deposits. Those included in previous approved EMPs are considered lawful under the NEM:WA, however where reworking, rehabilitation, stockpiling is taking place, not included into the previous EMP, these activities are unlawful and may require a Waste License.	The Licence Holder is aware of this condition. Any material arising from the construction of the Storm Water Dam has been used in the backfilling and rehabilitation of the old quarry. The mine has approval to use this material as backfill in the WUL And EMP and also to use waste rock for the purposes of creating safety berms around facilities and in the use of roads. A Legal Register is in place on site. Adv. Lana van der Westhuizen is appointed to assist the Licence Holder with the implementation of all enviro-legal components.	GN704 Exemption application, July 2017 WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018) EMP Alignment, 2007	3	3	No further recommendations.	-
	All legally appointed personnel responsible or involved in water use activities on site must receive training on the requirements of the WUL.	Mr. Msimelelo Silomntu is appointed as the Environmental Superintendent and Ms. Chrystal Vries and the Environmental Control Officer. These parties are further actively involved in the development and management of the WUL processes when undertaken. Discussions on the WUL have been undertaken on a management level with the EAP present. Awareness flashes (talk topics) are undertaken monthly, which includes topics such as water. Other means of awareness and responsibility creation include meetings scheduled to communicate aspects regarding management, environment, engineering, mining, safety and hygiene on site: * Weekly awareness flashes; * SHEQ Meetings - comprising of mining teams, supervisors, trade unions, etc. (monthly); * SHEQ Meetings - comprising of the Safety, Health, Environmental and Quality Departments (monthly);	Site observations.	3	3	No further recommendations.	-



			Observations	Actual score	Max score	Recommendations	Responsibility
		* SHEQ/ GM Meetings - comprising of the GM and the SHEQ Department (weekly); and * Contractor SHEQ Meeting - comprising of the contractors (such as Interwaste, Lenfield, Booysen Bore, etc); and the Environmental Department (monthly).					
	Quarterly internal audits must be undertaken on the lawful implementation of the WUL.	The 2018 WUL requires that the Licence Holder shall conduct an annual internal audit on compliance with the conditions of licence. A report on the audit shall be submitted to the Provincial Head within one month of finalisation. The condition in the EMP is therefore in contradiction to the WUL requirements.	WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018)	TBA	TBA	This condition is in contradiction to the WUL requirements. As the DWS is the competent authority for the enforcement of the WUL and associated requirements, it is recommended that this condition be amended. This amendment will be a Regulation 29 Part 1 amendment. The Licence Holder is currently in progress of undertaking and EIA Process for the amendment of various activities on site and the implementation of new activities. This Part 1 amendment should be included in this process.	SHEQ Department
	Water Use Licence must be available on site at all times.	The WUL is available on site.	Site observations.	3	3	No further recommendations.	-
	The legal register must be updated to indicate all updated water uses	A Legal Register is in place on site. Adv. Lana van der Westhuizen is appointed to assist the Licence Holder with the implementation of all enviro-legal components.	Site observations.	3	3	No further recommendations.	-
Construction Phase:							
Expansion of the Storm Water Dam North: Surface Water							
Contamination of surface water resources. There are no surface water resources in the	Clean and Dirty water separation systems should be incorporated in terms of the 2016 SWMP.	The Storm Water Dam North is a critical component of the Storm Water Management Plan and is implemented to give effect to this requirement.	Storm Water Management Plan, 2016 WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018)	3	3	No further recommendations.	-



			Observations	Actual score	Max score	Recommendations	Responsibility
<p>area, however, the natural runoff, which must be managed internally on site could become impacted.</p> <p>-Release of Contaminated Water.</p>	<p>Surface water monitoring must continue in accordance with the approved WUL.</p>	<p>According to the latest water quality report by Aquatico for April 2019, the current Beeshoek Mine Water Monitoring Programme consists of two major components of monitoring:</p> <ol style="list-style-type: none"> 1. Surface water monitoring – Monthly frequency 2. Groundwater monitoring – Quarterly frequency <p>The WUL states no specific requirements for surface water monitoring. However, the WUL makes specific reference to the monitoring which must be undertaken in line with the "reports" and specifically the critical evaluation of the monitoring network.</p> <p>The WUL Amendment application submitted to the DWS committed to the following monitoring programme: East Pit (when water is available); Village Pit (when water is available), BN Pit; EV1 (these four in line with the 2013 WUL) and Storm Water Dam North. The current surface monitoring network comprises of the following: Potable water (6 localities) and Process water (2 localities), while the groundwater monitoring consists of 11 monitoring boreholes. All samples are analysed by Aquatico, a SANAS Accredited Testing Laboratory, No T0685.</p>	<p>WUL, 2018 Aquatico Water Monitoring Report, April 2019</p>	3	3	<p>A monitoring network should be developed based on the WUL required studies and be submitted to the DWS for approval.</p>	-
	<p>Maintenance of all SWM systems must be undertaken regularly on site.</p>	<p>The facility is still in construction phase. During the site visit all areas were well maintained and the liners were being implemented. In order to optimise the efficiency of the facility, the Licence Holder is also constructing a sediment trap downgradient of the Plant area.</p>	<p>Site observations</p>	3	3	<p>No further recommendations.</p>	-
Expansion of the Storm Water Dam North: Ecology							
<p>The area on which the site will be extended was occupied by the Beeshoek Village. The impact on fauna or flora is regarded as insignificant.</p> <p>-Removal of Vegetation.</p>	<p>Expansion activities must be limited to the demarcated areas only.</p>	<p>Compliant, no areas of concern were observed. The site is clearly marked and demarcated. Strict access control is enforced.</p>	<p>Site observations</p>	3	3	<p>No further recommendations.</p>	-
	<p>A weed eradication programme must be implemented on site and enforced.</p>	<p>In prior Environmental Audits (2017), Mr. Silomntu indicated that concerns have been raised by Kolomela regarding the spreading of weeds, specifically fountain grass, into the Kolomela mining area (south of Beeshoek). A document was developed: Biodiversity Control, 2017 which details various areas (nine in total) which have been earmarked for weed eradication. Although alien and invasive plant species were visible on the mining area, the mine has commenced with the implementation of eradication processes.</p>	<p>Site observations Biodiversity Control, November 2017 Environmental Audit, 2017</p>	2	3	<p>The weed eradication programme should be implemented and maintained as part of a scheduled maintenance programme on site.</p>	<p>SHEQ Department</p>
	<p>Any sites cleared must be rehabilitated as soon as possible by allowing self-succession and where it is found that self-succession is not taking place, a vegetation programme should be commissioned.</p>	<p>The Licence Holder is aware of this condition. Beeshoek has been diligent in terms of ongoing rehabilitation and is also providing the DMR with quarterly rehabilitation reports in line with the Annual</p>	<p>Site observations Annual Mine Closure Reports Proof of submission, June 2019</p>	T/N	T/N	<p>The rehabilitation of remaining disturbed areas around the Storm Water Dam</p>	<p>SHEQ Department</p>



			Observations	Actual score	Max score	Recommendations	Responsibility
		Rehabilitation Requirements as set out in the Financial Provision Regulation 6 reports. To date the Storm Water Dam North is still being constructed. Material has been used to backfill the quarry area and the soils were used for rehabilitation of this area. Once construction has been completed, this area will be formalised and any areas no longer in use will be rehabilitated with proven self-succession practices.	Quarterly Rehab Progress Report Proof of Submission, March 2019			North must be undertaken once construction activities have concluded.	
Expansion of the Storm Water Dam North: Soil and Land Use							
The area on which the site will be extended was occupied by the Beeshoek Village. The impact on soil and land capability is regarded as insignificant and may result in a positive impact due to the formulation of the system and runoff pattern. -Removal of Soil Resources.	Topsoil stripping should be undertaken and be stockpiled in designated areas, in close proximity to the dam for reuse in the rehabilitation of slopes and cleared areas.	Topsoil has been removed prior to construction; this has been used for the purposes of rehabilitating the quarry adjacent to the Storm Water Dam North as part of the ongoing rehabilitation procedures. Topsoil is present on site to allow for the rehabilitation of the side slope of the facility.	Site observations	3	3	No further recommendations.	-
	Topsoil stockpiles should not exceed a height of 1.5m and the slopes must be developed such as to avoid erosion.	No topsoil stockpiles have been constructed for the purposes of the Storm Water Dam North in exceedance of 1.5m in height.	Site observations	3	3	No further recommendations.	-
	Excavated hard rock or overburden should be stockpiled on existing and approved WRDs to ensure that no additional storage facilities are created on site.	Excavated material has been backfilled in the quarries and areas earmarked for rehabilitation. The mine has approval for the backfilling of material in terms of the EMP and WUL. No waste rock was present on undemarcated areas or additional stockpile areas.	Site observations	3	3	No further recommendations.	-
Contamination of soil resources due to hydrocarbon spills. -Release of Contaminated Material	Clean and Dirty water separation systems should be incorporated in terms of the 2016 SWMP.	The Storm Water Dam North is a critical component of the Storm Water Management Plan and is implemented to give effect to this requirement.	Storm Water Management Plan, 2016 WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018)	Dup	Dup	No further recommendations.	-
	Vehicles must be well maintained.	No areas of concern were observed around the Storm Water Dam North.	Site observations	3	3	No further recommendations.	-
	All used oils must be removed from site by a licensed company and disposed of at a suitably licensed site	Overall general waste and environmental management at the Storm Water Dam North can be commended, with no areas of concern observed. All areas are clearly demarcated, and waste management practices are in place. When considering the overall integrated Waste Management Procedure implemented at the mine, the following was found: A waste management strategy is in place on site, with three (3) Waste Management Procedures available on site, of which the last two procedures listed below are still in draft format: * Waste Management Procedure;	Waste Management Service Provider Procedure Version 1.9 (draft) Landfill Site Management Procedure (draft) Waste Management Procedure dated 5 June 2018 Version 1.9 Site observations Waste Management	3	3	No recommendations.	-



BEESHOEK IRON ORE MINE 2019 EMPR ENVIRONMENTAL AUDIT

Departmental Ref: NC 30/5/1/2/3/2/1/223EM

Project Ref: 21912

Version: Final

			Observations	Actual score	Max score	Recommendations	Responsibility
		<p>* Waste Management Service Provider Procedure; and</p> <p>* Landfill Site Management Procedure.</p> <p>All used oils are removed by Olegra to PPC Lime Acres. According to an assessment at a neighbouring mine this facility is permitted (Lime Acres AEL Licence: 23/4/2/58). This permit is not available at Beeshoek Mine.</p> <p>The following key observed were made:</p> <p>* Olegra is registered as an accredited Oil Collector by the ROSE Foundation with the Registration No: RF025171. Note that this registration will lapse at the end of August 2019.</p> <p>* PPC is registered as an accredited Oil Processor by the ROSE Foundation with the Registration No: RF025185. Note that this registration will lapse at the end of August 2019.</p>	<p>Procedure: Ref SP_TEC_21022017_11908 Version 2, 21 February 2017</p> <p>Olegra oil collector registration, Ref: RF025171, valid until 31 August 2019</p> <p>PPC Lime Acres oil processor registration, Ref: RF025185, valid until 31 August 2019</p>				
	Any spills occurring during the collection process must be cleaned up immediately.	The Licence Holder is aware of this condition. During the site visit no areas of concern were observed around the Storm Water Dam North.	Site observations	3	3	No recommendations.	-
	Any significant spills must be captured in the incident reports and must be reported to the relevant department (NCDENC, WUA, CMA, DWS).	The Licence Holder is aware of this condition. During the site visit no areas of concern were observed around the Storm Water Dam North.	Site observations	T/N	T/N	No recommendations.	-
	A clean up procedure (i.e. Works Instruction) must be in place.	<p>An Emergency Preparedness and Response Plan is in place; this has not been updated to include the construction and operational activities of the Storm Water Dam North. This Plan was scheduled to be updated 17 August 2019. The current plan defines the following Environmental Emergencies and the associated measures to be employed:</p> <p>i. Major hydrocarbon and chemical spillage/ uncontrolled release over 1 000 litres</p> <p>ii. Major water leak or spillage</p> <p>iii. Sewage spill/ uncontrolled release over 1 000 litres</p> <p>iv. Flooding (pit flooding, storm water flooding, break thickener dam wall, break slime dam wall)</p> <p>v. Damage to protected species (fauna and flora)</p> <p>vi. Fires and explosions</p> <p>vii. Fumes and gases released from fire and explosions</p>	Emergency Preparedness and Response Plan, Ref: SP_SIP_20022017_11649, Dated 20 February 2017	3	3	No recommendations.	-
Expansion of the Storm Water Dam North: Air Quality							
The area is located within the mining area and neighbouring the Village Opencast Pit.	Dust suppression should be undertaken where and when dust is present.	Dustwatch is undertaking the dust monitoring on site monthly and Aquatico is responsible for the water monitoring programme. According to the latest dust monitoring results undertaken by Dustwatch (3 May to 3 June 2019) all	Dustwatch Monitoring Report, May to June 2019	3	3	No further recommendations.	-



			Observations	Actual score	Max score	Recommendations	Responsibility
Dust emissions is not considered to be significant but can occur during excavation and construction activities-Removal of topsoil		<p>nine (9) monitoring points were compliant (below 1 200mg/m²/day) for 2019 (no exceedance during the year of 2019). The report stated the following:</p> <ul style="list-style-type: none"> • The non-residential action level has been applied to all the units. If any units are located on residential property, then the action level of 600mg/m²/day will be applicable. • The Kolomela four bucket unit results were all below 200mg/m²/day in this period with the south bucket yielding the highest result, 161mg/m²/day. • The Sedibeng four bucket unit results were below 100mg/m²/day in this period with the east bucket yielding the highest result, 88mg/m²/day. • The Koeiespeen Gertse Plaas single bucket unit yielded 91mg/m²/day in this period. • The Uitsig single bucket unit yielded 175mg/m²/day in this period. • The Game Farm single bucket unit yielded 113mg/m²/day in this period. • The South Reservoir single bucket unit yielded 206mg/m²/day in this period. • The West Pit single bucket unit yielded 172mg/m²/day in this period. • The Olynfontein Border single bucket unit yielded 154mg/m²/day in this period. • The Training single bucket unit yielded 375mg/m²/day in this period. 					
Expansion of the Storm Water Dam North: Noise							
The area is located within the mining area and neighbouring the Village Opencast Pit. Noise impacts are not considered to be significant but can occur during excavation and construction activities. -Removal of topsoil	Equipment will be well maintained to reduce excessive noise creation.	Compliant, no areas of concern were observed. Limited vehicles are used in the construction of the facility. All construction is undertaken within the mining area.	Site observations	3	3	No recommendations.	-
	Activities will be restricted to the daytime	Compliant. Construction activities are only undertaken during the daytime.	Site observations	3	3	No recommendations.	-
Expansion of the Storm Water Dam North: Heritage							
The area on which the site will be extended was occupied by the	In the event that heritage artefacts or graves are encountered during the excavation activities, all activities must cease and the SAHRA should be	The Licence Holder is aware of this condition. No heritage remains have been encountered during the construction activities.	Site observations	T/N	T/N	It is recommended that a heritage finds procedures be developed for the	SEHQ Department



			Observations	Actual score	Max score	Recommendations	Responsibility
Beeshoek Village. The village has subsequently been demolished. The possibility for subsurface artefacts should always be considered in any construction activity -Excavation of strata.	contacted to determine the way forward before construction may continue.					mine as the area is rich in heritage and cultural resources and finds.	
Expansion of the Storm Water Dam North: Groundwater							
Contamination of groundwater resources due to hydrocarbon spills. -Release of Contaminated Material.	Clean and Dirty water separation systems should be incorporated in terms of the 2016 SWMP.	The Storm Water Dam North is a critical component of the Storm Water Management Plan and is implemented to give effect to this requirement.	Storm Water Management Plan, 2016 WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018)	Dup	Dup	No further recommendations.	-
	Vehicles must be well maintained.	No areas of concern were observed around the Storm Water Dam North.	Site observations	Dup	Dup	No further recommendations.	-
	All used oils must be removed from site by a licensed company and disposed of at a suitably licensed site	<p>Overall general waste and environmental management at the Storm Water Dam North can be commended, with no areas of concern observed. All areas are clearly demarcated, and waste management practices are in place.</p> <p>When considering the overall integrated Waste Management Procedure implemented at the mine, the following was found: A waste management strategy is in place on site, with three (3) Waste Management Procedures available on site, of which the last two procedures listed below are still in draft format: * Waste Management Procedure; * Waste Management Service Provider Procedure; and * Landfill Site Management Procedure.</p> <p>All used oils are removed by Olegra to PPC Lime Acres. According to an assessment at a neighbouring mine this facility is permitted (Lime Acres AEL Licence: 23/4/2/58). This permit is not available at Beeshoek Mine.</p> <p>The following key observed were made: * Olegra is registered as an accredited Oil Collector by the ROSE Foundation with the Registration No: RF025171. Note that this registration will lapse at the end of August 2019.</p>	<p>Waste Management Service Provider Procedure Version 1.9 (draft)</p> <p>Landfill Site Management Procedure (draft)</p> <p>Waste Management Procedure dated 5 June 2018 Version 1.9</p> <p>Site observations</p> <p>Waste Management Procedure: Ref SP_TEC_21022017_11908 Version 2, 21 February 2017</p> <p>Olegra oil collector registration, Ref: RF025171, valid until 31 August 2019</p> <p>PPC Lime oil processor registration, Ref: RF025185, valid until 31 August 2019</p>	Dup	Dup	No recommendations.	-



			Observations	Actual score	Max score	Recommendations	Responsibility
		* PPC is registered as an accredited Oil Processor by the ROSE Foundation with the Registration No: RF025185. Note that this registration will lapse at the end of August 2019.					
	Any spills occurring during the collection process must be cleaned up immediately	The Licence Holder is aware of this condition. During the site visit no areas of concern were observed around the Storm Water Dam North.	Site observations	Dup	Dup	No recommendations.	-
	Any significant spills must be captured in the incident reports and must be reported to the relevant department (NCDENC, WUA, CMA, and DWS).	The Licence Holder is aware of this condition. During the site visit no areas of concern were observed around the Storm Water Dam North.	Site observations	Dup	Dup	No recommendations.	-
	A clean up procedure (i.e. Works Instruction) must be in place.	An Emergency Preparedness and Response Plan is in place; this has not been updated to include the construction and operational activities of the Storm Water Dam. This Plan was scheduled to be updated 17 August 2019. The current plan defines the following Environmental Emergencies: i. Major hydrocarbon and chemical spillage/ uncontrolled release over 1 000 litres ii. Major water leak or spillage iii. Sewage spill/ uncontrolled release over 1 000 litres iv. Flooding (pit flooding, storm water flooding, break thickener dam wall, break slime dam wall) v. Damage to protected species (fauna and flora) vi. Fires and explosions vii. Fumes and gases released from fire and explosions	Emergency Preparedness and Response Plan, Ref: SP_SIP_200222017_11649, Dated 20 February 2017	Dup	Dup	No recommendations.	-
Operational Phase							
Operation of Dirty Water Dams (PCDs & RWDs): Surface Water							
Overflow of Dams resulting in contamination of surrounding water resources. No surface water resources are in close vicinity to the mining operations and therefore such impact unlikely of occurring. -Release of Contaminated Water.	Clean and Dirty water separation systems should be incorporated in terms of the 2016 SWMP.	The Storm Water Dam North is a critical component of the Storm Water Management Plan and is implemented to give effect to this requirement.	Storm Water Management Plan, 2016 WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018)	Dup	Dup	No further recommendations.	-
	Clean and Dirty water separation systems should be maintained to give effect to GN704 Requirements.	The facility is still in construction phase. A GN704 audit has been undertaken as part of this 2019 Environmental Audit. However, the Storm Water Dam North will only form part of this assessment once operational. Currently the facility is being constructed in line with the approved designs.	WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018) Design 2932-C, April 2017	T/N	T/N	No further recommendations.	-
	All dirty water collection dams should allow for the required storage capacity taking into account a 1:50 year flood and also a minimum freeboard of 0.8 above full capacity.	The facility is still in construction phase. Currently the facility is being constructed in line with the approved designs.	WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018) Design 2932-C, April 2017	T/N	T/N	No further recommendations.	-
	Surface water monitoring must continue in accordance with the approved WUL.	According to the latest water quality report by Aquatico for April 2019 the current Beeshoek Mine Water Monitoring Programme consists of two major	WUL, 2018 Aquatico Water Monitoring Report, April 2019	Dup	Dup	No further recommendations.	-



			Observations	Actual score	Max score	Recommendations	Responsibility
		<p>components of monitoring:</p> <p>1. Surface water monitoring – Monthly frequency</p> <p>2. Groundwater monitoring – Quarterly frequency</p> <p>The WUL makes no specific requirements for surface water monitoring. The current surface monitoring network comprises of the following: Potable water (6 localities) and Process water (2 localities), while the groundwater monitoring consists of 11 monitoring boreholes. All samples are analysed by Aquatico, a SANAS Accredited Testing Laboratory, No T0685.</p>					
	Level metres must be available at each of the dirty dams, to ensure that a proactive approach can be taken when the levels are reaching capacity.	The facility is still under construction.	Site observations	T/N	T/N	It is important that level meters be implemented once the Storm Water Dam North has been constructed.	Engineering Department.
	The water balance must be updated annually, with a strong focus on improving the management of the internal water circuit on site.	Compliant. The Water Balance was developed for the WUL Application and was submitted during June 2018. Currently an update of the Water Balance is being developed by Ms. Irene Lea from Irene Lea Environmental and Hydrogeology cc (ILEH). A workshop is planned with the mining team (Environmental and Engineering) which was scheduled for 26 August 2019.	Summarised Water Balance, June 2018 Site observations. Email trail for Water Balance Workshop 26 August 2019	3	3	No further recommendations.	-
	The water circuit must be managed at one central location to ensure that there is integration between the plant, Slimes Dam, and general surface water needs and requirements.	The Licence Holder has been implementing various flow meters during the last few months. All meters are changed to automatic readings on a central system managed by the Engineering team. Based on the June 2019 flow meter diagram there are 41 automatic flow meters in place. Four (4) lines are equipped with manual flow meters and five (5) lines are still to be equipped with an automatic flow meter.	Water Report 2019 - June 2019 V1.3	3	3	No further recommendations.	-
	Silt traps must be implemented in accordance with the SWMP, and these must be managed regularly to ensure that the capacity of the dams is not compromised by silt built up.	The Licence Holder is currently constructing a silt trap downgradient of the Plant area to further ensure the efficiency of the Storm Water Dam North.	Site observations	3	3	No further recommendations.	-
Operation of Dirty Water Dams (PCDs & RWDs): Groundwater							
Seepage from Dirty Water Dams resulting in groundwater contamination. -Release of	All dirty water must be contained in tanks or in lined dams.	The Storm Water Dam North and associated channels are in the process of being lined.	Site observations	3	3	No further recommendations.	-
	These facilities must be inspected regularly and replaced if indications exist of leaks.	The facility is still under construction. An engineering team is however on site and is inspecting the site regularly for damage to the liner during the construction phase. The liner has been damaged as a result of fly rock from the blasting activities resulting	Site observations	3	3	No further recommendations.	-



			Observations	Actual score	Max score	Recommendations	Responsibility
Contaminated Water.		from Village Opencast Pit. In these events new liners are acquired and the liners are merged.					
	Where leaks or seepage is found, these must be inspected and fixed as soon as found.	The facility is still under construction. An engineering team is however on site and is inspecting the site regularly for damage to the liner during the construction phase. The liner has been damaged as a result of fly rock from the blasting activities resulting from Village Opencast Pit. In these events new liners are acquired and the liners are merged.	Site observations	3	3	No further recommendations.	-
	The water balance must be updated annually, with a strong focus on improving the management of the internal water circuit on site.	Compliant. The Water Balance was developed for the WUL Application and was submitted during June 2018. Currently an update of the Water balance is being developed by Ms. Irene Lea from ILEH. A workshop is planned with the mining team (Environmental and Engineering) which was scheduled for 26 August 2019.	Summarised Water Balance, June 2018 Site observations. Email trail for Water Balance Workshop 26 August 2019	Dup	Dup	No further recommendations.	-
	Record dam level readings at least weekly.	The facility is still being constructed.	Site observations.	T/N	T/N	No further recommendations.	-
	The water circuit must be managed at one central location to ensure that there is integration between the plant, Slimes Dam, and general surface water needs and requirements.	The Licence Holder has been implementing various flow meters during the last few months. All meters are changed to automatic readings on a central system managed by the Engineering team. Based on the June 2019 flow meter diagram there are 41 automatic flow meters in place. Four (4) lines are equipped with manual flow meters and five (5) lines are still to be equipped with an automatic flow meter.	Water Report 2019 - June 2019 V1.3	Dup	Dup	No further recommendations.	-
	Upstream and downstream monitoring boreholes must be available to monitor groundwater quality and to detect potential leaks from these facilities.	A detailed monitoring network is in place on site. Boreholes are present upstream and downstream of the facility.	Aquatico Water Monitoring Report, April 2019	3	3	No further recommendations.	-
	The groundwater monitoring programme must be implemented and undertaken in accordance to the approved WUL.	According to the latest water quality report by Aquatico for April 2019 the current Beeshoek Mine Water Monitoring Programme consists of two major components of monitoring: 1. Surface water monitoring – Monthly frequency 2. Groundwater monitoring – Quarterly frequency The surface monitoring network comprises of the following: Potable water (6 localities) and Process water (2 localities), while the groundwater monitoring consists of 11 monitoring boreholes. All samples are analysed by Aquatico, a SANAS Accredited Testing Laboratory, No T0685.	Aquatico Water Monitoring Report, April 2019	3	3	A monitoring network should be developed based on the WUL required studies and be submitted to the DWS for approval.	-
Hydrocarbon spills within the Mining Area: Groundwater							
Large scale hydrocarbon spills could be present at	Clean and Dirty water separation systems should be incorporated in terms of the 2016 SWMP.	The Storm Water Dam North is a critical component of the Storm Water Management Plan and is implemented to give effect to this requirement.	Storm Water Management Plan, 2016 WUL 2018, Reference	Dup	Dup	No further recommendations.	-



			Observations	Actual score	Max score	Recommendations	Responsibility	
the mining area -Spill and Release of Waste Material			10/D73A/ABGJ/2592 (21 August 2018)					
		Overall general waste and environmental management at the Storm Water Dam North can be commended, with no areas of concern observed. All areas are clearly demarcated, and waste management practices are in place. When considering the overall integrated Waste Management Procedure implemented at the mine, the following was found: A waste management strategy is in place on site, with three (3) Waste Management Procedures available on site, of which the last two procedures listed below are still in draft format: * Waste Management Procedure; * Waste Management Service Provider Procedure; and * Landfill Site Management Procedure. All used oils are removed by Olegra to PPC Lime Acres. According to an assessment at a neighbouring mine this facility is permitted (Lime Acres AEL Licence: 23/4/2/58). This permit is not available at Beeshoek Mine. The following key observed were made: * Olegra is registered as an accredited Oil Collector by the ROSE Foundation with the Registration No: RF025171. Note that this registration will lapse at the end of August 2019. * PPC is registered as an accredited Oil Processor by the ROSE Foundation with the Registration No: RF025185. Note that this registration will lapse at the end of August 2019.		Waste Management Service Provider Procedure Version 1.9 (draft) Landfill Site Management Procedure (draft) Waste Management Procedure dated 5 June 2018 Version 1.9 Site observations Waste Management Procedure: Ref SP_TEC_21022017_11908 Version 2, 21 February 2017 Olegra oil collector registration, Ref: RF025171, valid until 31 August 2019 PPC Lime oil processor registration, Ref: RF025185, valid until 31 August 2019	Dup	Dup	No recommendations.	-
	All used oils must be removed from site by a licensed company and disposed of at a suitably licensed site							
	Any spills occurring during the collection process must be cleaned up immediately.	The Licence Holder is aware of this condition. During the site visit no areas of concern were observed around the Storm Water Dam North.	Site observations	Dup	Dup	No recommendations.	-	
	Any significant spills must be captured in the incident reports and must be reported to the relevant department (NCDENC, WUA, CMA, DWS).	The Licence Holder is aware of this condition. During the site visit no areas of concern were observed around the Storm Water Dam North.	Site observations	Dup	Dup	No recommendations.	-	
A clean up procedure (i.e. Works Instruction) must be in place.	An Emergency Preparedness and Response Plan is in place; this has not been updated to include the construction and operational activities of the Storm Water Dam. This Plan was scheduled to be updated 17 August 2019. The current plan defines the following Environmental Emergencies:	Emergency Preparedness and Response Plan, Ref: SP_SIP_20022017_11649, Dated 20 February 2017	Dup	Dup	No recommendations.	-		



			Observations	Actual score	Max score	Recommendations	Responsibility
			<ul style="list-style-type: none"> i. Major hydrocarbon and chemical spillage/ uncontrolled release over 1 000 litres ii. Major water leak or spillage iii. Sewage spill/ uncontrolled release over 1 000 litres iv. Flooding (pit flooding, storm water flooding, break thickener dam wall, break slime dam wall) v. Damage to protected species (fauna and flora) vi. Fires and explosions vii. Fumes and gases released from fire and explosions 				
Hydrocarbon spills within the Mining Area: Surface Water							
Contamination of surface water resources. There are no surface water resources in the area, however, the natural runoff, which must be managed internally on site could become impacted -Spill and Release of Waste Material and Contaminated Water.	Clean and Dirty water separation systems should be incorporated in terms of the 2016 SWMP.	The Storm Water Dam North is a critical component of the Storm Water Management Plan and is implemented to give effect to this requirement.	Storm Water Management Plan, 2016 WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018)	Dup	Dup	No further recommendations.	-
	All used oils must be removed from site by a licensed company and disposed of at a suitably licensed site	<p>Overall general waste and environmental management at the Storm Water Dam North can be commended, with no areas of concern observed. All areas are clearly demarcated, and waste management practices are in place.</p> <p>When considering the overall integrated Waste Management Procedure implemented at the mine, the following was found: A waste management strategy is in place on site, with three (3) Waste Management Procedures available on site, of which the last two procedures listed below are still in draft format: * Waste Management Procedure; * Waste Management Service Provider Procedure; and * Landfill Site Management Procedure.</p> <p>All used oils are removed by Olegra to PPC Lime Acres. According to an assessment at a neighbouring mine this facility is permitted (Lime Acres AEL Licence: 23/4/2/58). This permit is not available at Beeshoek Mine.</p> <p>The following key observed were made: * Olegra is registered as an accredited Oil Collector by the ROSE Foundation with the Registration No: RF025171. Note that this registration will lapse at the end of August 2019. * PPC is registered as an accredited Oil Processor by the ROSE Foundation with the Registration No:</p>	<p>Waste Management Service Provider Procedure Version 1.9 (draft)</p> <p>Landfill Site Management Procedure (draft)</p> <p>Waste Management Procedure dated 5 June 2018 Version 1.9</p> <p>Site observations</p> <p>Waste Management Procedure: Ref SP_TEC_21022017_11908 Version 2, 21 February 2017</p> <p>Olegra oil collector registration, Ref: RF025171, valid until 31 August 2019</p> <p>PPC Lime oil processor registration, Ref: RF025185, valid until 31 August 2019</p>	Dup	Dup	No recommendations.	-



BEESHOEK IRON ORE MINE 2019 EMPR ENVIRONMENTAL AUDIT

Departmental Ref: NC 30/5/1/2/3/2/1/223EM

Project Ref: 21912

Version: Final

			Observations	Actual score	Max score	Recommendations	Responsibility
		RF025185. Note that this registration will lapse at the end of August 2019.					
	Any spills occurring during the collection process must be cleaned up immediately.	The Licence Holder is aware of this condition. During the site visit no areas of concern were observed around the Storm Water Dam North.	Site observations	Dup	Dup	No recommendations.	-
	Any significant spills must be captured in the incident reports and must be reported to the relevant department (NCDENC, WUA, CMA, DWS).	The Licence Holder is aware of this condition. During the site visit no areas of concern were observed around the Storm Water Dam North.	Site observations	Dup	Dup	No recommendations.	-
	A clean up procedure (i.e. Works Instruction) must be in place.	An Emergency Preparedness and Response Plan is in place; this has not been updated to include the construction and operational activities of the Storm Water Dam. This Plan was scheduled to be updated 17 August 2019. The current plan defines the following Environmental Emergencies: i. Major hydrocarbon and chemical spillage/ uncontrolled release over 1 000 litres ii. Major water leak or spillage iii. Sewage spill/ uncontrolled release over 1 000 litres iv. Flooding (pit flooding, storm water flooding, break thickener dam wall, break slime dam wall) v. Damage to protected species (fauna and flora) vi. Fires and explosions vii. Fumes and gases released from fire and explosions	Emergency Preparedness and Response Plan, Ref: SP_SIP_200222017_11649, Dated 20 February 2017	Dup	Dup	No recommendations.	-
Waste Management: Groundwater							
	Clean and Dirty water separation systems should be incorporated in terms of the 2016 SWMP.	The Storm Water Dam North is a critical component of the Storm Water Management Plan and is implemented to give effect to this requirement.	Storm Water Management Plan, 2016 WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018)	Dup	Dup	No further recommendations.	-
Handling or Hazardous Waste within workshops and general mine area -Spill and Release of Waste Material and Contaminated Water.	Waste management training must be implemented on site.	Awareness flashes (talk topics) are undertaken monthly, which includes topics such as water. Other means of awareness and responsibility creation include the following meetings which are scheduled to communicate aspects regarding management, environment, engineering, mining, safety and hygiene on site: * Weekly awareness flashes (regarded as training); * SHEQ Meetings - comprising of mining teams, supervisors, trade unions, etc. (monthly); * SHEQ Meetings - comprising of the Safety, Health, Environmental and Quality Departments (monthly); * SHEQ/ GM Meetings - comprising of the GM and the SHEQ Department (weekly); and * Contractor SHEQ Meetings - comprising of the contractors (such as Interwaste, Lenfield, Booysen	Site observations	3	3	No further recommendations.	-



			Observations	Actual score	Max score	Recommendations	Responsibility
		Bore, etc); and the Environmental Department (monthly).					
	Clear signs informing staff of waste management practices must be implemented on site.	Compliant. Waste management infrastructure and signage on site is visually well placed.	Site observations.	3	3	No further recommendations.	-
	Hazardous waste handling should only take place within bunded and/or lined areas.	<p>Overall the mine is effectively managing hazardous wastes. Bund walls for hazardous waste containment has been surveyed and each bund is labelled in terms of its capacity.</p> <p>During the site visit the following observations were made in terms of areas where hazardous waste are handled and or temporary stored:</p> <ul style="list-style-type: none"> • Lenfield Temporary Vehicle Parking: This area is not a demarcated area for vehicle servicing and no infrastructure is present to contain spills. Hydrocarbon spill were present. • Booyesen Bore Laydown Area: This area is not a demarcated area for vehicle servicing and no infrastructure is present to contain spills. The area is also used for minor vehicle maintenance as the formal workshop is offsite. A large presence of hydrocarbon spills was observed – after this was pointed out, the personnel immediately started with clean up processes. • South Mine Engineering/ Crusher Workshop: 1) The hazardous waste skip has covers but is not closed, and are also not located in bunded areas. If covers are not utilised, overspills can occur outside of contained areas. 2) Crusher slings which are contaminated with hydrocarbons are stored uncontained in various areas within this workshop area. Some are stored on wooden pallets, but not contained and could lead to pollution. • South Mine Contaminated Soil Sump: Overfull with spills outside of the contained area. • South Mine Primary Crusher: Hydraulic oil bund – spills on the outside of the bunded area and also presence of spills over the sides of the bund wall. This area is not contained, but any spills will fall to the lower levels where the conveyor exists the crusher. This area is contained with a sump present. • South Bulk Diesel Storage Area: 1) On the outlet side of the bunded areas drip trays (full) were stored in uncontained areas. 2) Various spills were present in this area on unsurfaced areas – according to the site interviews this could be due to the water truck 	Site observations.	1	3	All areas where hazardous waste or materials are handled should be contained.	SHEQ Department.



			Observations	Actual score	Max score	Recommendations	Responsibility
		<p>spraying hydrocarbons from the surfaced areas - however this unlikely when considering the spill, more likely to be a drip tray which toppled over. It is recommended that the surfaced area in this vicinity be extended towards the bunded area and sloped towards the existing grid/sump area.</p> <ul style="list-style-type: none"> • South Old Oil Storage: As per the previous audit, the outlet pipe where old oils are pumped from the tanks is not located in a bunded area, and the presence of spills were observed. A bunded area should be constructed around this area. • North Primary Crusher Workshop: 1) Hazardous waste skips are not covered although lids are present. The skips are not optimally used as waste is not pushed to the centre of the skip, creating the sense of overfilling on the sides. Some hydrocarbon spills are present around the skips. 2) Various oil (Total) drums present in this area, but not located in bunded areas. 3) Bunded areas are available in this area but not used. • Sculpting, buffing and screening area: Bund wall is broken (hole therein) to allow water to discharge through an informal channel (unlined) towards a downgradient sump. • The Wash and Screen sump receives water from the downgradient settlers. This sump is not formally bunded and highly silted. It is not clear whether the pump can operate with the volume of silt present. Leaks from the upgradient valves are present and also reporting water to this sump area. • Jig Maintenance Workshop: 1) Bunds in this area are overused, with spills around this area. 2) The bund wall indicates seepage which is an integrity concern; the area may need to be waterproofed from the inside. • Salvage Yard: 1) A surfaced area for skips has been constructed. 2) A plan is in place to undertake formal sorting in this area – space for such separation will have to be created. 3) At the roofed bunded area, some diesel drums are stored on drum carriers but outside the contained area. 4) The furthest right bunded area surface area is broken with paint containers stored in this area. 5) The overall area in the centre indicates some haphazard storage, but is overall in good condition. • North TMM Workshop: A circular area is present on the eastern portion of the workshop (east of the skips) which is not surfaced. Breakdown vehicles and a diesel 					

			Observations	Actual score	Max score	Recommendations	Responsibility
		tank are stored here, and spills are present. At the tank the use of absorbents was present.					
		A waste management strategy is in place on site.					
		All hazardous material is removed to Holfontein by Interwaste.	Site observations				
		All used oils are removed by Olegra to PPC Lime Acres. According to an assessment at a neighbouring mine this facility is permitted (Lime Acres AEL Licence: 23/4/2/58). This permit is not available at Beeshoek Mine.	Waste Management Procedure: Ref SP_TEC_21022017_11908 Version 2, 21 February 2017				
		The following key observations were made: * Interwaste GLB+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (December 2012). The original WML was issued on 20 November 2011. Condition 3.1(h) of the WML states that the WML must be renewed within a period for four years from the date of issue (no proof thereof is available). * Interwaste Germiston Depot H:H Waste Storage and Treatment Facility. This permit is still valid. * Interwaste Waste Transporter of General and Hazardous Waste. This permit is still valid. * Integrated Environmental Authorisation for Interwaste facility - Klinkerstene Ref: 17/04/A18/MP311/10/01 for the GLB+ class waste facility. Condition 5.12.10 of this Environmental Authorisation states that the Environmental Authorisation is valid for a period of 30 years and the holder must initiate a review process 5 years from the date of issue (27 May 2013). No proof that the review process has been initiated by the supplier is available on record to ensure the mine's duty of care. * Olegra is registered as an accredited Oil Collector by the ROSE Foundation with the Registration No. RF02517. Note that this registration will lapse at the end of August 2019. * PPC is registered as an accredited Oil Processor by the ROSE Foundation with the Registration No. RF 025185. Note that this registration will lapse at the end of August 2019.	GLB+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (November 2011 and December 2012) Interwaste Germiston Depot H:H Waste Storage and Treatment Facility, Ref: 12/9/11/P/P99, dated 16 March 2009 Interwaste Waste Transporter Registration Ref: GPT-00-030 (valid until 3 May 2020) Integrated Environmental Authorisation for Interwaste facility - Klinkerstene Ref: 17/04/A18/MP311/10/01 for the GLB+ class waste facility, dated 27 May 2013 Olegra Oil collector registration, Ref RF025171, valid until 31 August 2019 PPC Lime Oil processor registration, Ref RF025185, valid until 31 August 2019	3	3	No further recommendations.	-
		Hazardous waste should be removed by a licenced removal company and taken to a suitable and licenced landfill site.					
		Documentation of removal and safe disposal must be available on site.	This information is available on site.	3	3	No further recommendations.	-



			Observations	Actual score	Max score	Recommendations	Responsibility
Handling and Storing of Domestic Waste -Spill and Release of Waste Material and Contaminated Water.	Clean and Dirty water separation systems should be incorporated in terms of the 2016 SWMP.	The Storm Water Dam North is a critical component of the Storm Water Management Plan and is implemented to give effect to this requirement.	Storm Water Management Plan, 2016 WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018)	Dup	Dup	No further recommendations.	-
	Waste management training must be implemented on site.	Awareness flashes (talk topics) are undertaken monthly, which includes topics such as water. Other means of awareness and responsibility creation include the following meetings which are scheduled to communicate aspects regarding management, environment, engineering, mining, safety and hygiene on site: * Weekly awareness flashes; * SHEQ Meetings - comprising of mining teams, supervisors, trade unions, etc. (monthly); * SHEQ Meetings - comprising of the Safety, Health, Environmental and Quality Departments (monthly); * SHEQ/ GM Meetings - comprising of the GM and the SHEQ Department (weekly); and * Contractor SHEQ Meetings - comprising of the contractors (such as Interwaste, Lenfield, Booysen Bore, etc); and the Environmental Department (monthly).	Site observations.	Dup	Dup	No further recommendations.	-
	Clear signs informing staff of waste management practices must be implemented on site.	Compliant. Waste management infrastructure and signage on site is visually well placed.	Site observations	3	3	No further recommendations.	-
	The landfill site at Beeshoek must be operated in line with the ECA license requirements and conditions.	During the site visit the Landfill Site was in good order. Interwaste removes all material from the mine to the domestic landfill site. The Landfill Site Permit states that it can receive garden waste, which is believed to be an administrative error, and should be rectified to fulfil the purposes of the mine. The mine has consulted with the Northern Cape Department of Environment and Nature Conservation (NCDENC) whereby it was agreed that the reference to "rubble" encompasses all domestic waste as well. This was confirmed by the NCDENC via email.	Email communication between the mine and the NCDENC dated 27 August 2019.Site observations.	2	3	No further recommendations.	-
	Recycling practices must be investigated and implemented on site.	Waste is separated at source, from where Interwaste removes the waste to the Salvage Yard. At the Salvage Yard further separation is undertaken from where the waste is sent to the Postmasburg Depot. The mine also makes use of the local recycling company in Postmasburg [(Tsantsabane Recycling Waste Management and Civils (June and July 2017))].	Site observations Tsantsabane Recycling Waste Management and Civils (June and July 2017)	3	3	No further recommendations.	-
	Ongoing rehabilitation of the landfill site must be undertaken, by covering and shaping the facility.	Compliant. This is being undertaken.	Site observations	3	3	No further recommendations.	-



			Observations	Actual score	Max score	Recommendations	Responsibility
	Groundwater monitoring must be undertaken in such a manner as to ensure that any potential impacts from the landfill site can be detected.	Compliant. A borehole is present specifically for the purposes of the Landfill Site (Landfill - Open Borehole).	Aquatico Water Monitoring Report, April 2019	3	3	No further recommendations.	-
Waste Management: Surface Water							
Handling of Hazardous Waste within workshops and general mine area could contaminate the dirty water storage areas. The water is then reused in the system and could have impacts on the integrity of the storm water system and also the production. -Spill and Release of Waste Material and Contaminated Water.	Clean and Dirty water separation systems should be incorporated in terms of the 2016 SWMP.	The Storm Water Dam North is a critical component of the Storm Water Management Plan and is implemented to give effect to this requirement.	Storm Water Management Plan, 2016 WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018)	Dup	Dup	No further recommendations.	-
	Waste management training must be implemented on site.	Awareness flashes (talk topics) are undertaken monthly, which includes topics such as water. Other means of awareness and responsibility creation include the following meetings which are scheduled to communicate aspects regarding management, environment, engineering, mining, safety and hygiene on site: * Weekly awareness flashes; * SHEQ Meetings - comprising of mining teams, supervisors, trade unions, etc. (monthly); * SHEQ Meetings - comprising of the Safety, Health, Environmental and Quality Departments (monthly); * SHEQ/ GM Meetings - comprising of the GM and the SHEQ Department (weekly); and * Contractor SHEQ Meetings - comprising of the contractors (such as Interwaste, Lenfield, Booyesen Bore, etc); and the Environmental Department (monthly).	Site observations.	Dup	Dup	No further recommendations.	-
	Clear signs informing staff of waste management practices must be implemented on site.	Compliant. Waste management infrastructure and signage on site is visually well placed.	Site observations	Dup	Dup	No further recommendations.	-
	Hazardous waste handling should only take place within bunded and/or lined areas.	Overall the mine is effectively managing hazardous wastes. Bund walls for hazardous waste containment has been surveyed and each bund is labelled in terms of its capacity. During the site visit the following observations were made in terms of areas where hazardous waste are handled and or temporary stored: • Lenfield Temporary Vehicle Parking: This area is not a demarcated area for vehicle servicing and no infrastructure is present to contain spills. Hydrocarbon spill were present. • Booyesen Bore Laydown Area: This area is not a demarcated area for vehicle servicing and no infrastructure is present to contain spills. The area is also used for minor vehicle maintenance as the formal workshop is offsite. A large presence of hydrocarbon	Site observations	Dup	Dup	Areas where hazardous waste or materials are handled should be contained.	Engineering Department.



			Observations	Actual score	Max score	Recommendations	Responsibility
		<p>spills was observed – after this was pointed out, the personnel immediately started with clean up processes.</p> <ul style="list-style-type: none"> • South Mine Engineering/ Crusher Workshop: 1) The hazardous waste skip has covers but is not closed, and are also not located in bunded areas. If covers are not utilised, over spills can occur outside of contained areas. 2) Crusher slings which are contaminated with hydrocarbons are stored uncontained in various areas within this workshop area. Some are stored on wooden pallets, but not contained and could lead to pollution. • South Mine Contaminated Soil Sump: Overfull with spills outside of the contained area. • South Mine Primary Crusher: Hydraulic oil bund – spills on the outside of the bunded area and also presence of spills over the sides of the bund wall. This area is not contained, but any spills will fall to the lower levels where the conveyor exists the crusher. This area is contained with a sump present. • South Bulk Diesel Storage Area: 1) On the outlet side of the bunded areas drip trays (full) were stored in uncontained areas. 2) Various spills were present in this area on unsurfaced areas – according to the site interviews this could be due to the water truck spraying hydrocarbons from the surfaced areas - however this unlikely when considering the spill, more likely to be a drip tray which toppled over. It is recommended that the surfaced area in this vicinity be extended towards the bunded area and sloped towards the existing grid/sump area. • South Old Oil Storage: As per the previous audit, the outlet pipe where old oils are pumped from the tanks is not located in a bunded area, and the presence of spills were observed. A bunded area should be constructed around this area. • North Primary Crusher Workshop: 1) Hazardous waste skips are not covered although lids are present. The skips are not optimally used as waste is not pushed to the centre of the skip, creating the sense of overfilling on the sides. Some hydrocarbon spills are present around the skips. 2) Various oil (Total) drums present in this area, but not located in bunded areas. 3) Bunded areas are available in this area but not used. • Sculpting, buffing and screening area: Bund wall is broken (hole therein) to allow water to discharge 					

			Observations	Actual score	Max score	Recommendations	Responsibility
		<p>through an informal channel (unlined) towards a downgradient sump.</p> <ul style="list-style-type: none"> • The Wash and Screen sump receives water from the downgradient settlers. This sump is not formally bunded and highly silted. It is not clear whether the pump can operate with the volume of silt present. Leaks from the upgradient valves are present and also reporting water to this sump area. • Jig Maintenance Workshop: 1) Bunds in this area are overused, with spills around this area. 2) The bund wall indicates seepage which is an integrity concern; the area may need to be waterproofed from the inside. • Salvage Yard: 1) A surfaced area for skips has been constructed. 2) A plan is in place to undertake formal sorting in this area – space for such separation will have to be created. 3) At the roofed bunded area, some diesel drums are stored on drum carriers but outside the contained area. 4) The furthest right bunded area surface area is broken with paint containers stored in this area. 5) The overall area in the centre indicates some haphazard storage, but is overall in good condition. • North TMM Workshop: A circular area is present on the eastern portion of the workshop (east of the skips) which is not surfaced. Breakdown vehicles and a diesel tank are stored here, and spills are present. At the tank the use of absorbents was present. 					
	<p>Hazardous waste should be removed by a licenced removal company and taken to a suitable and licenced landfill site.</p>	<p>A waste management strategy is in place on site.</p> <p>All hazardous material is removed to Holfontein by Interwaste.</p> <p>All used oils are removed by Olegra to PPC Lime Acres. According to an assessment at a neighbouring mine this facility is permitted (Lime Acres AEL Licence: 23/4/2/58). This permit is not available at Beeshoek Mine.</p> <p>The following key observations were made: * Interwaste GLB+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (December 2012). The original WML was issued on 20 November 2011. Condition 3.1(h) of the WML states that the WML must be renewed within a period for four years from the date of issue (no proof thereof is available).</p>	<p>Site observations</p> <p>Waste Management Procedure: Ref SP_TEC_21022017_11908 Version 2, 21 February 2017</p> <p>GLB+ Landfill Site WML (FG Landfill Site) (original and amendment): Reference Gaut 006/12-13/W0003 (November 2011) and (December 2012)</p> <p>Interwaste Germiston Depot H:H Waste Storage and Treatment Facility, Ref: 12/9/11/P/P99, dated 16 March 2009</p>	Dup	Dup	No further recommendations.	-



			Observations	Actual score	Max score	Recommendations	Responsibility
		<p>* Interwaste Germiston Depot H:H Waste Storage and Treatment Facility. This permit is still valid.</p> <p>* Interwaste Waste Transporter of General and Hazardous Waste. This permit is still valid.</p> <p>* Integrated Environmental Authorisation for Interwaste facility - Klinkerstene Ref: 17/04/A18/MP311/10/01 for the GLB+ class waste facility. Condition 5.12.10 of this Environmental Authorisation states that the Environmental Authorisation is valid for a period of 30 years and the holder must initiate a review process 5 years from the date of issue (27 May 2013). No proof that the review process has been initiated by the supplier is available on record to ensure the mine's duty of care.</p> <p>* Olegra is registered as an accredited Oil Collector by the ROSE Foundation with the Registration No. RF025171. Note that this registration will lapse at the end of August 2019.</p> <p>* PPC is registered as an accredited Oil Processor by the ROSE Foundation with the Registration No. RF 025185. Note that this registration will lapse at the end of August 2019.</p>	<p>Interwaste Waste Transporter Registration Ref: GPT-00-030 (valid until 3 May 2020)</p> <p>Integrated Environmental Authorisation for Interwaste facility - Klinkerstene Ref: 17/04/A18/MP311/10/01 for the GLB+ class waste facility, dated 27 May 2013</p> <p>Olegra oil collector registration, Ref: RF025171, valid until 31 August 2019</p> <p>PPC Lime oil processor registration, Ref: RF025185, valid until 31 August 2019</p>				
	Documentation of removal and safe disposal must be available on site.	This information is available on site.	Site observations	Dup	Dup	No further recommendations.	-
	Weekly inspections of Storm Water Management Systems must be undertaken. Any blockages or maintenance requirements must be documented, and an action plan developed.	Compliant. The Engineering Department conducts weekly inspections on the facility. The engineering team was observed on site during the site visit.	Site observations	3	3	No recommendations.	-
Handling and Storing of Domestic Waste should have no impact on the surface water resources due to the location of the facility. However, incorrect disposal of waste could hamper the integrity of the storm water system. -Spill and Release of Waste Material and Contaminated Water.	Clean and Dirty water separation systems should be incorporated in terms of the 2016 SWMP.	The Storm Water Dam North is a critical component of the Storm Water Management Plan which is implemented to give effect to this requirement.	Storm Water Management Plan, 2016 WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018)	Dup	Dup	No further recommendations.	-
	Waste management training must be implemented on site.	<p>Awareness flashes (talk topics) are undertaken monthly, which includes topics such as water. Other means of awareness and responsibility creation include the following meetings which are scheduled to communicate aspects regarding management, environment, engineering, mining, safety and hygiene on site:</p> <ul style="list-style-type: none"> * Weekly awareness flashes; * SHEQ Meetings - comprising of mining teams, supervisors, trade unions, etc. (monthly); * SHEQ Meetings - comprising of the Safety, Health, Environmental and Quality Departments (monthly); * SHEQ/ GM Meetings - comprising of the GM and the 	Site observations	Dup	Dup	No further recommendations.	-



BEESHOEK IRON ORE MINE 2019 EMPR ENVIRONMENTAL AUDIT

Departmental Ref: NC 30/5/1/2/3/2/1/223EM

Project Ref: 21912

Version: Final

			Observations	Actual score	Max score	Recommendations	Responsibility
			SHEQ Department (weekly); and * Contractor SHEQ Meetings - comprising of the contractors (such as Interwaste, Lenfield, Booysen Bore, etc) and the Environmental Department (monthly).				
	Weekly inspections of Storm Water Management Systems must be undertaken. Any blockages or maintenance requirements must be documented, and an action plan developed.	Compliant. The Engineering Department conducts weekly inspections on the facility. The engineering team was observed on site during the site visit.	Site observations	3	3	No recommendations.	-
	Clear signs informing staff of waste management practices must be implemented on site.	Compliant. Waste management infrastructure and signage on site is visually well placed.	Site observations	Dup	Dup	No further recommendations.	-
	The landfill site at Beeshoek must be operated in line with the ECA license requirements and conditions.	During the site visit the Landfill Site was in good order. Interwaste removes all material from the mine to the domestic landfill site. The Landfill Site Permit states that it can receive garden waste, which is believed to be an administrative error, and should be rectified to fulfil the purposes of the mine. The mine has consulted with the Northern Cape Department of Environment and Nature Conservation (NCDENC) whereby it was agreed that the reference to "rubble" encompasses all domestic waste as well. This was confirmed by the NCDENC via email.	Email communication between the mine and the NCDENC dated 27 August 2019. Site observations	Dup	Dup	No further recommendations.	-
	Access control must be strictly enforced.	Compliant.	Site observations	3	3	No further recommendations.	-
	The berm around upstream of the facility must be maintained.	Compliant.	Site observations	3	3	No further recommendations.	-
	Recycling practices must be investigated and implemented on site.	Waste is separated at source, from where Interwaste removes the waste to the Salvage Yard. At the Salvage Yard further separation is undertaken from where the waste is sent to the Postmasburg Depot. The mine also makes use of the local recycling company in Postmasburg [(Tsantsabane Recycling Waste Management and Civils (June and July 2017))].	Site observations Tsantsabane Recycling Waste Management and Civils (June and July 2017)	Dup	Dup	No further recommendations.	-
	Ongoing rehabilitation of the landfill site must be undertaken, by covering and shaping the facility.	Compliant. This is being undertaken.	Site observations	Dup	Dup	No further recommendations.	-
	Groundwater monitoring must be undertaken in such a manner as to ensure that any potential impacts from the landfill site can be detected.	Compliant. A borehole is present specifically for the purposes of the landfill site (Landfill - Open Borehole).	Aquatico Water Monitoring Report, April 2019	Dup	Dup	No further recommendations.	-
Decommissioning and Closure Phase							
Legal Requirements (Environmental Permits): South Africa Enviro-Legal Requirements							
Unlawful activities could lead to NWA Directives and Section 24G Rectification fines. -Legal Compliance.	A legal assessment of all Water Uses must be undertaken annually to ensure that all Water Uses are licensed.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	A detailed closure plan must be developed and submitted to the relevant departments for approval.	The Licence Holder is undertaking Annual Financial Provision Assessments which includes Annual Rehabilitation Plans. In addition to this, the Licence	Site observations Annual Mine Closure Reports Proof of submission, June	T/N	T/N	The rehabilitation of remaining disturbed areas around the	SHEQ Department



			Observations	Actual score	Max score	Recommendations	Responsibility
		Holder is also submitting quarterly rehabilitation progress reports to the DMR.	2019 Quarterly Rehab Progress Report Proof of Submission, March 2019			Storm Water Dam North, must be undertaken once construction activities have concluded.	
	All legally appointed personnel responsible or involved in water use activities on site must receive training on the requirements of the WUL.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Quarterly internal audits must be undertaken on the lawful implementation of the WUL.	The 2018 WUL requires that the Licence Holder shall conduct an annual internal audit on compliance with the conditions of licence. A report on the audit shall be submitted to the Provincial Head within one month of finalization. The condition in the EMP is therefore in contradiction to the WUL requirements.	WUL 2018, Reference 10/D73A/ABGJ/2592 (21 August 2018)	Dup	Dup	This condition is in contradiction to the WUL requirements. As the DWS is the competent authority for the enforcement of the WUL and associated requirements, it is recommended that this condition be amended. This amendment will be a Regulation 29 Part 1 amendment. The Licence Holder is currently in progress of undertaking and EIA Process for the amendment of various activities on site and the implementation of new activities. This Part 1 amendment should be included in this process.	SHEQ Department
	Water Use Licence must be available on site at all times.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	The legal register must be updated to indicate all updated water uses.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
Rehabilitation of the Dirty Water Dams and other Building Infrastructure: Surface Water							
Decommissioning and removal of facilities could lead to the impact of runoff on site.	No water may be discharged into watercourses, if this water has not been treated to the correct quality OR if approval from the DWS for such activity has not been obtained. An alternative, would be to evaporate the water from these facilities	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department



			Observations	Actual score	Max score	Recommendations	Responsibility
-Spill and Release of Waste Material and Contaminated Water.	Once the dams are empty, any silt remaining in the dams should be disposed of on the lined Slimes Dam after chemical analysis proofs that the quality of the silt is in line with the disposal qualities in the approved WUL. If this is not the case the silt will either have to be treated, or disposed of at a licensed facility.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	The dams should be demolished, and the liner and rubble should be classified to determine the type of landfill site suitable to cater for this material.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
Rehabilitation of the Dirty Water Dams and other Building Infrastructure: Groundwater							
Decommissioning and removal of facilities could lead to the infiltration of dirty water to groundwater resources. -Spill and Release of Waste Material and Contaminated Water.	No water may be discharged into watercourses, if this water has not been treated to the correct quality OR if approval from the DWS for such activity has not been obtained.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Once the dams are empty, any silt remaining in the dams should be disposed of on the lined Slimes Dam.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	The dams should be demolished, and the liner and rubble should be classified to determine the type of landfill site suitable to cater for this material.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Groundwater monitoring must continue up until closure is obtained.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
Rehabilitation of the Dirty Water Dams and other Building Infrastructure: Ecology							
Presence of invader species could impact on the natural succession of vegetation on the rehabilitated areas. -Establishment of Infrastructure. Presence of Human Activities.	A weed eradication programme must be implemented on site and enforced. This programme must stipulate the monitoring plan, which should include capturing of areas where invader species are present; action plan to remove these; % successful removal).	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
Rehabilitation of the Dirty Water Dams and other Building Infrastructure: Soil and Land Uses							
The placement of topsoil as part of the rehabilitation programme must be undertaken a manner to protect the integrity of these resources. Incorrect placement and management could result in the loss of soil resources for rehabilitation.	Topsoil must be place in line with an approved rehabilitation programme.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	The rehabilitated areas should be demarcated to prohibit access to these sites until vegetation establishment has succeeded.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Chemical analysis must be imitated to determine the fertilisation and/or amelioration requirements if any.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Any signs of erosion must be rehabilitated immediately.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department



			Observations	Actual score	Max score	Recommendations	Responsibility
-Replacement of Topsoil.							
The rehabilitation activities will ensure that the area be rehabilitated to its final land use. -Replacement of Topsoil.	All compacted areas must be ripped.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Topsoil must be place in line with an approved rehabilitation programme.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	The rehabilitated areas should be demarcated to prohibit access to these sites until vegetation establishment has succeeded.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Weekly inspections of the rehabilitation activities must be undertaken.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Storm Water Management Systems must remain in place up until rehabilitating in that area has succeeded.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	A detailed rehabilitation programme must be implemented and audited.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
Contamination of soil resources due to hydrocarbon spills. -Spill and Release of Waste Material and Contaminated Water.	Clean and Dirty water separation systems should be incorporated in terms of the 2016 SWMP.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	It is recommended that this condition be amended in the Regulation 29 Amendment currently planned as a Part 1 amendment, to allow the Licence Holder to update the Storm Water Management Plan as the mine develops. The Storm Water Management practices must then be implemented as approved in the WUL and subsequent NEMA EIA Regulations (where applicable).	SHEQ Department
	Vehicles must be well maintained.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	All used oils must be removed from site by a licensed company and disposed of at a suitably licensed site	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Any spills occurring during the collection process must be cleaned up immediately.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Any significant spills must be captured in the incident reports and must be reported to the relevant department (NCDENC, WUA, CMA, DWS).	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department



			Observations	Actual score	Max score	Recommendations	Responsibility
	A clean up procedure (i.e. Works Instruction) must be in place.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
Waste Management: Groundwater							
Handling or Hazardous Waste within workshops and general mine area. -Spill and Release of Waste Material and Contaminated Water.	Clean and Dirty water separation systems should be incorporated in terms of the 2016 SWMP.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	Dup	Dup	It is recommended that this condition be amended in the Regulation 29 Amendment currently planned as a Part 1 amendment, to allow the Licence Holder to update the Storm Water Management Plan as the mine develops. The Storm Water Management practices must then be implemented as approved in the WUL and subsequent NEMA EIA Regulations (where applicable).	SHEQ Department
	Waste management training must be implemented on site.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Clear signs informing staff of waste management practices must be implemented on site.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Hazardous waste handling should only take place within bunded and/or lined areas.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Hazardous waste should be removed by a licenced removal company and taken to a suitable and licenced landfill site.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Documentation of removal and safe disposal must be available on site.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
Handling of Building Rubble -Disposal of demolished infrastructure and the potential impact on groundwater resources.	All building rubble will follow the waste hierarchy and will therefore either be sold for reuse where possible, disposed of within opencast pits (with the necessary approvals in place by the regulatory authority for the disposal of building rubble) and as a last option be disposed of at a licensed facility suitable for such waste resources.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
Handling and Storing of Domestic Waste -Spill and Release of	Clean and Dirty water separation systems should be incorporated in terms of the 2016 SWMP.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	Dup	Dup	It is recommended that this condition be amended in the	SHEQ Department



			Observations	Actual score	Max score	Recommendations	Responsibility
Waste Material and Contaminated Water.						Regulation 29 Amendment currently planned as a Part 1 amendment, to allow the Licence Holder to update the Storm Water Management Plan as the mine develops. The Storm Water Management practices must then be implemented as approved in the WUL and subsequent NEMA EIA Regulations (where applicable).	
	Waste management training must be implemented on site.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Clear signs informing staff of waste management practices must be implemented on site.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	The landfill site at Beeshoek must be operated in line with the ECA license requirements and conditions.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Recycling practices must be investigated and implemented on site.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Ongoing rehabilitation of the landfill site must be undertaken, by covering and shaping the facility.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Groundwater monitoring must be undertaken in such a manner as to ensure that any potential impacts from the landfill site can be detected.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
Waste Management: Surface Water							
Handling of Hazardous Waste within workshops and general mine area could contaminate the dirty water storage areas. The water is then reused in the system and could have impacts on the integrity of the storm water system and also the	Clean and Dirty water separation systems should be incorporated in terms of the 2016 SWMP.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	Dup	Dup	It is recommended that this condition be amended in the Regulation 29 Amendment currently planned as a Part 1 amendment, to allow the Licence Holder to update the Storm Water Management Plan as the mine develops. The Storm Water Management	SHEQ Department



			Observations	Actual score	Max score	Recommendations	Responsibility
production. -Spill and Release of Waste Material and Contaminated Water.						practices must then be implemented as approved in the WUL and subsequent NEMA EIA Regulations (where applicable).	
	Waste management training must be implemented on site.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Clear signs informing staff of waste management practices must be implemented on site.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Hazardous waste handling should only take place within bunded and/or lined areas.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Hazardous waste and contaminated materials should be removed by a licenced removal company and taken to a suitable and licenced landfill site.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Documentation of removal and safe disposal must be available on site.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Weekly inspections of Storm Water Management Systems must be undertaken. Any blockages or maintenance requirements must be documented, and an action plan developed.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
Handling and Storing of Domestic Waste should have no impact on the surface water resources due to the location of the facility. However, incorrect disposal of waste could hamper the integrity of the storm water system. - Spill and Release of Waste Material and Contaminated Water.	Clean and Dirty water separation systems should be incorporated in terms of the 2016 SWMP.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	Dup	Dup	It is recommended that this condition be amended in the Regulation 29 Amendment currently planned as a Part 1 amendment, to allow the Licence Holder to update the Storm Water Management Plan as the mine develops. The Storm Water Management practices must then be implemented as approved in the WUL and subsequent NEMA EIA Regulations (where applicable).	SHEQ Department
	Waste management training must be implemented on site.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department

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			Observations	Actual score	Max score	Recommendations	Responsibility
	Weekly inspections of Storm Water Management Systems must be undertaken. Any blockages or maintenance requirements must be documented, and an action plan developed.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Clear signs informing staff of waste management practices must be implemented on site.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	The landfill site at Beeshoek must be operated in line with the ECA license requirements and conditions.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Building rubble must be disposed of in line with the requirements of the NEM:WA	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Access control must be strictly enforced.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	The berm around upstream of the facility must be maintained.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Recycling practices must be investigated and implemented on site.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Ongoing rehabilitation of the landfill site must be undertaken, by covering and shaping the facility.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
	Groundwater monitoring must be undertaken in such a manner as to ensure that any potential impacts from the landfill site can be detected.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
Waste Management: Air Quality							
The area is located within the mining area and neighbouring the Village Opencast Pit. Dust emissions is not considered to be significant but can occur during excavation and construction activities. - Removal of topsoil.	Dust suppression should be undertaken where and when dust is present.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
Waste Management: Noise							
The area is located within the mining area and neighbouring the Village Opencast Pit. Noise impacts are not considered to be significant but can occur during excavation and	Equipment will be well maintained to reduce excessive noise creation.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department



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			Observations	Actual score	Max score	Recommendations	Responsibility
construction activities. - Removal of topsoil.							
	Activities will be restricted to the daytime.	The facility is still in its construction phase. The Licence Holder is aware of this condition.	-	T/N	T/N	To take note of.	SHEQ Department
Compliance Score				122	126	96.8%	



5 ENVIRONMENTAL AUDIT OUTCOMES

According to Appendix 7 of the 2014 NEMA EIA Regulations, the objectives of the environmental audit report are to-

- (a) report on-
 - (i) the level of compliance with the conditions of the environmental authorisation and the EMPr, and where applicable, the closure plan; and
 - (ii) the extent to which the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan achieves the objectives and outcomes of the EMPr, and closure plan.
- (b) identify and assess any new impacts and risks as a result of undertaking the activity;
- (c) evaluate the effectiveness of the EMPr, and where applicable, the closure plan;
- (d) identify shortcomings in the EMPr, and where applicable, the closure plan; and
- (e) identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan.

The following sections are provided as a very concise summary of the key observations on site and should be assessed in combination of the Environmental Audit Table presented in Section 4.

5.1 General Observations

5.1.1 Legal Status of Infrastructure on Site

In terms of the Minerals Act, Act No. 50 of 1991, an Old Order Mining Right was obtained for all mining activities on the farms Olynfontein (Portion RE), and Beesthoek (Portion RE and Portion 1), under reference number NC 5/2/2/150, dated 1 December 1993.

Because of increased production, the applicant applied for an addendum, for the "Mid-South" Section on the farm Olynfontein, which was approved by the DMR on 7 November 1997, with reference number NC 6/2/2/15. South Mine, was commissioned during 1999 on the farms of Beesthoek and Olynfontein. This mining right made provision for six opencast pits at estimated iron ore reserves of 160 million tonnes for export.

A revision to the EMP was submitted to the DMR in August 2004. The purpose of the EMP Update was:

- ☞ To enhance the format and content of the EMP in order to be better aligned it to the current standard of EMPs;
- ☞ To reflect the latest environmental related monitoring and work conducted by the mine;
- ☞ To provide better focus on closure of the mine. This specifically addresses the rehabilitation of opencast pits and mine residue dumps; and
- ☞ To outline the process to be followed to contribute to the maintenance of quality of life during the post-closure period.

The key infrastructure associated with this EMP Update was

- ☞ Six million tonnes per year opencast mining activity, producing iron ore for the local and export markets;
- ☞ The mine comprises a number of opencast pits located within the North and South Mine;
- ☞ The North Mine primarily comprised the historical mining activity, with, at that time, the new opencast pit BN; and
- ☞ The South Mine included the new and larger opencast pits and the dominant mining was conducted within this area.

The Old Order Mining Right was converted to a New Order Mining Right on 16 March 2012 (Ref: NC30/5/1//3/2/1/223EM) and an EMP Alignment Report was approved by the then Department of Minerals and Energy (DME) on 7 June 2010. The EMP Alignment Report made provision for the current Village Pit Opencast Mining Operation and demolition of the Beeshoek Village.

Subsequent to the EMP Alignment, various individual Environmental Authorisations were undertaken:

2010 EMP, for the R385 Regional Road Diversion (approved 3 May 2011). The Road Diversion was required as part of the Village Pit. The road realignment (associated with the proposed mine expansion) also required that:

- Inhabitants of Beeshoek Mine Village be moved to Postmasburg;
- Several Assmang power lines not exceeding a capacity of 22 kilovolts be relocated, one of which was located along the existing R385 road alignment;
- The telephone lines along the R385 road which impacted on a sociable weaver nesting site on a telephone pole be relocated (this was subsequently safely undertaken);
- The mine offices be moved to the North Mine;
- Telephone lines and optic fiber cables be relocated; and
- A communication tower alongside the current road in Beeshoek be relocated.

2013 Basic Assessment Application (approved 14 March 2014): This application was for the expansion of the BF WRD (now the Village WRD).

2014 Basic Assessment Application (approved 19 June 2015): The project entailed the development of a 35m wide and 1.45km long haul road from the Beeshoek Village Pit to the ROM stockpile. The haul road also formed part of the associated infrastructure for the Village WRD and was depicted on plans submitted with the 2013 Application.

2015 Basic Assessment Application (approved 10 March 2017): It was the intention of the mine to redesign the existing Storm Water Dam North (28°17'17.1"S; 23°00'07.8"E), located on Portion 1 of the farm Beesthoek, into a formally designed, lined facility currently being constructed. This existing facility comprised of a berm channelling water from the northern portions (Plant area) towards the existing dam (excavated earth). With the development of the Village Pit, the operation had to reduce the length of the berm to allow for the mining of the Village Pit.

5.1.2 Current Environmental Authorisation Processes

Regulation 54(2) of the NEMA provides that "An application submitted after the commencement of these Regulations for an amendment of an Environmental Management Programme, issued in terms of the MPRDA, must be dealt with in terms of Part 1 or Part 2 of Chapter 5 of these Regulations".

Chapter 5 presents two avenues for amendment:

Part 1, Regulation 29: "An environmental authorisation may be amended by following the process prescribed in this Part if the amendment;

- a) Will not change the scope of a valid environmental authorisation nor increase the level or nature of the impact, which impact was initially assessed and considered when the application was made for an environmental authorisation; or
- b) Relates to the change of ownership or transfer of rights and obligations".

Part 2, Regulation 31 is applicable for the amendments where a change in scope occurs.

The mine has several Environmental Authorisations in place and is currently planning to Amend the associated EMPr's as one holistic process, into an overall EMPr to allow for one document which would result in an effective management programme on site.

5.1.3 Approved Mining Activities

The following table presents the approved mining activities present on site:

Table 14: Approved Activities

Infrastructure	Description	Approved in terms of:
Roads		
Access Roads	<p>Existing Regional Road: The R385 roadway transects the Beeshoek Mine at both North and South Mines. This road has been diverted in terms of an approved Environmental Authorisation to allow for the development of the Village Opencast Pit.</p> <p>Existing Regional Road: Three roads, all originating from the R385 provide access to the mining operation, namely:</p> <ul style="list-style-type: none"> ☛ Access road to the South Mine; ☛ Access road to the Main Offices; and ☛ Access road to the Plant and North Mine. 	Permit 17/2011, 21 April 2011
Haul Roads	<p>Existing Haul Roads Due to the long lifespan of the mine, various historic roads are present on site. These have been captured on the surface layout maps of the approved MPRDA EMPs. In addition to this, the mine has constructed a new Haul Road (Village Haul Road) which has an approved NEMA Authorisation.</p>	EMP Report, August 2004 & EMP Alignment Report, July 2009 Permit 20/2015, 19 June 2015
Conveyors		
South Mine Conveyor	<p>Approved Conveyor at South Mine: From the South Mine, crushing ore is conveyed via an overland conveyor system to stockpiles at the plant area on North Mine. A single length conveyor of approximately 2.8km long is present. The conveyor crosses under the R385 and the Transnet Hotazel/ Port Elizabeth (PE) railway line before arriving at the load-off point at the Plant.</p>	EMP Report, August 2004 & EMP Alignment Report, July 2009
North Mine Conveyors	<p>Approved Conveyors at North Mine: A number of conveyors are present at the North Mine. The approximate combined length of these conveyors is 3.2km. These conveyors convey the ROM from the stockpiles to the crushing facilities and the Plant area. The discard from the Jig Plant is spread via conveyor onto the Discard Dump.</p>	EMP Report, August 2004 & EMP Alignment Report, July 2009
Railway Lines and Associated Infrastructure		
Local Siding	<p>Existing Siding: From the Plant, the product is stockpiled at the railway siding within the mining area, where one (1) railway bridge is present. The railway line is non-electrified and has an extent of approximately 11.3km.</p>	EMP Report, August 2004 & EMP Alignment Report, July 2009
Transportation Rail System	<p>Existing OREX Railway Line & Existing Hotazel/ PE Railway Line: The final product is transported via rail for local and export purposes. The local rail runs from Beeshoek through Postmasburg towards the harbour of Port Elizabeth, whereas the export rail runs from Beeshoek towards the harbour of Saldanha.</p>	EMP Report, August 2004 & EMP Alignment Report, July 2009
Power Lines		

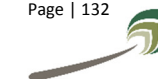
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Infrastructure	Description	Approved in terms of:
Eskom Power Lines	<p>Existing Eskom Power Lines:</p> <p>All power within the mining area is supplied by existing Eskom power lines. The mine owns 71,750m of overhead power lines and 9,887m of buried power lines. One (1) substation is present on the mine.</p>	EMP Report, August 2004 & EMP Alignment Report, July 2009
Communication Lines	Communication lines are provided by Telkom, although the mine owns 7,125m of the infrastructure.	EMP Report, August 2004 & EMP Alignment Report, July 2009
Fuel and Lubricant Storage		
Diesel and Lubricant Storage	<p>Diesel and Lubricant Storage</p> <p>The operation of the diesel generators and the additional activities on site require the storage of fuel and oil. The mine has a storage capacity of 21 days.</p> <p>All fuel is stored above-ground within designated and appropriately constructed hazardous material storage areas. The following storage areas are present on site:</p> <ul style="list-style-type: none"> ☛ South Fuel Storage Area (28°18'43.91"S; 23° 0'16.30"E). This area comprises of four (4) 80m³ diesel storage tanks with a combined capacity of 332m³; ☛ North Fuel Storage Area (28°17'2.45"S; 23° 0'0.09"E). This area comprises of five (5) storage tanks: <ul style="list-style-type: none"> ○ 1x 83 m³ – Diesel Tank ○ 1x 23 m³ – AC10W Hydraulic oil Tank ○ 1x 23 m³ – AC50 Transmission oil Tank ○ 1x 23 m³ – 15W40 CAT engine oil Tank ○ 1x 23 m³ – Waste oil Tank; ☛ Airfield has a Jet 1A fuel storage tanks (28°16'1.19"S; 22°59'27.69"E) with a capacity of 56m³; and ☛ A Portable Long-Distance Diesel tank (which does not require licensing as it is temporary and portable) has been established during 2015 with a capacity of 32m³. 	<p>North Mine Tank installation: Mine aerial photos indicate earth works already commencing on 13 December 2005.</p> <p>South Mine Tank installation: Aerial photos illustrate the presence of these tanks already constructed on 8 April 2006.</p> <p>Airfield Tank installation: Aerial photos indicate presence of the facility on 20 July 2003.</p> <p>Portable Long-Distance Tank installation: 2015.</p> <p>The diesel storage facilities are operated by Total and the Environmental Authorisation for these are held by Total under Permit Number 36/2005 in terms of the ECA.</p>
Solid Waste Management Facilities		
Industrial and Domestic Waste Disposal Sites	<p>Approved Industrial and Waste Deposal Sites:</p> <p>Industrial waste is limited to oil, diesel and grease. This waste is sold in bulk back to the manufacturers and suppliers. Unwanted waste is disposed of by a contractor at an approved industrial waste site. The old oils and hazardous material are stored at the locations as provided under the section above.</p> <p>The mine has a Salvage Yard at North Mine (28°17'11.95"S; 23°59'55.99"E).</p> <p>The mine has an approved landfill site on site to receive the general waste. The location is at 28°16'39.725"S; 22°59'40.088" E.</p>	Permit 12/9/11/P49, 30 October 2010
Contaminated Waste	<p>Approved Contaminated Waste Storage:</p> <p>Contaminated waste such as oily rags, oil filters etc. are stored in sealed drums at designated areas in the vicinity of the workshops at the Beneficiation Plant and the two opencast operations. These drums are removed by licensed waste removal services providing for disposal at a licensed site.</p> <p>The EMP does not make provision for on-site remediation of contaminated soils, only for <i>in situ</i> cleaning using spill kits.</p>	-
Tyres	<p>Tyre Waste Storage:</p> <p>Old tyres are removed from site by a contracted tyre company for recycling or disposal in an approved manner (28°16'42.17"S; 23°0'9.04"E).</p>	The tyre storage area has not yet been registered as per the Tyre Regulations.



Infrastructure	Description	Approved in terms of:
Lubrication Oils	<p>Approved Lubrication Oil Waste Storage:</p> <p>Used lubrication oils are removed from site by the fuel and lubrication contractor, for recycling and re-use. This occurs in bulk from tanks designed for this purpose. The areas surrounding the tanks containing the waste oil and the collection point are bunded.</p>	-
Topsoil Stockpiles		
Topsoil Stockpiles	<p>Due to the shallow soil cover at Beeshoek, all topsoil and subsoil has been/ will be stripped (to a minimum of 0.25m or until hard rock is reached) from the:</p> <ul style="list-style-type: none"> ☛ Opencast pits and ☛ Haul roads. <p>Two topsoil stockpiles are present on site, one at South Mine (28°19'47.37"S; 23° 0'39.49"E) and one at North Mine (28°17'0.71"S; 23° 1'24.02"E).</p>	EMP Report, August 2004 & EMP Alignment Report, July 2009
Mine Residue Deposits		
Overburden and Low-grade ROM Stockpiles	<p>Approved Mine Residue Deposits:</p> <p>Various Mine Residue Stockpiles and Deposits exist on site. Due to the historic nature of Beeshoek many of these have been constructed prior to the enactment of the listed NEMA Activities. To assess which of these have been constructed in terms of lawful footprints, surface maps submitted with past environmental authorisation applications were considered. To streamline the layout and naming of these and the ensure effective management, the following Mine Residue Facilities have been grouped together:</p> <p>North Mine:</p> <ul style="list-style-type: none"> ☛ Quartzite Stockpile; ☛ Shale Stockpile; ☛ Plant Stockpiles and In-Plant Stockpiles; ☛ Plant ROM; ☛ HH WRD; ☛ HL WRD; ☛ BIS ROM; ☛ WRD North; ☛ GF WRD; ☛ Discard Dump; ☛ B Dump ROM; and ☛ N Off-grade ROM. <p>South Mine:</p> <ul style="list-style-type: none"> ☛ Village WRD; ☛ Village ROM Stockpile; ☛ Village Off-grade ROM; ☛ West Pit WRD; ☛ South ROM; ☛ South Off-grade ROM; ☛ Contaminated Dump ROM; ☛ Contaminated Dump ROM 2; ☛ BIS ROM; and 	<p>EMP Report, August 2004 & EMP Alignment Report, July 2009</p> <p>The most recent Mine Residue Deposit is that of the Village WRD under Permit 12/2014, 7 March 2014</p>



Infrastructure	Description	Approved in terms of:
	<p> East Pit WRD.</p> <p>The heights and footprints of these facilities have not been stipulated in the EMPs and as a result the past submitted maps were used as a source to define the approved footprints. The Village Waste Rock Dump is however approved to not exceed 45m in height.</p>	
Reworking of Mine Residue Stockpiles	<p>The 2004 old order EMP stated: "Rework all contaminated iron ore stockpiles present on the mine site in order to optimise iron ore resource utilisation." Reworking relates to the following dumps: - Dumps labelled on Drawings 5540-001 and 5540-002 as CD-N1 (this is the current WRD North area) and CD-S1 (this is the current Contaminated Dump ROM on South Mine, does not include #2) respectively.</p> <p>In Section 1.7.3 of the new order (aligned) EMP, the Estimated Reserves are discussed. It states that: "Additional iron ore is available in the contaminated dumps (low grade iron ore, which could be blended with high grade or to meet future market needs) on the mine site and these will be reworked to meet the mine's remaining planned life of mine."</p>	EMP Report, August 2004 & EMP Alignment Report, July 2009
Slimes Dam		
Slimes Dam	<p>Rehabilitated Slimes Dam:</p> <p>The initial Slimes Dam, situated near the Plant at the North Mine, was rehabilitated and more capacity was required, which resulted in the current Slimes Dam.</p> <p>Current Slimes Dam:</p> <p>The slimes generated from the plant processing activities represent approximately 14-16% of ore put through the Plant. Water from the dewatering screen is pumped to a Slimes Dam, which is located on the footprints of an old opencast pit. The mud is allowed to settle, and the clear water is pumped back to the Plant.</p> <p>Ongoing upgrades to ensure efficiency will be undertaken. However, should the footprints or capacity be amendment, the mine will have to apply for a WUL, as well as the associated Environmental Authorisations.</p>	EMP Report, August 2004 & EMP Alignment Report, July 2009
Borrow Pits		
Borrow Pits	No borrow pits are present on site.	
Detrital Mining		
Detrital Area	<p>Approved Detrital Mining Activities:</p> <p>One of the mining methods utilised on the mine is the mining of detrital ore, where the deposits of ore are shallow enough to be scooped out of the ground for processing as opposed to employing more extensive opencast mining methods. There are a few of these detrital zones on the mine area which still need to be exploited.</p> <p>As part of the 2009 EMP it was stated that the mine is planning to extend its mining operations within the existing mining area to continue with its mining operation and to ensure that the available mineral reserves are mined optimally. One of the activities approved as part of the EMP was the mining of detrital ore that are available in small pockets that are easy to mine.</p> <p>The area and dimensions of the detrital areas are not indicated in the EMP, but was submitted with the approved Mining Works Programme. The only area demarcated to an extent is to the east of the South Mine Contaminated ROM Stockpiles – this area was present in all mine layouts approved by the Department of Mineral Resources (DMR) since 2009. Any expansions to the detrital mining areas will require amendment to the Environmental Authorisations, due to the size of site clearance which will be in excess of 5ha.</p>	EMP Alignment Report, July 2009
Opencast Mining		

Infrastructure	Description	Approved in terms of:
<p>Opencast Pits</p>	<p>Approved Opencast Pits:</p> <p>The iron ore deposits at Beeshoek Mine are relatively shallow, making economic opencast mining viable.</p> <p>The iron ore is exploited by means of conventional opencast mining techniques (drilling, blasting and load-haul). The drill-blast activities are contracted out, whereas load-haul is undertaken by a combination of owner and contractors' fleets.</p> <p>The vegetated soil overlying the mining area is stripped prior to mining and stockpiled on a dedicated dump to be used for rehabilitation purposes at a later stage. Then bench blocks of 10m height are drilled using drill rigs, which drill 165mm diameter blast holes. Drill patterns can be a staggered or square pattern, with burden and spacing varying from 4m x 5m in waste, to 3m x 3m in difficult ore. Blast holes are charged with emulsion explosives and different down-hole charge configurations are used depending on the different rock types to be blasted. This, together with the necessary blasting accessories, achieves optimal fragmentation. Again, as per the constraints with the Mine Residue Stockpiles, the historic natures of the Beeshoek Mine has led to the naming and renaming of opencast pits over time. For the purpose of this document and to identify the footprint areas, the surface plans submitted with the EMPs and subsequent Environmental Authorisation were used in the demarcation of the footprints.</p> <p>The blasted rock is loaded with front-end loaders and excavators into rigid haul trucks and Articulated Dump Trucks (ADTs). Ore is hauled to the Primary Crusher and ore stockpiles. Based on the grade and destined metallurgical processes, numerous iron ore stockpiles exist on Beeshoek.</p> <p>As an integral part of the mining processes, backfilling of numerous existing opencast pits will be employed in order to minimise both the final voids left at the end of mining as well as the size of waste dumps. Waste with a potential future use will be stockpiled separately in order to be accessible and ready to be processed by the future user. The following pits are authorised in terms of the WUL for backfilling purposes:</p> <ul style="list-style-type: none"> ○ HH Opencast Pit; ○ HL Opencast Pit; ○ BN Opencast Pit; ○ East Opencast Pit; ○ GK Opencast Pit; and ○ West Opencast Pit. <p>Another mining method utilised on Beeshoek Mine is the mining of detrital ore as presented before, where the deposits of ore are shallow enough to be scooped out of the ground for processing as opposed to employing more extensive opencast mining methods. There are a few of these detrital zones on the mine area which still need to be exploited. Any expansions to the detrital mining areas, will require amendment to the Environmental Authorisations, due to the size of site clearance which will be in excess of 5ha.</p>	<p>EMP Report, August 2004 & EMP Alignment Report, July 2009</p>
Mineral Processing		
<p>Mineral Processing</p>	<p>The Iron Ore Processing Facility has been designed to process ROM ores from the North and South Mine Opencast Pits.</p> <p>At Beeshoek, there are two lines consisting of a Primary and Secondary Crusher namely South Mine Crushing and North Mine Crushing. These primary plants consist of two stages of crushing, namely one primary crusher and one secondary crusher. At the primary crusher ore is crushed down to -200mm and at the secondary crusher it is further reduced to -80mm. In case of on-grade (ROM) ore feed, the secondary product is fed to the Washing and Screening Plant and contaminated ore or off-grade ore feeds, where beneficiation is needed, is fed to the Jig Plant. From the South Mine Crushing, ore is conveyed via an overland conveyor system to stockpiles at the plant area on North Mine.</p> <p>Following the primary and secondary crushing operations, the crushed ore is conveyed to the processing plant area, which is situated at North Mine.</p>	<p>EMP Report, August 2004 & EMP Alignment Report, July 2009</p>

Infrastructure	Description	Approved in terms of:
	<p>On-grade and off-grade crushed ore is stockpiled separately with dedicated stackers and reclaimed to be fed separately to the dedicated on-grade and off-grade processing plants. On-grade ore requires only screening, while off-grade ore requires further beneficiation, to conform to the market requirements. The plans include the following:</p> <ul style="list-style-type: none"> ☛ Washing and Screening Plant: The ROM feed is washed and sized into a lumpy fraction (+6mm –32mm), MS product (+6mm - 18mm) and a fines fraction (+0.5mm – 6mm). The primary screens oversize (+32mm) is conveyed to three tertiary crushers in closed circuit with the primary screens. ☛ Preparation Plant: The contaminated/ off-grade ore feed is washed and sized into a lumpy fraction (+8mm –25/32mm) and a fines fraction (+0.5mm – 8mm) prior to conveying to the Jig Plant. The screen oversize is conveyed to a tertiary crusher in closed circuit with the screens. ☛ Beneficiation is achieved by utilising Jig technology. Jigs separate the ore according to the specific density of the particles. <p>Reagents are not utilised in any of the beneficiation processes. A flocculating agent is required to assist in clarifying process water in the water reticulation circuit. This is achieved by utilising a conventional thickener. The clarified water is reticulated in the processing plants. A significant amount of water is recycled in the processing plant, to reduce the magnitude of the clarifying requirement.</p> <p>Thickened pulp from the thickener unit is pumped to the Slimes Dam, designed specifically for this purpose.</p>	
Mine Offices	<p>Approved Mine Offices:</p> <p>North Mine: Includes offices, administration buildings and the historical portion of the mine village.</p> <p>South Mine: Includes the decommissioned village and recreational area, including a golf course and other recreational sports fields. The 2009 EMP was clear to state that the new Village Opencast Pit will be constructed on the already existing Beeshoek village area. The mine workers living in this village have been relocated by the mine to Postmasburg. The existing surface structures, except for the main offices, recreational facilities, security, training and clinic buildings have been removed and the Village Opencast Pit is in operation.</p>	EMP Report, August 2004 & EMP Alignment Report, July 2009
Laboratory	<p>Approved Laboratory:</p> <p>A laboratory has been established at the Plant, which is utilised for the testing and certification of the product being processed and exported from the mine.</p>	Part of Plant infrastructure (EMP 2004)
Change House	<p>Approved Change House:</p> <p>Staff facilities for washing, ablutions and the safe keeping of personal belongings have been established at the North and South Mine opencast areas, as well as at the Plant.</p> <p>No sewage treatment plant is located on the mine site. All sewage generated at the mine is collected in several strategically located concrete sumps that are emptied by tanker. The tanker disposes of the collected sewage at the Postmasburg municipal sewage treatment works.</p>	EMP Report, August 2004 & EMP Alignment Report, July 2009
Clinic/ Training Centre	<p>Approved Clinic/ Training Centre:</p> <p>A Medical Centre and a Training Centre have been established at the Main Offices.</p> <p>A Medical and Wellness Centre is located next to Security Offices at the Main Offices in old renovated buildings.</p> <p>A Training Centre is located next to the transport area within old mine workers hostels that were renovated.</p>	Old Renovated Buildings from the 1930s/ early 1940s (visible on the photos from late 1930s/ early 1940s)
Security Building	<p>Approved Security Building:</p> <p>Security buildings have been established at both North and South Mines, as well as at the Main Offices area.</p>	Main security – old renovated buildings North Mine – 2004 South Mine – 2015

Infrastructure	Description	Approved in terms of:
Plant Control Centre	<p>Approved Plant Control Centre:</p> <p>A plant control centre has been established on the Plant for each mine (North and South) to monitor and control the process plant. The centre is equipped with offices, electronics, workshop, a tearoom and ablutions for staff associated with the centre.</p>	<p>North and Wash & Screen – 1973</p> <p>South – 1998/99</p> <p>Jig – 2001</p>
Workshops / Stores / Substations	<p>Approved Workshop, Stores and Substations:</p> <p>As part of the approved EMP the following was stated: “The existing workshop, administration and related buildings are located within the Northern mining area.” The following infrastructure has been established:</p> <ul style="list-style-type: none"> ☛ South Mechanical and Electrical Workshop; ☛ South Separator and Was Bay Area; ☛ South Primary Crusher Workshop; ☛ North Electrical and Mechanical Workshop area; and ☛ North Separator and Wash Bay area. 	<p>South Mechanical and Electrical Workshop - 1998/99</p> <p>South Separator and Was Bay Area - 1998/99</p> <p>South Primary Crusher Workshop - 1998/99</p> <p>North Electrical and Mechanical Workshop area – old renovated buildings</p> <p>North Separator and Wash Bay area – old renovated buildings</p>
Weighbridge	<p>Approved Weighbridge:</p> <p>A weighbridge has been established at the Plant area for verifying the weight of loaded and unloaded vehicles etc.</p>	<p>North “old” weighbridge – 2012</p> <p>3x New Road Transport weighbridges – 2015</p>
Explosives Magazine	<p>Approved Explosives Magazine:</p> <p>The explosives magazine has been built to Sasol Nitro design with the finished structures having been approved by Sasol Nitro.</p> <p>An exclusion zone of 800m radius within which there will be no buildings, other structures or public access is maintained.</p> <p>This facility is located at the South Mine.</p>	<p>Aerial photos indicate the presence of this facility already on 20 July 2003.</p>
Housing and Recreation		
Housing and Recreation	<p>Approved Housing and Recreation:</p> <p>The South Mine includes the decommissioned village and recreational area, including a golf course and other recreational sports fields. The 2009 EMP was clear to state that the new Village Opencast Pit will be constructed on the already existing Beeshoek village area. The mine workers living in this village was relocated by the mine to Postmasburg. The existing surface structures have been removed.</p>	<p>EMP Alignment Report, July 2009</p>
Transport		
Transportation of Ore on site	<p>Approved Transportation of ore:</p> <p>The mined iron ore is transported by truck from the respective operational opencast pits to the respective receiving areas with the North and South Mines. The ore from South Mine is routed by overland conveyor to North Mine for processing.</p>	<p>EMP Alignment Report, July 2009</p>
Transport of Ore off-site	<p>Approved Transportation of ore:</p> <p>The final product is transported from the Rapid Load-Out Facilities, via the OREX rail line to Saldanha (for export) and the Hotazel/ PE line (for local markets).</p>	<p>EMP Alignment Report, July 2009</p>
Water Pollution and Storm Water Management Facilities		



Infrastructure	Description	Approved in terms of:
<p>Water Pollution and Storm Water Management Facilities - Legalities</p>	<p>Storm water management infrastructure at the Mine does and will comply with the requirements of GN704, published in terms of the NWA. GN704 requires the following:</p> <ul style="list-style-type: none"> ☛ All clean water systems must be designed and operated in such a manner that they are always capable of handling the 1:50 year flood event on top of their mean operation level without spilling; ☛ Any water arising from an area, which causes, has caused or is likely to cause pollution of a water resource, including polluted storm water, must be contained within a dirty water system. In order to reduce the volume of polluted water, contaminated areas should be minimised. While clean water should be diverted to natural watercourses, polluted water should be re-used wherever possible, thereby reducing the use of clean water, which is addressed by the current construction of the Storm Water Dam North; and ☛ Design, construct, maintain and operate any dam or tailings dam (in the Beeshoek situation, a Paste Disposal Facility) that forms part of a dirty water system to have a minimum freeboard of 0.8m above full supply level. <p>On site and as approved by the WUL, the mine had an initial Storm Water Dam North in place, which collected water from the plant operation and recirculates this back into the process. This dam was in place prior to the year 2000. This facility comprises of a berm channelling water from the northern portions (Plant area) towards the existing dam (excavated earth). With the development of the Village Opencast Pit, the operation had to reduce the length of the berm to allow for the mining of the Village Opencast Pit. The mine applied for the upgrade of this facility in terms of a NEMA application and WUL application, which were approved by the DMR and is currently under construction. The new Storm Water Dam North is currently being constructed where the original berm has been placed and is designed within the area previously known as the Beeshoek Village, which has been demolished. The new Storm Water Dam North is currently under construction and designed for a capacity of 15,000m³.</p> <p>The EMP also stated that the clarifier dam will be utilised as a temporary water storage facility for the return draft from the new Slimes Dam to the Process Plant.</p> <p>The mine has evaporation ponds on site, which is used to capture water from the South Mine workshop area. The evaporation ponds are also authorised in terms of the WUL. The EMP does refer to evaporation ponds.</p>	<p>EMP Alignment Report, July 2009</p> <p>Permit NC 30/5/1/2/3/2/1/223 MR, 10 March 2017</p>
Potable Water Supply		
<p>Potable Water Supply</p>	<p>Potable water for use by the mine is obtained from the dewatering boreholes approved in terms of the WUL of the opencast pit area within the South Mine.</p> <p>Water is also obtained from the Sedibeng Water Supply Scheme. The water is collected in two concrete reservoirs at the entrance to the southern mining area where the water is disinfected for further distribution on the mine site.</p>	<p>EMP Alignment Report, July 2009</p>
Disturbance of Watercourses		
<p>None</p>	<p>-</p>	<p>-</p>

5.2 Monitoring Results

5.2.1 Water Quality

Aquatico is responsible for the water monitoring protocol on site. The following figure illustrates the location of the monitoring points:

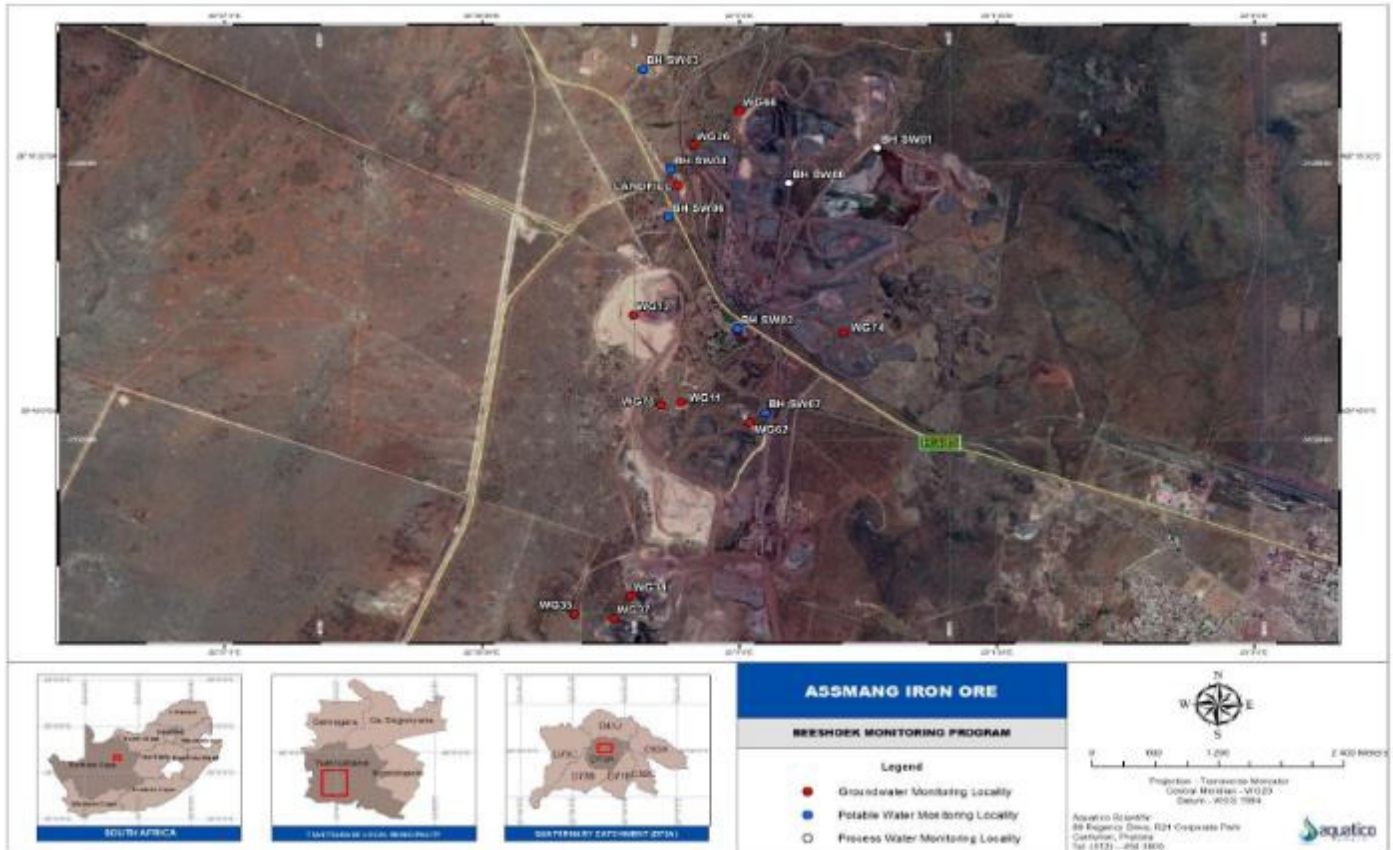


Figure 1: Monitoring Network

The following information has been sourced from the most recent Aquatico Monitoring Report, April 2019:

Water monitoring at Beeshoek Mine are conducted on a monthly basis. The water monitoring programme, conducted by Aquatico, entails hydrochemical monitoring of surface water localities and hydrochemical monitoring of groundwater resources on a quarterly basis.

Generally, the potable water resources at all the sampling localities are described as being neutral (pH levels between 8.22 and 8.41), non-saline to saline (Total Dissolved Solids (TDS) between 231mg/l and 546mg/l), and a varying hardness depending on the actual source of the potable water, but can generally be classified as very hard (Total Hardness (TH) > 300mg/l). Based on the chemical variables, all the sampling localities were classified as having a marginal quality the current quarter due to high hardness and/ or turbidity concentrations. Based on the bacteriological content the boreholes were all classified as “Ideal” water quality as there was no bacteriological growth.

Generally, the groundwater resources at all the sampling localities are described as being neutral to alkaline, saline and the hardness can be classified as hard to very hard. None of the variables listed in the IWUL Groundwater Resource (Table 5 – Appendix IV of the IWUL) exceeded the specified limits at any of the sampled localities. It should be noted that the nitrate (NO₃) concentrations at WG34, WG37, WG62, WG70 and WG74 did however exceed the permissible limit of 10mg/l set out by the DWAF Quality of Domestic Water Supplies.

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The TH at the monitoring boreholes varied between 412mg/l and 548mg/l indicating very hard groundwater conditions. Although no standard for TH is available in the IWUL, the tolerated guideline for TH, with regards to domestic use, is stipulated by DWAF as being less than 300mg/l. However, hardness concentration at Beeshoek Mine is not unlike most other boreholes in the area, resulting from the calcareous/ dolomitic underlying geology characteristic of many parts of the Northern Cape Province.

5.2.2 Air Quality

DustWatch is the appointed specialist conducting dust fallout monitoring at the mine monthly. Eight (8) buckets are monitored. The figure below indicates the location of the buckets.

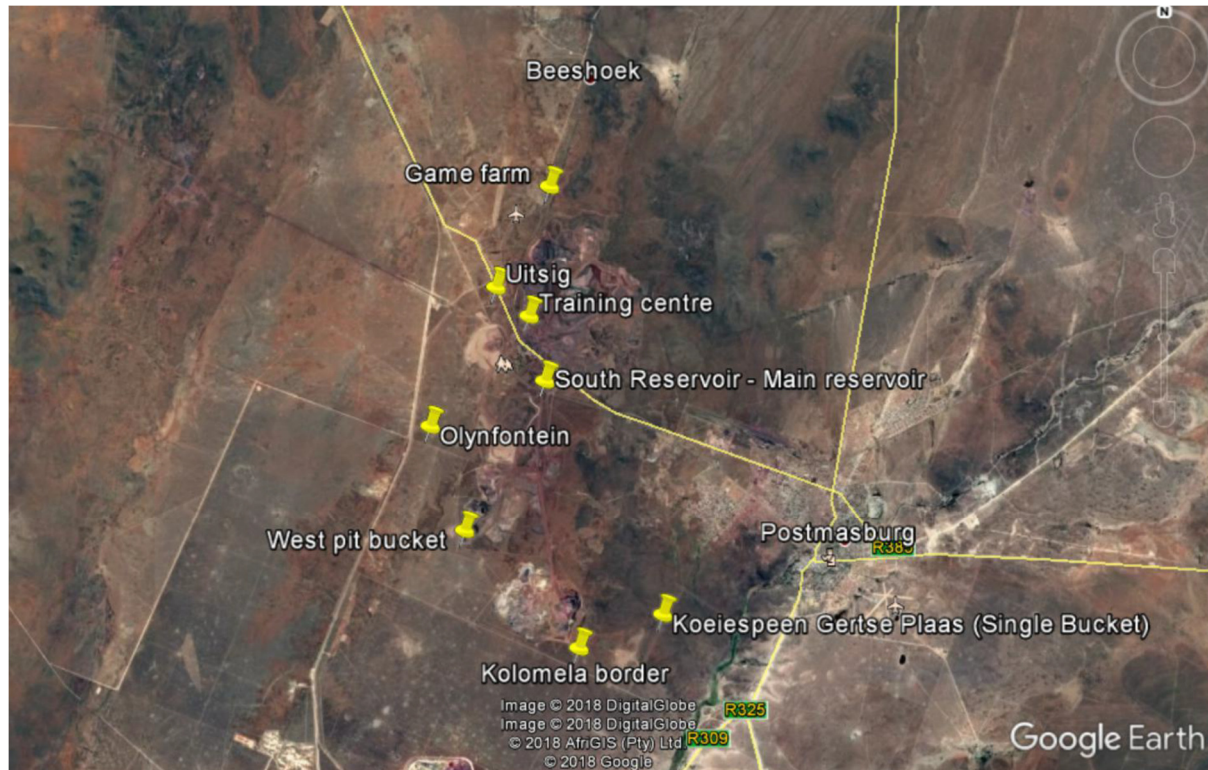
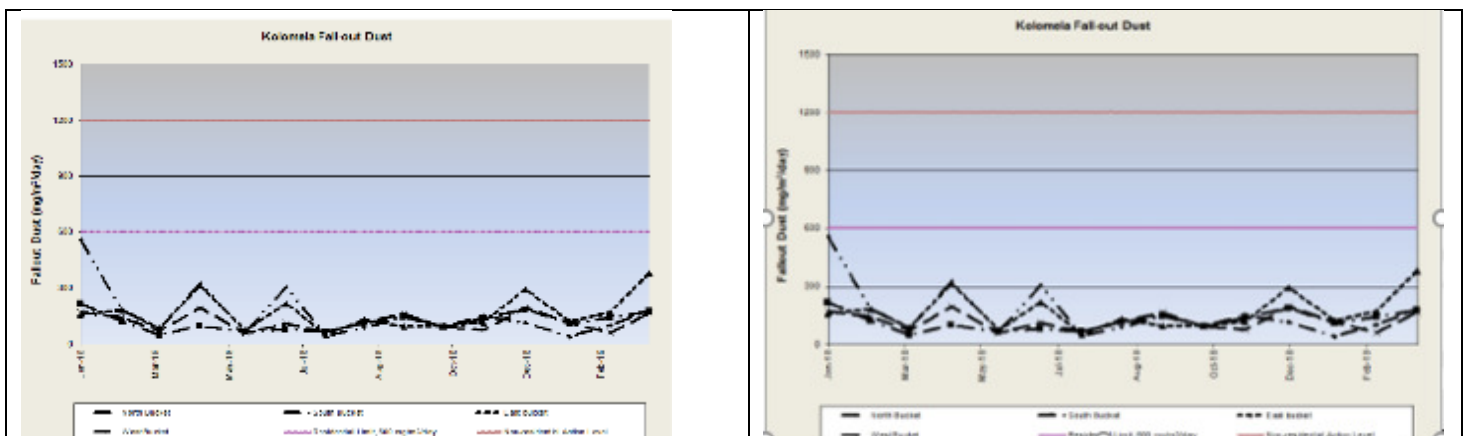


Figure 2: Map showing the unit locations.

The non-residential action level has been applied to all the units. If any units are located on residential property, then the action level of 600mg/m²/day will be applicable.

Please refer hereafter for the graphical illustration of the fallout levels experienced.

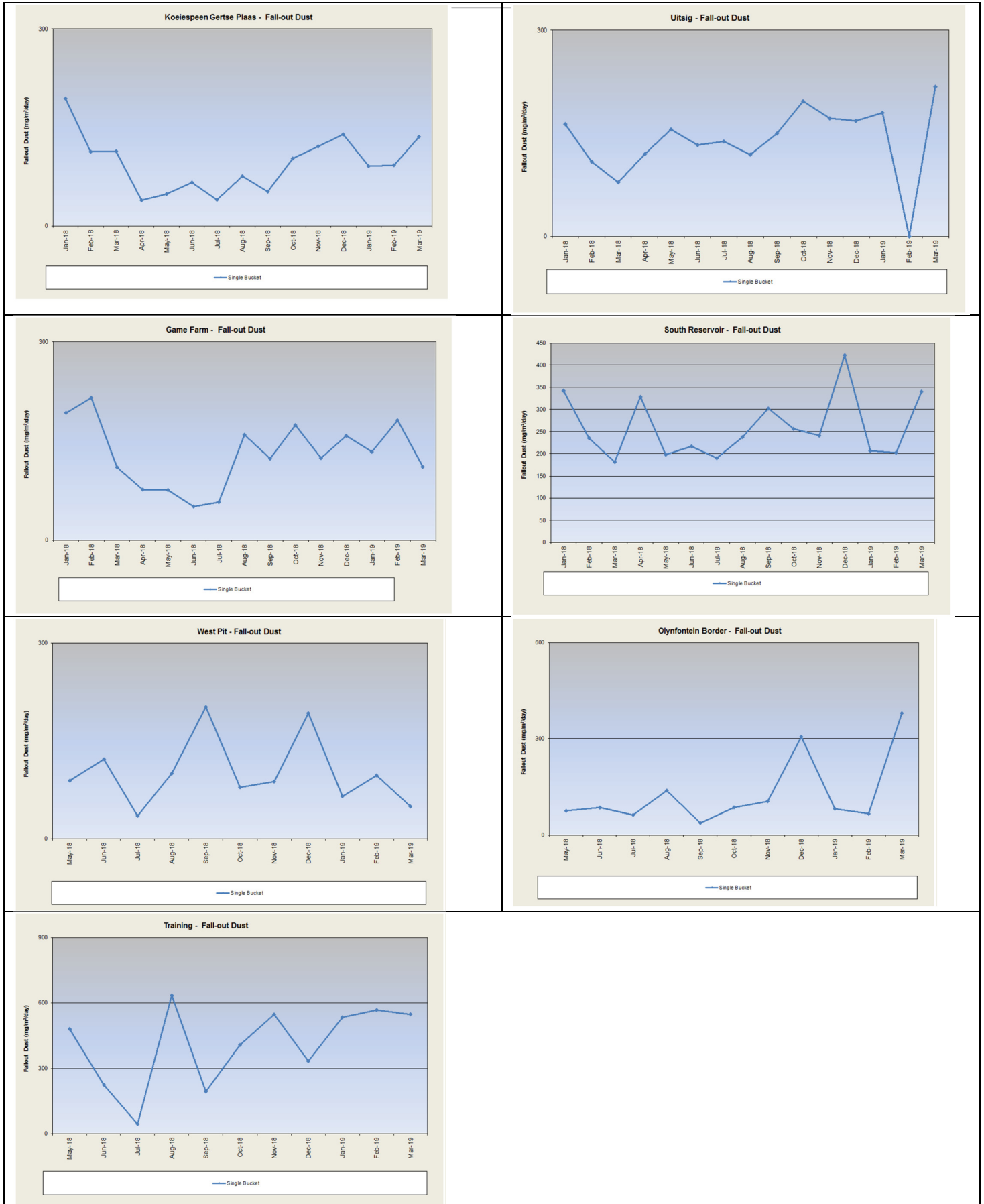


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According to the report, the site is compliant for the year ending March 2019.



5.3 Level of Compliance

The compliance score achieved in terms of the EMPr and Environmental Authorisation compliance is summarised as follows:

Table 15: Compliance Scores

Licence Reference	2019 Compliance (%)
Landfill Site: Permit 12/9/11/P4	87
BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013	94
BF Waste Rock Dump Expansion EMPr	72
Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014	93
Village Haul Road EMPr	100
Road Deviation NEMA Permit 17/2011 Ref No: NC/SIY/TSA/BEESHOEK1/10/2010	87
Storm Water Dam North Environmental Authorisation: Reference NC 30/5/1/2/3/2/1 (223) MR	96
Storm Water Dam North EMPr	97

5.4 Effectiveness of the EMPr and New Impacts and Risks

Based on the approved EMPr's, no residual impacts of significance have been identified or stated. However, in order to ensure that the outcomes of the EMPr's confirmed, the auditor considered reason studies as well and therefore, this report also considers the following:

- Latest Waste Classification Outcomes;
- Latest IWWMP Outcomes; and
- Latest Groundwater Monitoring Outcomes.

Considering the EMPr's and essentially, based on the information obtained in the latest environmental reports, it is concluded that the following indicators are the most sensitive to potential risk:

- Future dewatering for the purposes of safe mining conditions; and
- Groundwater quality as a result of the presence of Mine Residue Deposits.

5.4.1 Rehabilitation Material Availability

Limited topsoil is present on site as the soil is the main source used in rehabilitating the approved Landfill Site.

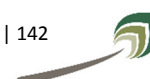
The EMPr's allow for a revegetation project should self-succession of vegetation not be successful, however in certain instances statements are made which create uncertainty as to whether active vegetation is also required.

The past rehabilitation trials on the historic opencast pits and WRDs have proven that vegetation growth is possible without having to apply a layer of topsoil. For this reason, the current closure valuation (May 2019) allows for self-succession without the addition of topsoil.

Only if self-succession cannot be achieved, will the Licence Holder consider the addition of a topsoil/ subsoil mixture with associated seed bank, and if re-establishment of vegetation using this method is found to be unacceptably slow, soil analysis and amelioration will be undertaken and the area be seeded with a seed mix to specification.

5.4.2 Waste Classification Outcomes

As part of Assmang's commitment to comply with the national environmental legislation and to follow a proactive and responsible approach in the undertaking of the mining operations, the importance of the changes in the Regulatory System in terms of the governance, management and licensing of Mine Residue has been raised as an urgent matter to be investigated and the legal requirements and potential liabilities be understood and planned towards.



The Waste Classification and Type Analysis was undertaken during 2015 and 2016, with the finalisation of the report in June 2016.

Based on the test results, the material from all the different sites is classified as Type 3 Waste following the GN R635 classification system – with ongoing hydrogeological studies, no long terms risks have been identified.

This classification is mostly based on the results of the total concentration (TC) testing results where there are several elements that exceed the TCT0 guidelines for all the samples. There are several facilities which will not be impacted, or may not be impacted, when taking into consideration dilution with natural groundwater based on the leach concentration results. This was confirmed in the GPT study discussed in the following section (Section 5.4.3). Further confirming no risk originating from the site.

5.4.3 Risk to Groundwater

The mine appointed GPT to conduct a critical evaluation of the groundwater quality monitoring network at the mine and to develop groundwater-related management plans. In the report (Reference ASBEE-16-1240), dated April 2016 the following were concluded:

- ☞ Surface sources of contamination are currently not characterised in terms of contamination potential, which will be required if the monitoring network is to be expanded sufficiently.
- ☞ The groundwater quality limits should be re-evaluated based on exceedances from background water qualities. Pre-mining contamination status of the aquifer already exceeds WUL limits under natural conditions. Therefore, the WUL limits set unrealistic targets for water quality – this was subsequently updated in the WUL 2018 and is no longer a concern.
- ☞ Additional monitoring positions should be determined based on contamination potential of existing sources.

The following recommendations were made in the report:

- ☞ All the boreholes stipulated in the WUL should be monitored on a quarterly basis for the specified parameters. *This has subsequently been implemented at the mine.*
- ☞ Although not a requirement, the expansion of the monitoring network should be considered as recommended in the report.
- ☞ A repeat of the 2013 Hydrocensus (GPT, 2013) should be done every third year and results compared to the previous hydrocensus results. *The last hydrocensus was undertaken by the mine in 2017 and will again be scheduled for 2020.*
- ☞ Most of the background water qualities exceed the water resource quality objectives prior to any mining activity taking place. This includes nitrate (NO₃) concentrations. The water resource quality objectives contained within the 2008WUL were of concern especially if remediation and clean-up levels are to be determined on closure. *This was subsequently updated in the WUL 2018 and is no longer a concern.*
- ☞ Based on background monitoring data, nitrate concentrations are naturally elevated in the groundwater. The nitrate concentrations found exceeded the SANS 241:2015 limits. However, it is proposed that this constituent be added to the monitored parameters in the WUL. The source of the naturally elevated nitrate in the groundwater is currently unknown and is presumed to be a by-product of the vegetation in the area. *Subsequent to this recommendation an assessment was conducted by GPT, March 2019, which concluded the following:*
 - *The use of N-based explosives for mine blasting is likely to contribute to elevated nitrate levels in groundwater as most explosives contain between 70 - 90% ammonium nitrate. Nitrates are highly soluble in water. The occurrence of nitrate in groundwater and the pit water indicates that nitrate is naturally occurring (outside of the mining area) with contribution from N-based explosives in the mining area.*
 - *Nitrate occurrence may be attributed to nitrogen cycling in the environment and the use of N-based explosives (for mine blasting). This study indicates that the nitrate circulation in water is complicated, involving multiple sources and the occurrence of nitrate is natural with contribution from mining-related blasting using N-based explosives.*



- *In the mining environment, the leaching of blasting residue from waste rock, tailings and mine water impoundment are also potential sources of nitrate in groundwater. The contribution of N-based explosives to nitrate concentration in groundwater is negligible compared to background values.*
- The report concluded with stating that: *“Due to the limited contribution of explosives regarding elevated nitrate concentration (less than 1mg/l) as well as the fact that groundwater flow eventually ends up in the dewatered zone, no active remediation is required. As part of the groundwater management plan, focus should be on the management of the water balance of the mine to ensure minimal infiltration of surface water enriched in nitrates.”*

A second study was conducted by GPT, dated April 2017 (Reference ASBEE-16-1987) to determine the groundwater risk and required monitoring network amendments.

According to the 2017 Groundwater Risk Assessment and Monitoring Network Audit conducted by GPT the following statements are made:

- Based on the groundwater quality analyses, solid waste analyses and liquid waste analyses, as well as the statistical analysis of the data, it can be deduced that the chemical signatures of the three (3) mediums (solid waste, liquid waste and groundwater) are quite similar.
- Additionally, it was found that the constituents found to exceed the relevant screening levels for each of the three mediums are also similar.
- Also, most of the sources are located within the dewatered area, directing any contaminants towards the active mining areas.
- Therefore, groundwater monitoring in terms of chemistry is not recommended for expansion as the effects of sources on the groundwater environment are likely to be negligible and are unlikely to be observed in samples as the chemical signatures of the different mediums are so similar.

The report also stated the following: *“The available hydrogeochemical data (including solid waste, liquid waste and groundwater) were analysed using IBM SPSS v. 20. The corresponding chemical constituents between each of the samples were defined as chemical fingerprints, which could be correlated and cross-correlated with each other to identify the similarities between the waste samples and background water quality. All the chemical compositions of the solid waste and liquid waste samples show a significant correlation ($\alpha = 0.01$ or 0.05) with that of at least one background groundwater sample. This illustrates that contamination from these sources is likely to have the same geochemical signature as the local groundwater. This shows that contamination to the aquifer from the identified sources is unlikely.”*

A third study was conducted by GPT, March 2019, which are referred to earlier in this section. This report also concluded that in addition to the outcomes regarding the nitrates (NO_3) in the groundwater, Barium (Ba) and Manganese (Mn) were not regarded as contaminants of concern in groundwater based on the scope and findings of the investigation within the mining area and immediate surroundings.

These studies further confirmed that the manner in which the mine is operating, and the management measures implemented to protect the environment is sufficient and effective.

5.4.4 Outcomes

Based on the above, the current management measures included in the Permits/ Environmental Authorisations and EMPr's are regarded as sufficient to ensure that the activities undertaken on site can mitigate potential impacts as identified in the EMPr's. Implementation of conditions such as the proper design of storm water management measures and maintenance of clean and dirty water separation will address many of the findings observed.

There are however certain areas identified which are recommended to be amended as these management measures may rather result in further environmental degradation in certain instances and in other areas are not practical or efficient for implementation. These are discussed in the following Section (Section 5.5).



5.5 Need to Amend in terms of Regulation 34

Regulation 35(1) of the NEMA 2014 EIA Regulations states that the competent authority must consider the environmental audit report and amended EMPr, contemplated in Regulation 34 and approve such amended EMPr if it is satisfied that it sufficiently provides for avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity, and that it has been subjected to an appropriate public participation process.

It should be noted that in terms of Regulation 35(2), prior to approving an amended EMPr contemplated in subregulation (1), the competent authority may request such amendments to the EMPr as it deems appropriate to ensure that the EMPr sufficiently provides for avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity.

Accordingly, these amendments in terms of Regulation 34 are required when management measures are not sufficient to address impacts encountered on site. For the purposes of this audit, only **one potential** Regulation 34 Amendment has been identified, however, based on the current Environmental Authorisation Process being undertaken by the mine, it is recommended no Regulation 34 amendments to the EMPr be undertaken, as all amendments are recommended to be dealt with in terms of Part 1 or Part 2 amendments in terms of the 2014 NEMA EIA Regulations (as amended).

The following table presents the conditions and/or EMPr and EA commitments, which are requested for amendment by the Competent Authority (DMR) in terms of Regulation 34 and/ or Regulation 29 of the NEMA.

The table specifically presents each Condition, the reason for amendment, whether the amendment would result in any risk, as well as the recommended amendment suggestion.



Table 16: Regulation 34 or Regulation 29 Amendment Requirements

Licence Reference	Date	2019 Compliance (%)	Adequacy of mitigation and management measures provided	Condition requiring Amendment	New Risks Identified	Recommendations (Regulation 34 or Regulation 29 Amendment)
Landfill Site: Permit 12/9/11/P4	30 October 2008	88	The management measures are regarded as adequate.	None	None	The Licence Holder should obtain written confirmation from the DMR that the licence as it is interpreted correctly in terms of the definition of "rubble". A Regulation 29 Part 1 Amendment may be required for this purpose to rephrase this condition.
BF Waste Rock Dump Expansion NEMA Permit 12/2014 Ref No: NC/BA/11/SIY/TSH/POS/ASS/2013	7 March 2014	94	The management measures are regarded as adequate.	Condition 38: During operational phase of the development storm water drainage must be monitored. Must adhere to the storm water management plan as outlined in the Environmental Management Programme Report.	Condition not practical to implement.	<p>No significant findings were observed in terms of environmental management and implementation around this area. Storm water management berms are constructed around the WRD.</p> <p>No finding in terms of insufficient management measures were identified, however, it should be noted that no formal PCD has been constructed downgradient of the WRD. The EMP, 2013 states that: "Create a Pollution Control Dam (PCD) (+/- 1 900m³) in the south west corner (GN704)". This can be motivated by the fact that the latest 2016 Storm Water Management Plan stated that the runoff from the site can be regarded as "zero". This is also confirmed in the 2013 EMP: "Open drainage channels are necessary to convey dirty water to the PCD. This type of drainage channel can be constructed with a grassed earth channel since there is almost no runoff in this region and little chance of erosion. The required PCD (1 900m³) can be constructed in a similar way since there is almost no runoff and evaporation rates are extremely high." Runoff is currently, if it occurs, captured by the berms and not released into the environment. This is undertaken in line with the 2016 approved Storm Water Management Plan, as approved in the current WUL held by the Licence Holder and issued by the DWS.</p> <p>A further clarification considered in this audit, to confirm that the current management practices are effective on site, was the Waste Characterisation and Groundwater Monitoring Network study undertaken by GPT during 2017. The report found that based on the groundwater quality analyses, solid waste analyses and liquid waste analyses, as well as the statistical analysis of the data, it can be deduced that the chemical signatures of the three mediums (baseline groundwater, solid waste and liquid wastes) are quite similar. Additionally, the report stated that the constituents found to exceed the relevant screening levels for each of the three mediums are also similar. Also, most of the sources are located within the dewatered area, directing any contaminants towards the active mining areas. The report concluded that effects of sources on the groundwater environment are likely to be negligible and are unlikely to be observed in samples as the chemical signatures of the different mediums are so similar.</p>



Licence Reference	Date	2019 Compliance (%)	Adequacy of mitigation and management measures provided	Condition requiring Amendment	New Risks Identified	Recommendations (Regulation 34 or Regulation 29 Amendment)
						The Licence Holder will remain non-compliant on this condition if the PCD is not constructed. This condition is not achievable and not required to manage environmental impacts based on the outcome of specialist studies. It is recommended that this condition be amended as part of the overall EMP Amendment process of 2019/2020. This condition could be regarded as a <u>Regulation 34 Amendment or a Regulation 29 Amendment</u> , as the condition is not sufficient based on the future expansions to the Village WRD proposed in the pending Environmental Authorisation Process.
BF Waste Rock Dump Expansion EMPr	September 2013	80	The management measures are regarded as adequate.	<p>5. Surface Water Activity - Polluted water from the WRD area and the mine will flow in a south western direction. Recommended Mitigation Measures - Adhere to approved Water Use License and conditions. Contain all dirty water runoff.</p> <p>Action Plan - Implement a storm water management plan.</p> <p>Activity - Erosion on WRD through intense stormwater run-off. Recommended Mitigation Measures - Construct berms on top of WRD and vegetate side as much as possible.</p> <p>Action Plan - Implement a storm water management plan.</p> <p>The EMP, 2013 states that: "Create a Pollution Control Dam (PCD) (+/- 1 900m³) in the south west corner (GN704)". This can be motivated by the fact that the latest 2016 storm water management programme. stated that</p>	Condition not practical to implement.	As per the above - The Licence Holder will remain non-compliant on this condition if the PCD is not constructed. This condition is not achievable and not required to manage environmental impacts based on the outcome of specialist studies. It is recommended that this condition be amended as part of the overall EMP Amendment process of 2019/2020. This condition could be regarded as a <u>Regulation 34 Amendment or a Regulation 29 Amendment</u> , as the condition is not sufficient based on the future expansions to the Village WRD proposed in the pending Environmental Authorisation Process.



Licence Reference	Date	2019 Compliance (%)	Adequacy of mitigation and management measures provided	Condition requiring Amendment	New Risks Identified	Recommendations (Regulation 34 or Regulation 29 Amendment)
				the runoff from the site can be regarded as "zero". This is also confirmed in the 2013 EMP: "Open drainage channels are necessary to convey dirty water to the PCD. This type of drainage channel can be constructed with a grassed earth channel since there is almost no runoff in this region and little chance of erosion. The required PCD (1 900m ³) can be constructed in a similar way since there is almost no runoff and evaporation rates are extremely high." Runoff is currently, if it occurs, captured by the berms and not released into the environment.		
Village WRD Haul Road NEMA Authorisation Permit 20/2015 Ref: NC/BA/28/ZFM/TSA/POS3/2014	3 June 2015	92.8	The management measures are regarded as adequate.	None	None	None
Village Haul Road EMPr	November 2014	100	The management measures are regarded as adequate.	None	None	None
Road Deviation NEMA Permit 17/2011 Ref No: NC/SIY/TSA/BEESHOEK1/10/2010	3 May 2011	86.66	The management measures are regarded as adequate.	None	None	None
Storm Water Dam North Environmental Authorisation: Reference NC 30/5/1/2/3/2/1 (223) MR	10 March 2017	96	The management measures are regarded as adequate.	None	None	None
Storm Water Dam North EMPr	20 June 2016	95	The management measures are regarded as adequate.	The EMPr states: "Quarterly internal audits must be undertaken on the lawful implementation of the WUL "	Condition not practical to implement.	This condition is in contradiction to the WUL requirements. As the DWS is the competent authority for the enforcement of the WUL and associated requirements, it is recommended that this condition be amended. It is recommended that this condition be amended as part of the overall EMP Amendment process of 2019/2020. This condition could be regarded as a



Licence Reference	Date	2019 Compliance (%)	Adequacy of mitigation and management measures provided	Condition requiring Amendment	New Risks Identified	Recommendations (Regulation 34 or Regulation 29 Amendment)
				<p>This condition is in contradiction to the WUL requirements. As the DWS is the competent authority for the enforcement of the WUL and associated requirements, it is recommended that this condition be amended. This amendment will be a Regulation 34 amendment. The Licence Holder is currently in progress of undertaking and EIA Process for the amendment of various activities on site and the implementation of new activities. This Part 1 amendment should be included in this process.</p>		<p><u>Regulation 29 Amendment</u>, as the condition a contradictory condition to an issued WUL.</p>



5.6 Assumptions and Gaps

The findings, results, observations, conclusions and recommendations given in this Environmental Audit Report are based on the Author's best scientific and professional knowledge as well as available information. As many areas as possible were assessed during the audit and all available documents were considered. However, it should be noted that in order to assess the project in the time allowed, spot checks were conducted.

5.7 Stakeholder Consultation Process

As mentioned previously, in terms of Regulation 35(1) the competent authority must consider the environmental audit report and amended EMPr and, where applicable the amended closure plan, contemplated in Regulation 34 and approve such amended EMPr, and where applicable the amended closure plan, if it is satisfied that it sufficiently provides for avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity, or where applicable the closure of the facility, and that it has been subjected to an appropriate public participation process.

No amendments, which will impact on surrounding stakeholders or regulatory authorities, are required in terms of Regulation 34. No conditions which are regarded as "insufficient" to manage environmental impacts have been identified and this is clear from the risk studies outcomes presented in the sections before. For the purposes of this External Environmental Audit undertaken, and due to the limited amendments required, it is recommended that the consultation process for the new Environmental Authorisation Process (Regulation 29 Part 2) which was initiated during 2019, and which will be undertaken in terms of the 2014 NEMA EIA Regulations (as amended), be a suitable vehicle to communicate the amendments (Regulation 29 Part 1 Amendments) required in the EMPr. This will be a full consultation process including:

- Meeting with the DMR and other Regulatory Authorities;
- Advert in a local and regional newspaper;
- Site Notice; and
- Stakeholder consultation meeting.

This notification can be undertaken together with the proposed Amendments as identified for the NEMA and MPRDA Environmental Authorisation and EMPr during the 2019 Environmental Performance audits.

It is the responsibility of the Licence Holder to ensure that the Environmental Audit Report is made available to stakeholders should stakeholders wish to review such a report.

5.8 Need to update the Licence

Based on the outcomes of the site visit and observation, the EMPr's and associated EA's are still effective for the management of the site. Certain practical amendments are required which are discussed in the sections before. The mine is also in the process of investigating new developments on site and expansions to certain opencast pits, which will necessitate and overall EMP Amendment. No Regulation 34 Amendments are proposed for the documents audited, however certain Regulation 29 amendments have been identified.

Regulation 29, read with Regulation 37, of the 2014 EIA Regulations stipulates that an environmental authorisation (which is the outcome of an approved EMPr) may be amended, if the amendment will not change the scope of a valid environmental authorisation, nor increase the level or nature of the impact. The amendment of the of existing EMPRs, without adding any additional activities and/or processes, will not entail an increase in the nature, scope or level of the Mine's impact on the environment. By amending the existing EMPRs into one EMPR Report, the various conditions and commitments will be streamlined into a single, user-friendly document. In addition to this, and to allow for a practical administrative process, it is recommended that this amendment process be undertaken as part of the current 2019/2020 EMPr amendment process, for various new activities proposed on site. The aforementioned will simplify inspections, audits, and other reporting requirements to the Competent Authority.



As there are several EMPr amendments present on site, it is recommended that each of the Environmental Authorisations be amended where required in terms of Regulation 29 and that one holistic EMPr document be developed which will assist the License Holder with ongoing environmental management.

5.9 Overall Opinion

During the project initiation meeting it was clear that the Licence Holder has familiarised themselves with the conditions of the Environmental Authorisation.

The recommendations made in this audit report, is for the Licence Holders' consideration. The Licence Holder should develop an action plan to address on non-compliant findings within three (3) months from finalisation of the audit. In addition to this, all findings should be addressed before the next audit schedule. An action plan should be in place for any findings not addressed at that time with a detailed schedule of plans implemented to address such findings.

The Licence Holder, including the engineering and SHEQ teams, attended the site visit and was informed on the history of the environmental authorisation process as well as constraints encountered and the reason for various amendment during the application process.

The Licence Holder presented a view of overall commitment to achieve compliance in terms of the environmental legislation.

5.10 Declaration of EAP

I, **Tanja Bekker** (Name of person representing EAP) of **EnviroGistics (Pty) Ltd** (name of company) declare that;

1. I act as the independent environmental practitioner in this audit
2. I have performed the work relating to this audit in an objective manner, even if this results in views and findings that are not favourable to the Licence Holder;
3. I declare that there are no circumstances that may compromise my objectivity in performing such work;
4. I have expertise in conducting environmental performance assessment, including knowledge of the Act, regulations and any guidelines that have relevance to the activity;
5. I have no, and will not engage in, conflicting interests in the undertaking of the audit;
6. I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the Licence Holder or not
7. all the particulars furnished by me in this form are true and correct;
8. will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
9. I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 49B (2) of the Act



Signature of the Environmental Assessment Practitioner

Date: 30 November 2019

