



BLACK ROCK MINE OPERATIONS ENVIRONMENTAL MANAGEMENT PROGRAMME ENVIRONMENTAL PERFORMANCE ASSESSMENT

Report Purpose

Providing the Client and Regulatory Authority with an understanding of the compliance in terms of the Environmental Management Programme Report, 2017

Report Status

Final

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2 November 2020



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With more than 18 years' experience in environmental management and the consulting industry, she follows a methodical and practical approach in attending to environmental problems and identifying environmental solutions throughout the planning, initiation, operation and decommissioning or closure of projects.

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Contents Page

1	INTRODUCTION AND TERMS OF REFERENCE	3
1.1	TERMS OF REFERENCE.....	3
1.2	ENVIRONMENTAL AUTHORISATION STATUS.....	3
1.3	PURPOSE OF THE PERFORMANCE ASSESSMENT	4
1.4	PROJECT BACKGROUND.....	4
1.5	LOCATION	5
2	COMPLIANCE ASSESSMENT METHODOLOGY	6
2.1	METHODOLOGY.....	6
2.1.1	<i>Gathering of Information</i>	6
2.1.2	<i>Stakeholder Consultation</i>	6
2.1.3	<i>Checklist Formulation</i>	7
2.1.4	<i>Site Assessment and Schedule</i>	7
2.1.5	<i>Rating Methodology</i>	7
2.1.6	<i>Reporting and Feedback</i>	7
2.2	DETAILS OF ENVIRONMENTAL ASSESSMENT PRACTITIONER	8
2.2.1	<i>The Company</i>	8
2.2.2	<i>Expertise of the Environmental Assessment Practitioner</i>	8
3	LEGAL SETTING.....	10
3.1	THE CONSTITUTION	10
3.2	THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT	10
3.2.1	<i>Sustainability Principles and Duty of Care</i>	10
3.2.2	<i>Authorisation Requirements</i>	11
3.2.3	<i>Legalities regarding the Auditing Requirements</i>	11
3.3	THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT	12
3.4	THE NATIONAL WATER ACT.....	12
3.5	THE NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT.....	14
3.5.1	<i>General Provisions</i>	14
3.5.2	<i>Management of Mineral Waste</i>	15
3.5.3	<i>Waste Classification Regulations</i>	15
3.5.4	<i>NEMWA Disposal Norms and Standards</i>	16
3.5.5	<i>NEMWA Storage Norms and Standards</i>	16
3.5.6	<i>New 2017 Waste Tyre Regulations</i>	17
3.5.7	<i>General Waste Norms and Standards</i>	18
3.6	LEGAL RISK SUMMARY	18
3.6.1	<i>Non-compliance with the MPRDA</i>	18
3.6.2	<i>Non-compliance with NEMA</i>	19
3.6.3	<i>Non-compliance with the NEMWA</i>	22
3.6.4	<i>Non-compliance with the NWA</i>	22
4	COMPLIANCE ASSESSMENT.....	24
4.1	GENERAL OBSERVATIONS	24
4.1.1	<i>Status of EMPr and Associated Environmental Authorisations</i>	24
4.2	PERFORMANCE ASSESSMENT OUTCOMES	24
5	KEY FINDINGS AND RECOMMENDATIONS.....	85



BLACK ROCK MINE OPERATIONS ENVIRONMENTAL MANAGEMENT PROGRAMME ENVIRONMENTAL PERFORMANCE ASSESSMENT

Departmental Ref: NC30/5/1/2/3/2/1/203(EM)

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5.1	ASSUMPTIONS AND GAPS	85
5.2	KEY FINDINGS	85
5.3	LEVEL OF COMPLIANCE (THIS WILL BE COMPLETED ONCE THE FIRST REVIEW HAS BEEN CONCLUDED)	86
5.4	OVERALL OPINION	86
5.5	DECLARATION OF EAP	87

List of Tables

Table 1: Land and Right Ownership	5
Table 2: Rating Methodology.....	7
Table 3: Environmental Authorisation Assessment: EMPr ROD, 2018.....	25
Table 4: Associated EMPr, 2017.....	27
Table 5: Compliance Scores	86



1 INTRODUCTION AND TERMS OF REFERENCE

1.1 Terms of Reference

Condition 4d of the Environmental Authorisation for the Amendment of an Integrated Environmental Authorisation based on the Integrated Environmental Management Programme (2017) compiled by EScience Associates (Pty) Ltd (EScience) requires that:

“an annual Environmental Audit must be undertaken in accordance with Regulation 34 of the Environmental Impact Assessment Regulations, 2014 as amended.”

1.2 Environmental Authorisation Status

Black Rock Mining Operation (BRMO) initially had fragmented Environmental Management Programmes (EMPr's) which were consolidated into a single EMPr, dated January 2013 (hereafter referred to as the Consolidated EMPr), covering all operations and approved by the Department of Mineral Resources (DMR; now the Department of Mineral Resources and Energy (DMRE)) on 11 February 2013. The Consolidated EMPr was formulated prior to the “One Environmental System” as contemplated in Section 50A (2) of the National Environmental Management Act (Act No. 107 of 1998) (NEMA) as amended on 02 September 2014, with subsequent Environmental Impact Assessment (EIA) Regulations dated December 2014. The 2013 Consolidated EMPr approval included the:

- Previous approved mining activities in terms of the approved EMPr's;
- Expansion of the mine's manganese production capacity through provision for facilities and activities; and
- Establishment of a new Sinter Plant Complex, including product stockpile floors and related facilities.

Subsequent to the 2013 Consolidated EMPr, another amendment to the EMPr was submitted to the DMR in 2017 by EScience and approved on 13 February 2018. This EMPr included changes to the mine residue management on site and the inclusion of a new Tailings Storage Facility (TSF). This Environmental Performance Assessment is specifically related to this 2017 EMPr, and its associated 2018 Environmental Authorisation Approval issued by the DMRE.

The mine is further operating with various other environmental authorisations in place:

- Section 24G ROD, September 2014 Ref S24 23/02/2011;
- NEMA Environmental Authorisation, Permit 46/2011(S24G) (21 October 2011): Wrenchville Development (this is outside of the mining rights area);
- NEMA Environmental Authorisation, Permit 25/2012 (22 May 2012): The Proposed Sinter Plant at the Assmang Black Rock Mine Operations. Activities include: the establishment of the Sinter Plant Complex, a New Mine Shaft with associated surface shaft complex at Gloria Mine, including Washing, Crushing, Screening Plants and the Upgrading of the Hotazel-Gloria Mine Rail Link with the associated support infrastructure;
- Waste Licence, Licence Number 12/9/11/L872/8 (23 September 2013): H:H (Storage of General and Hazardous Waste, Reuse and Recycling of Hazardous Waste and Treatment of Wastewater) on Portion 1 of the farm Gloria. This includes the Salvage Yard, Sewage Treatment Plant, Clarifier at Black Rock, Scrap Yard at Nchwaning and the Sewage Treatment Plant and Salvage Yard at Gloria;
- Varied Waste Licence (replaced permit dated 16 January 2002), Licence Number 2012/L1/1/BRMO (13 May 2014): Disposal of General Waste on Portion 1 of the farm Santoy as a Class G:C:B;
- NEMA Environmental Authorisation, Permit 01/2014 (24G) (19 September 2014): Rectification of unlawful commencement or continuation of listed activities, which includes the construction of facilities or infrastructure for the generation of electricity where the electricity output is more than 10MVA but less than 20MVA, the construction of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50,000m³ or more, the



construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80m³ but not exceeding 500m³;

- ☞ NEMA Environmental Authorisation, Permit 17/2014 (24 June 2014): The proposed construction of a Technical Training College and associated infrastructure next to the El Dorado Hotel and the Kuruman Country Club in Kuruman (this is outside of the mining rights area);
- ☞ NEMA Environmental Authorisation, Ref number NC30/5/1/2/3/2/1(203) EM (18 October 2018): Expansion of process water and portable water storage facilities: upgrade of ore handling and processing facilities at the Gloria Mine to replace existing ageing plant and equipment;
- ☞ NEMA Environmental Authorisation, Ref number NC30/5/1/2/3/2/1(203) EM (29 November 2018): Approval of application for the amendment of an integrated environmental authorisation in terms of the regulation 30 of the Environmental Impact Regulations, 2014 as amended, with regards to a mining right issued to Assmang Limited on the remaining extent and portion 1 of the farm Santoy no. 230, remaining extent and portion 1 of the farm Belgravia no.246; remaining extent and portion 1,2 and 3 of the farm Nchwaning no. 267 and portion 1 of the farm Gloria no. 266, Magisterial district of Kuruman; and
- ☞ Integrated Water Use Licence 10D41M/ABEGJ/3490 (2019) in terms of chapter 4 of the National Water Act.

1.3 Purpose of the Performance Assessment

The Performance Assessment is undertaken to determine the following:

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

The objectives of this EMPr Performance Assessment Report are to:

- ☞ Provide the management of the mine, as well as the DMRE (as the Competent Authority) with an understanding of the level of compliance towards the Environmental Authorisation and EMPr and associated Environmental Authorisation; and
- ☞ Supply a basis for the initiation of corrective action.

1.4 Project Background

Assmang (Pty) Ltd (Assmang) operates the BRMO, 50% owned by African Rainbow Minerals (ARM) and 50% by Assore Ltd, approximately 80 kilometres north-west of the town of Kuruman, near the town of Hotazel in the Kalahari, Northern Cape Province. The BRMO mines manganese ore from the Kalahari Manganese Field.

Manganese (Mn) and iron ore (Fe) were 'discovered' in approximately 1920 in and around the 'Gamagara Hills' of Postmasburg. Gloucester farm was bought at around that time and Gloucester Manganese Mines (GMM) was subsequently established. In 1929 the Manganese Corporation Limited (MCL) was established and in 1935 the Associated Manganese Mines of South Africa (Assmang) was formed through the merging of the GMM and MCL. Assmang has been mining around Black Rock since 1935 (in excess of 80 years). The average grade of ore mined by the BRMO has approximately 46% manganese. Based on available information Assmang acquired a manganese ore outcrop on a small hillock known as Black Rock in 1940. Subsequent to this finding, several large properties underlain by ore were identified and acquired. Today the BRMO comprises of three (3) underground mining complexes:

- ☞ Gloria (commissioned in 1975 and producing medium grade carbonated ore);
- ☞ Nchwaning II (commissioned in 1981 and producing high grade oxide ore); and
- ☞ Nchwaning III (commissioned in 1981 and producing high grade oxide ore).



No mining activities are currently taking place at the Black Rock Mine, where the main offices and mine village are located, however, two manganese seams (No. 1 and No. 2 seams) are presently mined at the other two operations, which forms part of the BRMO. The No. 1 seam is up to 6 metres in thickness and approximately 400 metres underground at Nchwaning II and 200 metres underground at Gloria. The No. 2 seam is situated above the No. 1 seam and is accessed via the Nchwaning II mining infrastructure.

New projects currently in progress include the Mine Expansion located predominantly on the farm Nchwaning 267 and farm Gloria 226.

1.5 Location

The BRMO falls under the jurisdiction of the John Taolo Gaetsewe District (formerly Kgalagadi) and Joe Morolong Local Municipalities in the Northern Cape Province.

The town of Hotazel is located approximately 13km south-east of the Black Rock Village.

The BRMO is located within two quaternary catchments, namely D41M and D41K. The watershed divide traverses the surface rights almost through the centre in a south-west/north-east direction. The Gamagara River flows in a northerly directly on the eastern boundary of the BRMO surface rights area, from where it confluences with the Kuruman River approximately 4km towards the north of the farm Nchwaning 267.

Assmang holds both the surface and mineral rights over the properties encompassing the greater BRMO (please refer to the following table). The land surrounding the BRMO is dominated by mining, industrial and agricultural (extensive livestock production systems) land uses.

Table 1: Land and Right Ownership

Mine	Farm Name	Title Deed	Surface & Mining Rights
Black Rock	Belgravia 264, Portion 1	No. 541 of 1940	Assmang (Pty) Ltd
	Santoy 230, Portion 1	No. 1491 of 1970	
Gloria	Gloria 266, Portion	No. 506 of 166	
Nchwaning II	Nchwaning 267, Portion 1	No. 541 of 1940	
	Nchwaning 267, Portion 3	No. 1491 of 1970	
Nchwaning III	Nchwaning 267, Portion 1	No. 541 of 1940	
	Nchwaning 267, Portion 3	No. 1491 of 1970	



2 COMPLIANCE ASSESSMENT METHODOLOGY

2.1 Methodology

The following methodology was implemented to assess the compliance of the mine in terms of its Environmental Authorisations:

- Gathering of Information with the submission of an Audit Plan and Information Requirements List on 16 July 2020;
- Checklist Formulation based on the 2017 EMPr and 2018 ROD;
- Site Visit: 5-6 August 2020;
- Interpretation of Collected Data;
- Compliance Assessment;
- Submission of draft Assessment with various information gaps;
- Second Round of Data Gathering and Clarification;
- Final Compliance Assessment; and
- Feedback.

2.1.1 Gathering of Information

Information was requested from the client with the submission of an Audit Plan and Information Requirements List on 16 July 2020. The following documents were received and reviewed by EnviroGistics (Pty) Ltd (hereafter referred to as EnviroGistics) and consulted during the assessment:

1. Imbewu ELCA Report, August 2019
2. ELG Environmental Legal Directors' Liability Study (LDLS), November 2018
3. Manyabe Consultancy (Pty) Ltd (Manyabe) External EMPr Environmental Performance Assessment Report – Project Code 201801, July 2018;
4. EScience Consolidated EMPr, June 2017;
5. Various Tree Removal Permits;
6. Manyabe Water Use Licence (WUL) Audit – Project Code 201910, July 2019;
7. Code of Practice Mine Residue Deposits – Working Document, Ref MCOPC-ENG-GEN-GEN-G-29121;
8. Tailings Storage Facilities Operational Manual for Nchwaning II and Gloria, Ref PRO-ENG-M-GE-G-3106
9. Environmental Authorisations:
 - a. Varied Waste Licence (replaced permit dated 16 January 2002), Licence Number 2012/L1/1/BRMO (13 May 2014): Disposal of General Waste on Portion 1 of the farm Santoy as a Class G:C:B;

Other information sourced by EnviroGistics through past or other current projects include:

1. Water Quality Reporting by Aquatico Scientific (Pty) Ltd (Aquatico), Quarter 1 2020 (January 2020);
2. Dust Monitoring Reporting by Aquatico;
3. Shangoni Management Services (Pty) Ltd (Shangoni) Final Rehabilitation and Decommissioning Plan, 2020

2.1.2 Stakeholder Consultation

No public participation/ stakeholder consultation was required as part of this Performance Assessment.



2.1.3 Checklist Formulation

EnviroGistics conducts its performance assessments on an electronic spreadsheet 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 Environmental Authorisation or licence being assessed. The spreadsheet is formulated based on all provided information. The checklist prepared for the purposes of this performance assessment is based on the Environmental Authorisation issued by the Competent Authority.

2.1.4 Site Assessment and Schedule

A site visit was undertaken on 5-6 August 2020, covering all the main mining and processing activities. Due to the COVID-19 Interprovincial travel restrictions and the quarantine requirements of 14days issued by the Mine for consultants travelling from other provinces, it was not possible for the Lead Auditor, Ms. T. Bekker to attend the site visit. Initially the Licence Holder requested a desktop assessment, however a local Environmental Consultant, Mr. Johan Kleynhans, was subcontracted by EnviroGistics to conduct the site visit and to provide independent observations.

The information collected on site included a qualitative description of each site, as well as photographic records of the site and of the broader study area.

2.1.5 Rating Methodology

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

Table 2: 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 Relevant	If a phase is completed and the condition does not relate to the subsequent phases.
NV	Not Verified	There have been shortcomings in the available information and as such, EnviroGistics is unable to express a conclusive opinion on the state of compliance.
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.

2.1.6 Reporting and Feedback

The site visit was initiated with an opening meeting, during which time the Licence Holder provided the audit team with a discussion on the current environmental status of the mining operations, as well as key environmental and operational issues experienced on the mine.

A closing meeting was held on 6 August 2020.

The draft Performance Report was provided to the Licence Holder on 1 September 2020 for comment. The Licence Holder review period was followed by a remote meeting on 28 September 2020 to discuss the outcomes and ensure that information gaps and audit information constraints could be closed.

2.2 Details of Environmental Assessment Practitioner

2.2.1 The Company

EnviroGistics (Pty) Ltd, 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 registered with both the South African Council for Natural Scientific Professions (SACNASP), and the Environmental Assessment Practitioners Association of South Africa (EAPASA), complying with the highest requirements of the South African Environmental Legislation. The company further holds no equity in this or any other project. EnviroGistics operates with the goal of fulfilling its vision and mission, breaking away from a general consulting mould, and striving to form an integral 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 with SACNASP and is also a registered Environmental Assessment Practitioner (EAP) with EAPASA, a legal requirement stipulated by the National Environmental Management Act, 1998. She is further certified as an ISO 14001 Lead Auditor. Her qualifications include a BSc. Earth Sciences (Geology and Geography), BSc. Hons. Geography, and a MSc. Environmental Management. In addition to these tertiary qualifications, she obtained a Certificate in Project Management, and completed the Management Advance Programme at Wits Business School.

With more than 18 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 client 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.

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Summary of the EAP's Education

M.Sc. Environmental Management – RAU (University of Johannesburg)

B.Sc. (Hons) Geography – RAU (University of Johannesburg)

B.Sc. Earth Sciences (Geography & Geology) – RAU (University of Johannesburg)

Career Enhancing Courses

ISO 14000 Lead Auditors Course (WTH Management)

Certificate in Project Management (University of Pretoria)

Management Advance Programme (MAP 81) (Wits Business School)

Professional Affiliations

Registered member of EAPASA

Certified ISO 14001 Environmental Management System Auditor

Registered as a Professional Natural Scientist with SACNASP

Member of the South African affiliate of the International Association for Impact Assessment (IAIA)

Member of the Environmental Law Association of South Africa (ELA)

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

Name	Position	Project Responsibility	Qualification	Professional Registrations	Experience
Tanja Bekker	Principal Practitioner	Compliance Assessor	M.Sc. Environmental Management (RAU, now University of Johannesburg)	EAPASA Reg No. 306/2019 SACNASP Reg No. 400198/09 Member of IAIA Member of ELA	18 Years



3 LEGAL 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 be promoted at all times. 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, on the basis of 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 Notice 1 and 3 require a Basic Assessment process to be followed whilst activities in Listing Notice 2 require a Scoping and Environmental Impact Report (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 Environmental Management Programme (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 or 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.

It is pertinent to note that recent amendments in May 2020 specified that the requirements contained in Part 3 of Chapter 5 of these Regulations must only be complied with and the first environmental audit report submitted to the competent authority by a **date to be published by Notice in the Government Gazette.**



3.3 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 DMRE, *inter alia*, issues environmental authorisations (and Waste Management Licences (WMLs)) in terms of NEMA and the *National Environmental Management: Waste Act, 2008* (Act No. 59 of 2008) (NEMWA), for mining and related activities. The Minister of the Department of Environmental Affairs (DEA; now the Department of Environment, Forestry and Fisheries (DEFF)) 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 DMRE and the DEFF.

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.

3.4 The National Water Act

One of the main and ever-continuing concerns in South Africa is the sustainability of water management, and the costs associated with the prevention and remediation of pollution. The *National Water Act, 1998* (Act No. 36 of 1998) (NWA) is one of the government’s answers to some of these challenges and functions as sectoral legislation within the framework of NEMA.

The NWA provides for water use authorisations which an operation will have to apply for, before commencing with a water use activity as defined in Section 21 of the NWA. Section 4 states that “**a person may use water in terms of a general authorisation or licence under this Act**”.

Various conditions may be attached to these licences and a breach thereof will result in criminal and civil liability. The conditions attached to water use authorisations will function alongside the additional protective measures, duty of care and statutory liability provisions provided by the NWA and other legislation to regulate a whole array of water issues.

Section 21 of the NWA lists the following 11 water uses which can only, legitimately, be undertaken through a water use authorisation issued by the Department of Water and Sanitation (DWS):

- (a) taking water from a water resource;
- (b) storing water;
- (c) impeding or diverting the flow of water in a watercourse;
- (d) engaging in a stream flow reduction activity contemplated in section 36;
- (e) engaging in a controlled activity identified as such in section 37(1) or declared under Section 38(1);
 - (f) discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduits;
- (g) disposing of waste in a manner which may detrimentally impact on a water resource;
 - (h) disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process;
- (i) altering the bed, banks, course or characteristics of a watercourse;



(j) removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people; and

(k) using water for recreational purposes.

With reference to Section 22(1) of the NWA, a person may only use water without a licence in the following instances:

- ☞ if that water use is permissible in terms of Schedule 1;
- ☞ if that water use is permissible as a continuation of an existing lawful water use (ELWU); or
- ☞ if that water use is permissible in terms of a general authorisation issued in terms of Section 39.

An ELWU is a water use which has taken place at any time during a period of two years immediately before the date of commencement of the NWA or which has been declared an existing lawful water use in terms of Section 33 of the NWA and which was authorised by or under any law which was in force immediately before the date of commencement of the NWA.

In addition to the above, Section 19 of the NWA echoes the duty of care envisaged in Section 28 of NEMA and addresses the prevention and remediation of the effects of pollution. The NWA provides for a broad duty of care in that:

“(1) an owner of land, a person in control of land or a person who occupies or uses the land on which-

- a) any activity or process is or was performed or undertaken; or***
- b) Any other situation exists, which causes, has caused or is likely to cause pollution of a water resource must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.”***

The words “likely to cause pollution” broadens the scope of the duty, which enables an activity, or situation that is land-based, to trigger the application of the duty. The “reasonable measures” are not prescribed, but may include measures intended to:

“Cease, modify or control any act or process causing the pollution; comply with any prescribed waste standard or management practice; contain or prevent the movement of pollutants; eliminate any source of pollution; remedy the effects of pollution; and remedy the effects of any disturbance to the bed and banks of a watercourse.”

The detrimental impact of mining on water resources is further regulated by the NWA in a comprehensive set of regulations titled: “Regulations on the Use of Water for Mining and Related Activities Aimed at the Protection of Water Resources”. In terms of these regulations:

“No person in control of a mine or [mining] activity may place or dispose of any residue or substance which causes or is likely to cause pollution of a water resource, in the workings of any underground or opencast mine excavation, prospecting diggings, pit or any other excavation.”

Regulation 7 provides for a whole array of provisions which specifically aim to protect water resources from mining. These provisions state that every person in control of a mine or mining activity must take all reasonable measures to, *inter alia*: prevent water containing waste or any substance which causes or is likely to cause pollution from entering any water resource; design, modify, locate, construct and maintain all water systems including residue deposits, to prevent the pollution of any water resource through the operation or use thereof; cause effective measures to be taken to minimise the flow of any surface water or floodwater into mine workings, opencast workings, other workings or subterranean caverns; prevent the erosion or leaching of materials from any residue deposit or stockpile from any area; and ensure that water used in any process at a mine or activity is recycled as far as practicable. These provisions specifically relate to the protection of water resources and they clearly set out further additional liabilities for mines as far as their water resource protection activities are concerned.



3.5 The National Environmental Management: Waste Act

3.5.1 General Provisions

The 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 a number of 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.”***

Mineral Waste considered a Waste in terms of NEMWA

When considering whether a “substance” is considered a “waste” or not, the definition of the NEMWA must be considered. The NEMWA defines “waste” as:

“Any substance, material or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all wastes as defined in Schedule 3 of this Act; or

Any other substance, material or object that is not included in Schedule 3 that may be defined as a waste by the Minister by notice in the Gazette.”

Schedule 3 of NEMWA categories waste into the following categories:

- ☞ Category A, hazardous waste; and***
- ☞ Category B, general waste.***

In terms of Schedule 3, “hazardous waste” is defined as:

“any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment and includes hazardous substances...”



Furthermore, and of particular importance to mining activities, Schedule 3 includes residue deposits and residue stockpiles as an automatic hazardous waste.

3.5.2 Management of Mineral Waste

Kindly note that in terms of Section 24S of NEMA, residue stockpiles and residue deposits must be deposited and managed in accordance with the provisions of the NEMWA, on any site demarcated for that purpose in terms of the approved EMPr.

Similarly, Section 43A of the NEMWA determines that residue stockpiles and residue deposits must be managed in the prescribed manner on any site demarcated for that purpose in the EMP/R for that prospecting, mining, exploration or production operation. Furthermore, no person may temporarily or permanently deposit any residue stockpile or residue deposit on any site other than on a site demarcated (and approved) for the purpose.

Moreover, the establishment or reclamation of a residue stockpile or residue deposit resulting from, *inter alia*, mining activities has been included as a waste management activity in terms of the 2013 NEMWA Listed Activities.

Lastly, the Mine must take cognizance of the *Regulations Regarding the Planning and Management of Residue Stockpiles and Residue Deposits, 2015* (GN R632 in GG 39020 of 24 July 2015) (Residue Stockpile Regulations). Regulation 2 determines that the purpose of the Regulations is to regulate the planning and management of residue stockpiles and residue deposits from a prospecting, mining, exploration or production operation.

It is pertinent to note that the provisions governing residues in terms of Regulation 73 of the MPRDA Regulations, 2004 have recently been repealed. Therefore, the Residue Stockpile Regulations should be followed in terms of the management of residue stockpiles and/ or deposits.

3.5.3 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 and not the Waste Classification Regulations. Accordingly, the Waste Classification Regulations will be applicable to other (non-mineral) 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;

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).



- ☞ 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 prescribes 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.

3.5.4 NEMWA Disposal Norms and Standards

Regulation 8 of the Waste Classification Regulations determines that; unless in a response to an emergency so as 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;
- ☞ 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. Accordingly, and with reference to liner requirements, the NEMWA Disposal Norms and Standards are not the governing Regulations regulating liner requirements for residue stockpiles and/or deposits. The Residue Stockpiles Regulations stipulate that a risk-based analysis and approach be undertaken to determine the liner requirements for residue stockpiles and/or deposits.

3.5.5 NEMWA Storage Norms and Standards

In terms of the new 2013 NEMWA Listed Activities, the storage of waste no longer requires a Waste Management Licence (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 (now the DEFF) 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 waste management licence until the expiry date of the permit or waste management licence 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 DEFF for formal feedback.

3.5.6 New 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 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 at all times;
 - 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 be on site at all times;
 - the site manager must be on site at all times 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 powerline.

3.5.7 General Waste Norms and Standards

In October 2017, new Regulations were promulgated which provides 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 1000m² and more; and
- ☞ a waste facility that has an operational area that is less than 1000m² must comply with Regulation 4(4) of these Norms and Standards only.

With regard to 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.

3.6 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.

3.6.1 Non-compliance with the MPRDA

Section 25 of the MPRDA states, *inter alia*, that the holder of a mining right must -

- ☞ actively conduct mining in accordance with the mining work programme;
- ☞ comply with the relevant provisions of this Act, any other relevant law and the terms and conditions of the mining right;
- ☞ comply with the requirements of the approved EMP;
- ☞ comply with the requirements of the prescribed social and labour plan.

Section 98(a)(viii) of the MPRDA stipulates that any person is guilty of an offence if he or she contravenes or fails to comply with any other provision of the MPRDA. Furthermore, Section 99(1) (g) states that in the case of any conviction of an offence in terms of this Act for which no penalty is expressly determined, to a fine or to imprisonment for a period not exceeding six months or to both a fine and such imprisonment.



3.6.2 Non-compliance with NEMA

3.6.2.1 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 or imprisonment.

3.6.2.2 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 or imprisonment.

3.6.2.3 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
- ☞ in order 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.

3.6.2.4 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 waste management.

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.

3.6.2.5 Section 24G Fine Regulations

Regulation 2 determines that the purpose of the *National Environmental Management Act 107 of 1998: 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.

3.6.2.6 *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.

3.6.2.7 *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).

3.6.3 Non-compliance with the NEMWA

3.6.3.1 General provisions

Section 20 of NEMWA states that no person may commence, undertake or conduct a waste management activity, except in accordance with a waste management licence 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.

3.6.3.2 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.

3.6.3.3 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.

3.6.3.4 Residue Stockpile Regulations

Regulation 14(1) determines that a person commits an offence if that person contravenes or fails to comply with a provision of the Residue Stockpile Regulations. A person convicted of an offence is liable on conviction to imprisonment for a period not exceeding 15 years; an appropriate fine; or both a fine and imprisonment.

3.6.4 Non-compliance with the NWA

3.6.4.1 General provisions

Section 22 of the NWA states that a person may only legally use water in the following instances:



- ☞ without a licence –
 - if that water use is permissible under Schedule 1;
 - if that water use is permissible as a continuation of an existing lawful use; or
 - if that water use is permissible in terms of a general authorisation issued under Section 39;
- ☞ if the water use is authorised by a licence under this Act; or
- ☞ if the responsible authority has dispensed with a licence requirement.

Section 151 of the NWA states that no person may use water otherwise than as permitted under this Act. Furthermore, any person who contravenes any provision is guilty of an offence and liable, on the first conviction, to a fine or imprisonment for a period not exceeding five years, or to both a fine and such imprisonment and, in the case of a second or subsequent conviction, to a fine or imprisonment for a period not exceeding ten years or to both a fine and such imprisonment.

3.6.4.2 Section 19 – Duty of Care

An owner of land, a person in control of land or a person who occupies or uses the land on which any activity or process is or was performed or undertaken or any other situation exists which causes, has caused or is likely to cause pollution of a water resource, must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.

Section 19(2) states that reasonable measures, may include measures to:

- ☞ cease, modify or control any act or process causing the pollution;
- ☞ comply with any prescribed waste standard or management practice;
- ☞ contain or prevent the movement of pollutants;
- ☞ eliminate any source of the pollution;
- ☞ remedy the effects of the pollution; and
- ☞ remedy the effects of any disturbance to the bed and banks of a watercourse.

Sections 151(i) and (j) of the NWA states that no person may:

- ☞ unlawfully and intentionally or negligently commit any act or omission which pollutes or is likely to pollute a water resource; and
- ☞ unlawfully and intentionally or negligently commit any act or omission which detrimentally affects or is likely to affect a water resource.

Furthermore, any person who contravenes any provision is guilty of an offence and liable, on the first conviction, to a fine or imprisonment for a period not exceeding five years, or to both a fine and such imprisonment and, in the case of a second or subsequent conviction, to a fine or imprisonment for a period not exceeding ten years or to both a fine and such imprisonment.

3.6.4.3 Cancellation of Permits

Section 54 of the NWA governs the suspension or withdrawal of entitlements to use water. A responsible authority may by notice to any person entitled to use water under this Act suspend or withdraw the entitlement if the person fails -

- ☞ to comply with any condition of the entitlement;
- ☞ to comply with this Act; or
- ☞ to pay a charge which is payable in terms of Chapter 5.

An entitlement may be suspended under subsection (1) -

- ☞ for the period specified in the notice of suspension; or
- ☞ until the responsible authority is satisfied that the person concerned has rectified the failure which led to the suspension.



4 COMPLIANCE ASSESSMENT

4.1 General Observations

4.1.1 Status of EMPr and Associated Environmental Authorisations

The Environmental Authorisation and associated EMPr are still valid.

4.2 Performance Assessment Outcomes

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

1. EMPr and/or Environmental Authorisation Requirements;
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. Suggestions for recommendations on how to achieve compliance and/or improvements. Note that these recommendations are not specific and are presented in the report to guide the Licence Holder in the development of specific actions to remedy non-compliances or where areas for improvement are present; and
5. Who the Competent Authority is?



Table 3: Environmental Authorisation Assessment: EMPr ROD, 2018

Black Rock Mne EMPr ROD, 2018							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
4	The approval is subject to the following conditions:						
a	It is noted that the Black Rock Koppie is a potential heritage site in terms of the National Heritage Resources Act 25 of 1999. A heritage resources assessment must be undertaken and subsequent approval from the South African Heritage Resources Agency must be sought prior to any further development, or mining of the Black Rock Koppie.	The Licence Holder is aware of this condition. The Black Rock Koppie is fenced off and patrolled by Security. No concurrent rehabilitation is undertaken in this area. Some old offices (the Old Environmental Offices) were demolished some time ago. The audit team was advised that the South African Heritage Resources Agency (SAHRA) wants the remaining structures to remain as is, due to heritage value.	Site observations	3	3	No additional recommendation.	-
b	The management actions stipulated in the EMPr and supporting specialist studies must be implemented and adhered to.	Please refer to the table hereafter detailing the outcomes of the EMPr Audit.	-	T/N	T/N	Please refer to recommendations as provided in the EMPr Audit Table.	Environmental Representative
c	All registered Interested and Affected Parties must be informed of the approved amendment within 14 days of the date of the decision to the fact that an appeal may be lodged against the decision in terms of the National Appeals Regulations, if such appeal is available in the circumstances of the decision.	I&APs were notified of the approval of the EMPr on 14 February 2019.	Notification Emails, February 2019	3	3	No additional recommendation.	-
d	An annual environmental audit must be undertaken in accordance with regulation 34 of the Environmental Impact Assessment Regulations, 2014 as amended.	The last Environmental Audit issued to the Auditor for assessment was dated 2018. Note that a delay has taken place due to the COVID 19 lockdown.	Manyabe Consultancy External EMPr Environmental Performance Assessment, July 2018	2	3	Annual Performance Assessments must be conducted on the EMPr.	Environmental Representative
e	The EMPr must be included in all contact documentation for all phases of implementation.	Compliant, the EMPr and approval are contained in the Contractors Safety, Health and Environment (SHE) file. During the audit, the Environmental Authorisations, Waste Management Licences (WMLs), Water Use Licences (WULs) and EMPr's were made readily available.	Site Inspection evidence in Contractors SHE File.	3	3	No additional recommendation.	-
f	A copy of this approval and the EMPr must be kept at the facility where the activities will be undertaken. These must be produced to any authorised official of the Department who requests to see them 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 facility.	Compliant, the EMPr and Environmental Authorisation/ ROD are contained in the Contractors SHE file. During the audit, the Environmental Authorisations, WMLs, WULs and EMPr's were made readily available.	Site Inspection evidence in Contractors SHE File.	3	3	No additional recommendation.	-
g	The applicant shall remain responsible for the facility, and/or any of its impacts on the environment.	The Licence Holder is aware of this condition.	Site observations.	T/N	T/N	Please refer to the Legal Section in the	Environmental Representative

Black Rock Mne EMPr ROD, 2018							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
						Audit Report detailing the risks of non-compliance to the key Environmental Legislation.	
h	The Department reserves the right to audit or inspect the Facility without prior notification at any time and frequency as may be determined by the Department.	The Licence Holder is aware of this condition.	Site observations.	T/N	T/N	No additional recommendation.	Environmental Representative
i	The applicant must make any relevant records or documentation available to the Department upon request.	The Licence Holder is aware of this condition.	Site observations.	T/N	T/N	No additional recommendation.	Environmental Representative
j	The Licence Holder must keep records of all monitoring results, nuisance and complaints regarding the authorised activities.	Monitoring results were assessed by the Auditor. No information was available in terms of complaints.	Site observations.	3	3	No additional recommendation.	Environmental Representative
k	This Integrated Environmental Authorisation replaces previous Environmental Authorisations issued for the scope covered in the approved EMPr.	The Licence Holder is aware of this condition.	Site observations.	T/N	T/N	No additional recommendation.	Environmental Representative
Compliance Score				17	18	94%	

Table 4: Associated EMPr, 2017

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
Table 6-1	General Requirements						
Access to EMPr and permits	A copy of this EMPr (or relevant sections of it), and relevant environmental permits must be kept at the areas where the activity will be undertaken. These must be made available for inspection by any employee or contractor who works or undertakes work at the site.	Compliant, the EMPr and Environmental Authorisation/ ROD are contained in the Contractors SHE file. During the audit, the Environmental Authorisations, WMLs, WULs and EMPrs were made readily available.	Site Inspection evidence in Contractors SHE File.	3	3	No additional recommendation.	-
Changing Circumstances	Where new legislation gazetted, or existing legislation is updated, and the new provisions are in conflict with the stipulations of the legislation, the legislation will take precedence unless otherwise indicated in the relevant transitional arrangements.	The Licence Holder is aware of this condition. The Licence Holder regularly undertakes Environmental Legal Compliance Audits (ELCAs), as well as Directors' Liability Audits by external specialists to ensure compliance in terms of the latest gazetted and existing legislation.	Imbewu ELCA Report, August 2019; ELG Environmental Legal Directors' Liability Study (LDLS), November 2018	3	3	No additional recommendation.	-
	The competent authority must be informed of any significant changes to the activity descriptions, the proponent's details, or the EMPr.	Based on the site observations, the activities as approved have been undertaken on site. No observations have been raised in the ELCA, LDLS or the 2020 Site Inspection that any significant changes have taken place to the project descriptions. Activities are included as part of this EMPr, 2017. The ELCA has indicated that certain activities as approved in the EMPr, have commenced without the necessary NEMWA and NWA approvals, however the Competent Authorities have approved these as part of the NEMA in terms of the EMPr, 2017.	Imbewu ELCA Report, August 2019; ELG Environmental LDLS, November 2018; Integrated Environmental Authorisation, November 2018	3	3	The ELCA recommended a formal review of all authorisation processes, as reasonable doubt exists that the correct processes were followed. Furthermore, a gap analysis must be undertaken to ensure that all activities on site are approved.	Environmental Representative
Reporting and control of Environmental incidents	NEMA defines "incident" as an unexpected, sudden and uncontrolled release of a hazardous substance, including from a major emission, fire or explosion, that causes, has caused or may cause significant harm to the environment, human life or property; The NWA defines an emergency incident as any incident or accident in which a substance – (a) pollutes or has the potential to pollute a water resource; or (b) has, or is likely to have, a detrimental effect on a water resource. All incidents	The Licence Holder is aware of this condition and is notifying the Competent Authority of incidents when these occur, for example the spillage of about 100l of hydrocarbons at the Salvage Yard during offloading.	Notification of Incident to the DMRE, 31 January 2020	3	3	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	must be managed and reported as per the requirements of S30 of NEMA, and/or S20 of the NWA as applicable.						
Table 6-2	Mitigation for Pre-construction, Planning and Design Phase						
1.1 Management (Set-up structures and procedures for implementation of EMPr)	The EMPr must be reviewed after completion of detailed design. If necessary, this EMPr must be updated to ensure that it is relevant to the detailed design of all applicable site structures, supporting infrastructure and activities.	The EMPr is audited biannually. No areas of concern were highlighted in terms of the adequacy of the EMPr during the 2018 External Environmental Audit: "In terms of the adequacy of the EMPr as discussed under Section 10.2 of this report, it was established that the current revised EMPr for the BRMO dated 20 January 2017 was deemed adequate in terms of the technical content and format, as per the requirements of the MPRDA, the NEMA, and associated Regulations. BRMO therefore do comply with the requirements of the MPRDA and the NEMA. The 2017 amended EMPr has included all activities undertaken at the mines and that management measures provided are being addressed sufficiently. It was further noted that the 2017 EMPr commitments made are clear and provide adequate, quantifiable targets or objectives."	Manyabe Consultancy External EMPr Environmental Performance Assessment, July 2018	3	3	No additional recommendation.	-
	The competent authority must be informed of any significant changes to the project description or the EMPr	Based on the site observations, the activities as approved have been undertaken on site. No observations have been raised in the ELCA, LDLS or the 2020 Site Inspection that any significant changes have taken place to the project descriptions. Activities are included as part of this EMPr, 2017. The ELCA has indicated that certain activities as approved in the EMPr, have commenced without the necessary NEMWA and NWA approvals, however the Competent Authorities have approved these as part of the NEMA in terms of the EMPr, 2017.	Imbewu ELCA Report, August 2019; ELG Environmental LDLS, November 2018; Integrated Environmental Authorisation, November 2018	Dup	Dup	No additional recommendation.	-
	This EMPr must be updated to ensure that the conditions of relevant approvals, licences and authorisations issued for this project are not in conflict with the EMPr.	The Licence Holder is aware of this condition. The Licence Holder regularly undertakes ELCAs, as well as Directors' Liability Audits by external specialists to ensure compliance in terms of the latest gazetted and existing legislation.	-	T/N	T/N	No additional recommendation.	-
	The project proponent must appoint an independent Environmental Control Officer	Ms. Tshifhiwa Prisca Ravele, has been appointed on 21 February 2019 as the mine's	Appointment Letter 21 February 2019	3	3	No additional recommendation.	-



Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	who must audit compliance with the EMPr during the construction phase for mine expansion and the sinter plant complex.	Environmental Control Officer. During a meeting on 28 September 2020, Ms Tshifhiwa has explained that EScience is appointed as the independent ECO for the implementation of activities on site. At this time the Sinter Plant has not been commissioned. For all other activities, quarterly reports are issued by EScience.	Audit Meeting, 28 September 2020				
	The EMPr must be made binding to contractors and should be included in tender documentation for the contract.	The EMPr and approval are contained in the Contractors SHE file. A copy of the EMPr (Extract for Construction Contracts) were provided during the audit. In addition to this, a strict induction protocol is in place, which all employees and contractors must complete prior to gaining access on site. According to part audits, training on various procedures is undertaken within the mining and operations areas and registers are available. In addition to this, all supervisors, in their appointment letters, stipulate that they are they are responsible to implement conditions of the WUL, WML appointments are in place.	Manyabe Consultancy External Environmental Audit, July 2018 Training records were not verified during the 2020 Audit. EScience EMPr Extract for Construction Contractors, September 2018 Appointment Letter 21 February 2019 Audit Meeting, 28 September 2020	3	3	No additional recommendation.	-
	The project proponent must appoint an independent Environmental Control Officer who must audit compliance with the EMPr during the construction phase for mine expansion and the sinter plant complex.	Duplicate Condition.	-	Dup	Dup	No additional recommendation.	-
	The EMPr must be made binding to contractors and should be included in tender documentation for the contract.	Duplicate Condition.	-	Dup	Dup	No additional recommendation.	-
	The EMPr must be made readily available to the contractors, staff, as well as other relevant role-players associated with the project.	Duplicate Condition.	-	Dup	Dup	No additional recommendation.	-
1.2 Training	Contractors and staff must be properly trained in all environmental aspects relating to their role in the project's construction and operation, as per requirements of the associated environmental awareness plan.	The EMPr and approval are contained in the Contractors SHE file. A copy of the EMPr (Extract for Construction Contracts) were provided during the audit. In addition to this, a strict induction protocol is	Manyabe Consultancy External Environmental Audit, July 2018 Training records were not verified during the 2020 Audit. EScience EMPr Extract for Construction Contractors,	3	3	No additional recommendation.	-



Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		<p>in place, which all employees and contractors must complete prior to gaining access on site. According to part audits, training on various procedures is undertaken within the mining and operations areas and registers are available.</p> <p>Regular talk topics are conducted by the mine regarding, water, environment and waste management.</p>	<p>September 2018 Talk topic - Environmental, October 2020</p>				
1.3 Legal Compliance	Obtain environmental authorisation, in terms of the National Environmental Management Act (107 of 1998), where activities listed in terms of Chapter 5 of the Act are triggered and not otherwise authorised.	<p>Various EMPrs and Environmental Authorisations are in place on site. Based on the site observations the Licence Holder is aware of the application requirements. In addition to this, the Licence Holder is currently conducting a further gap analysis to ensure that all Water Uses in terms of the NWA are applied for in terms of Section 21, GN704 and the General Authorisations (Gas).</p> <p>For the purposes of the audit it must be noted that a detailed gap assessment was not undertaken to identify whether all activities on site are approved in terms of the relevant legislation, however where specific concerns, if any, are observed, these will be raised.</p>	<p>EMPr, August 2013 (Sinter Plant); Environmental Authorisation Ref NC/EIA/JTG/ASS/HOT/2010, October 2013 (Sinter Plant); WML, May 2014; Section 24G ROD, September 2014 Ref S24 23/02/2011; EMPr, February 2017; Environmental Authorisation, August 2018 (Decommissioning of Diesel Bay); Environmental Authorisation, October 2018 (Gloria Upgrades); Integrated Environmental Authorisation, November 2018; WUL, 2019 Ref 10/D41M/ABEGJ/3490.</p>	3	3	No additional recommendation.	-
	Obtain a Waste Management Licence in terms of the National Environmental Management: Waste Act (59 of 2008) where activities listed in terms of S19 of the act are triggered and not otherwise authorised.	<p>With respect to disposal of general waste on site, a copy of the WML dated 13 May 2014 authorising a general waste disposal site is in place. In addition to this, an integrated Environmental Authorisation was granted in November 2018 for Nchwaning II which covered the new TSF on site.</p>	<p>WML, May 2014 Integrated Environmental Authorisation, November 2018</p>	3	3	No additional recommendation.	-
	Obtain an Atmospheric Emission Licence (AEL), in terms of the National Environment Management: Air Quality Act (39 of 2004), from NCDENC for the operation of the sinter plant	<p>The Sinter plant has not been constructed., which will trigger AEL requirements.</p>	<p>Site observations</p>	T/N	T/N	No additional recommendation.	-
	Permits applicable to the removal, relocation or destruction of protected plants must be obtained prior to undertaking any such activity.	<p>Various tree removal permits, as well as amendments to tree removal permits issued by the Department of Agriculture, Forestry and Fisheries (DAFF) are in place for areas where</p>	<p>Various Permits (NCU 500114, NCU 5140115, NCU 7360417, NCU 8680718, NCU 9890919, etc. and ODB 2657-2015)</p>	3	3	No additional recommendation.	-



Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		<p>construction were planned. Permits for floral species removal are also in place approved by the Northern Cape Department of Environment and Nature Conservation (NCDENC).</p> <p>These permits are <i>inter alia</i> applicable to the Nchwaning III TSF expansion, Maintenance of powerlines, Old Black Rock Hostel, Nchwaning III Parking areas, Haul roads, Black Rock to Gloria powerline, etc.</p>					
	Identify the need for any other environmental permits and obtain these as required.	The folder provided by the Licence Holder lists all the tree and floral species removal permits. The folder also includes the regulations which should be considered in this regard.	Various Permits (NCU 500114, NCU 5140115, NCU 7360417, NCU 8680718, NCU 9890919, etc. and ODB 2657-2015); National Forestry Act Regulations, 2007	3	3	No additional recommendation.	-
	Facilities for the storage and hazardous waste must be incorporated into the project design to ensure that all hazardous waste will be handled and stored in compliance with the NEMWA National Norms and Standards for the Storage of Waste GN 926: 2013, or superseding equivalent.	<p>During the site visit no concerns were raised in terms of the storage of hazardous waste.</p> <p>Waste Manifests and Safe disposal certificates were verified during the audit, with EnviroServe, through African Eagle Waste Management (Registration GP-BL270394) being responsible for the safe disposal of the hazardous waste.</p>	<p>There have been shortcomings in the available information and as such, EnviroGistics is unable to express a conclusive opinion on the state of compliance.</p> <p>Site Inspection observations.</p>	3	3	No additional recommendation.	-
1.4 Design specifications	Design engineers and contractors must be informed of the required minimum standards as may be stipulated in permits relevant to the processes and activities they are designing such that these can be incorporated in the design.	Engineers are involved in the development of the EMPr documents, as well as project planning.	Project observations.	3	3	No additional recommendation.	-
Table 6-3	Construction Site Establishment and All Construction Activities (Construction activities are pending at Nchwaning II and Gloria - not active due to COVID-19 Restrictions)						
Ambient air	A dust palliative with at least 80% dust reduction efficiency must be applied to unpaved roads (See Appendix 5 for alternative palliative options). Roads paved with low grade ore or aggregate shall be considered as being paved.	Aquatico is responsible for dust monitoring on site. Ten monitoring points have been established on site. When considering the May 2020 monitoring report, the dust fall out of the sampling sites are mostly below the 1200mg/m ² /d limit, with the exception of the monitoring point at the Skoonpspruit Residential Area which exceeded the 1200mg/m ² /d limit during March/April 2020. This further exceeded the 600mg/m ² /d residential limit. Based on the information	Aquatico Dust Monitoring Report, May 2020	3	3	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		over 12 months, this was a once off exceedance and no specific concern was raised – subsequently no further exceedances were documented. No concerns were raised over the operational areas where unpaved roads are present.					
	Waste shall not be burnt unless in a waste management facility, or other facility, licenced for that purpose. Evidence of lawful disposal all wastes steams generated must be maintained.	No fires or burning of waste are allowed on mine.	Site Inspection observations.	3	3	No additional recommendation.	-
Surface water, soil and Ground water	Contractor/s must provide appropriate (capacity/effective containment of grey and black water), ablution/sanitary arrangements for employees, and maintain/service such for the duration of their sites activities in accordance with the MHSA as a minimum. Mobile facilities must be inspected on a daily basis for leaks and cleanliness, and emptied at frequency adequate to prevent overflow. Septic tank must be emptied at a frequency sufficient to prevent overflow. Caution must be taken to prevent leaks or spills during emptying of septic tanks. In the event of spill residue must be removed and the affected area must be treated with lime.	During the site visit no areas of active construction were observed due to the COVID-19 Restrictions. Chemical toilets are in place and no concerns were raised during the site investigation. The various mines have Sewage Treatment Facilities in place.	Site Inspection observations.	T/N	T/N	No additional recommendation.	-
	Concrete preparation (i.e. including mixing) and batching must take place on durable, impermeable, bunded surfaces	One batch plant was present at Nchwaning II on site no areas of concern were observed.	Site Inspection observations.	3	3	No additional recommendation.	-
	Run-off from preparation (i.e. including mixing) activities must be effectively contained and prevented from entering the natural environment (i.e. soils, surface water, and groundwater).	Compliant, no areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	No underground (i.e. buried) fuel tanks may be established as part of the construction activities sites or anywhere else on site during construction, or operation.	No buried tanks are present on site.	Site Inspection observations.	3	3	No additional recommendation.	-
	Bunded facilities must be compliant with specifications of the BRMO Spill	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	Management and Specifications for Bund Walls procedure, as appended						
	Above ground fuel, or oil storage tanks, must be located within appropriately sized, impermeable, bunding that is constructed in accordance with BRMOs spill management procedure. Decanting must be undertaken within the bunded area or on an impermeable surface for this purpose.	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Appropriate spill management kits must be kept and maintained on site wherever liquid hazardous materials are stored, and where refuelling and/or servicing of plant, vehicles and machinery takes place, in order to manage potential spillages effectively.	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Training, in the use and maintenance of the abovementioned kits, as well as any contaminated waste products, must be provided to ALL staff either directly or indirectly involved in any of the activities identified above.	A training register for the management of hazardous waste was presented by the Licence Holder dated April 2019 to 26 August 2020. No areas of concern were however observed during the site inspection.	Training History Report, 2019-2020 Handle Waste Material in a Metallurgical Plant, 2020 Site Inspection observations.	3	3	No additional recommendation.	-
	Hazardous chemical containers must be stored within appropriately constructed bunds. Inspection of containers' integrity must be undertaken regularly, and compromised containers must be replaced.	Hazardous chemicals are stored in bunded areas, however at Black Rock, diesel drums are stacked on top of one another. If this fall over or are damaged during offloading or uploading spills may not be contained. At the Gloria fuel storage facility, no capacity indicators are present on the bund walls. There is also grass growing inside the facility which may pose a fire hazard.	Site Inspection observations.	1	3	Diesel drums should not be stacked in a manner where these can topple over the contained area. The bund wall at Gloria fuel storage facility should be provided with capacity indicators and vegetation should be removed.	Engineering Department
	Sorbents and contaminated soil must be immediately collected and placed within a water-tight, skip/container for subsequent disposal or treatment at an appropriately	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-



Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	licensed hazardous waste management facility.						
	All servicing of plant and vehicles is to take place strictly within dedicated workshops within construction site/s, or otherwise off-site at appropriate maintenance facilities.	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Furthermore, servicing and maintenance of plant and vehicles must take place on impermeable surfaces with appropriate measures in place to contain contaminated run-off. Impermeable surfaces must be maintained.	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Where emergency/unplanned repairs are required during construction activities, or oil leaks are identified, suitable drip trays must be used to prevent contamination of soil and water.	During the site inspection, spill kits and drip trays were observed in place. No emergency repairs were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Uncontaminated storm water run-off within the sites must be prevented from flowing through workshops and wash bays or any other contaminated areas.	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Potentially contaminated water must be effectively diverted, contained and managed, such that no contaminants are ever in contact with site soils	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Waste oil generated from vehicle workshops/drip trays must be immediately stored in sealable, water-tight, steel drums or containers within a bunded facility for subsequent removal from site for either recovery, or disposal thereof.	Compliant, records of safe disposal certificates were verified as part of the audit.	Audit Evidence	3	3	No additional recommendation.	-
	Waste oil storage areas may only be placed within relevant construction/contractor's sites, and BRMO workshop areas, before being moved to the BRMO hazardous waste storage area or direct removal by an appropriate waste removal or recycling company.	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Sufficient, water-tight, skips/containers on site for the separate storage of general (including steel, rubble and other non-contaminated waste) and hazardous waste.	In general, the Licence Holder's waste management procedure is good. One area of concern observed during the site inspection was the Black Rock Salvage Yard, where	Site Inspection observations.	1	3	The areas were ground pollution has occurred at the Salvage Yard (Black Rock) should be	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		sufficient containers were not available and ground pollution was present due to hydrocarbon spills.				rectified. The required containments and skips should be put in place.	
	Under no circumstances must waste be stored on site anywhere but in the appropriate skips/containers provided for such.	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Waste skips/containers must be cleared when full, such that waste doesn't overflow onto adjacent ground	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Records of safe disposal must be obtained, and kept on file, for all waste removed from site; where the waste management facility/contractor used for such purposes must be appropriately licensed/permitted for such.	Compliant, records of safe disposal certificates were verified as part of the audit.	Audit Evidence	3	3	No additional recommendation.	-
	The area supervisor is responsible for ensuring that wind-blown litter is collected from the sites on a daily basis.	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Waste must not be temporarily stored on bare soil surfaces; Except where: <ul style="list-style-type: none"> • The waste is regarded as being 'inert' (e.g. waste bricks, uncontaminated steel scrap, etc.), in terms of the definition provided for in the National Environmental Management: Waste Act (59 of 2008); • The waste will be removed from site within 30 days of the generation thereof; and • No component of the waste is susceptible to dispersal by wind 	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Skips/containers must, therefore, be clearly marked for purpose	In terms of the general site observations, the marking of skips was regarded as compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Safe disposal/management certificates must be obtained for all waste removed from site	Compliant, records of safe disposal certificates were verified as part of the audit.	Audit Evidence	3	3	No additional recommendation.	-
	Waste may only be taken to appropriately licensed/permitted waste management facilities.	Compliant, records of safe disposal certificates were verified as part of the audit.	Audit Evidence	3	3	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	Waste skip/container collection and replenishment schedules must be developed and managed pro-actively by the supervisors, in order to ensure that no skips/containers are left full and/or overflowing for any extended period of time and that there is always appropriate temporary waste storage capacity on site	Compliant, no areas of concern were observed. A detailed Waste Management Procedure is in place which further govern the management of waste. This procedure identifies the different streams of waste as well as stipulates the minimum requirements for the storage, handling, transportation and disposal of waste.	Waste management Procedure, document no. PRO-SHE-E-GE-G-1233	3	3	No additional recommendation.	-
	Contractors will be required to provide a method statement specific to waste minimisation, reuse, recovery and recycling, as well as temporary storage and disposal; where such plans would need to be signed off by competent site environmental personnel/environmental control officer (Environmental Control Officer) prior to the start of construction activities.	No proof of the method statements was provided to verify compliance with this condition. However, the mine has a detailed Waste Management Procedure is in place which further govern the management of waste. This procedure identifies the different streams of waste as well as stipulates the minimum requirements for the storage, handling, transportation and disposal of waste. All contractors are subjected to training in procedures, as well as detailed induction.	Waste management Procedure, document no. PRO-SHE-E-GE-G-1233	2	3	It is recommended that contractors acknowledge that they have read and understood the relevant procedures. It is further recommended that the method statements to be received from contractors are implemented.	Environmental Representative
Surface water	Surface storm water run-off must not be able to flow through any waste storage areas. Nor should skips/containers, or waste storage areas, be positioned where surface water may pond or flow preferentially during rainfall events	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
Biodiversity	Construction sites may only be established within the anticipated development footprints of the proposed project. E.g. proposed product stockpile floors.	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	The poaching, or killing, of indigenous site fauna is prohibited.	Compliant. No areas of concern were observed during the site inspection. This is further addressed in the induction protocol.	Site Inspection observations.	3	3	No additional recommendation.	-
	Under no circumstances are wood, or medicinal plants, to be 'harvested' without an appropriate permit or licence.	Compliant. No areas of concern were observed during the site inspection. This is further addressed in the induction protocol.	Site Inspection observations.	3	3	No additional recommendation.	-
	If open fires (i.e. not contained in a brazier or equipment designed for that purpose), for the purposes of cooking, are to be tolerated within the construction site/s, the following conditions are to apply: • Must be well removed from fuel and hazardous material storage areas, in line with appropriate BRMO safety standards;	Duplicate Condition.	-	Dup	Dup	No additional recommendation.	-



Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	<ul style="list-style-type: none"> Must be well removed from indigenous vegetation (at least 15m); Fire-extinguisher must be readily available; Must be screened from wind with non-flammable material/s; and Non-smouldering ash residues must be disposed of in general waste skip/s, or containers, on site. 						
	Contractors must ensure that alien invasive species within the bounds of their sites are managed in accordance with relevant provisions of the BRMO alien invasive species management plan (Appendix 10)	No invasive plants were observed in inactive construction areas.	Site Inspection observations.	3	3	No additional recommendation.	-
	All relevant personnel and contractors to receive training in regard to the above requirements.	The mine has a detailed Procedure for the Management of Biodiversity in place. This procedure identifies the responsibilities, and procedures for the protection of fauna, flora and eradication of alien invasive plant species. All contractors are subjected to training in procedures, as well as detailed induction.	Procedure for Management of Biodiversity document no. PRO- SHE-E-GE-G-1847	3	3	No additional recommendation.	-
Socioeconomics	Only contractor/s and his/her employees, or sub-contractors, may be housed within, or gain access to the construction site/s and housing facilities.	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Access by the contractor and his/her employees to adjacent farms (i.e. other than those falling within the ambit of the project) is strictly forbidden; unless otherwise agreed upon, in writing, by the relevant landowner/s.	Compliant. No areas of concern were observed during the site inspection. The mining site is well fenced, and access is controlled.	Site Inspection observations.	3	3	No additional recommendation.	-
	The enhancement of benefits associated with the effects on employment lie in the potential to increase the employment opportunities for local communities in the JT Gaetsewe DM and supporting more jobs through the procurement of local goods than imported materials and inputs where feasible. In this context, the following should be considered, where possible: <ul style="list-style-type: none"> Employ labour-intensive methods in construction, where economically feasible; Employ local residents and communities, 	The mine has a Social and Labour Plan in place. These plans are reviewed in accordance with the DMRE requirements and makes emphasise on achieving the requirements of the Mining Charter and therefore with the appointment of contractors, and employees local labour, women owned companies are recommended.	Vendor Documentation.	3	3	No additional recommendation.	-



Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	where possible; • Sub-contract to local construction companies (in the JT Gaetsewe DM), where feasible; and utilise local suppliers, where feasible.						
	The negative impact on housing and service delivery provision pressures could be reduced by sourcing the majority of construction workers from local communities, thus reducing the need to bring new people into the local area.	The mine has a Social and Labour Plan in place. These plans are reviewed in accordance with the DMRE requirements and makes emphasise on achieving the requirements of the Mining Charter and therefore with the appointment of contractors, and employees local labour, women owned companies are recommended. It should further be noted that the mine provides accommodation on site.	Vendor Documentation. Site Observations	3	3	No additional recommendation.	-
Topography	No slopes with gradient > 33° (i.e. 3H:1V) should be established on site; unless otherwise protected from erosion by appropriate storm water management measures, or slope stabilisation/re-vegetation	Based on the site investigations the topsoil stockpiles are not compliant in terms of the required slope as it exceeds the 33 degrees.	Site Inspection observations.	0	3	Topsoil stockpiles slopes should remain within the required design and be managed to promote re-vegetation.	Environmental Representative
	Vegetation and topsoil stripping to only be undertaken between 7:00am and 5:00pm.	No vegetation and topsoil stripping were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	In terms of noise impact for various increases over the ambient, the National Noise Regulations define an increase of 7 dBA as "disturbing". Noise levels during construction must, therefore, be kept within 7 dBA of the baseline data at sensitive receptors.	During the site visit no areas of concern were observed. The construction activities were on hold due to COVID-19 Restrictions. For this reason, no areas of concern were raised.	Site Inspection observations.	3	3	No additional recommendation.	-
Noise and Vibration	Should noise complaints be received then the source of the noise causing the disturbance must be investigated and measures to reduce the noise level must be considered and implemented. Subsequent follow-up with the complainant must be undertaken to confirm elimination of the problem.	The mine is remote, and it is unlikely that noise impacts will arise which will cause nuisance.	Site Inspection observations.	T/N	T/N	It is recommended that ambient noise monitoring be undertaken sporadically during construction phases.	Environmental Representative
	Ground level vibrations resulting from blasting activities should not exceed 10 m/s beyond the mine boundary	According to the mines' Superintendent Rock Engineer, no vibration monitoring has been conducted on site. The current blasting underground does not produce PPV's high enough to cause any significant damage to structures or rock mass (assumed that this will	Email dated 30 September 2020, time 7h34	1	3	It is recommended that the newly installed monitoring equipment results be recorded and kept on file to address	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		then be within the provided limits). It was stated that the mine is in the process of installing blasting vibration monitoring instruments on surface to determine the amount of blasting vibration produced by surrounding mines due to the high PPV's from those areas which may cause rock mass and infrastructure damage.				confirmation of this condition.	
	Air over pressure from blasting activities should not exceed 134 dB at the mine boundary	According to the mines' Superintendent Rock Engineer, no vibration monitoring has been conducted on site. The current blasting underground does not produce PPV's high enough to cause any significant damage to structures or rock mass (assumed that this will then be within the provided limits). It was stated that the mine is in the process of installing blasting vibration monitoring instruments on surface to determine the amount of blasting vibration produced by surrounding mines due to the high PPV's from those areas which may cause rock mass and infrastructure damage.	Email dated 30 September 2020, time 7h34	1	3	It is recommended that the newly installed monitoring equipment results be recorded and kept on file to address confirmation of this condition.	Environmental Representative
	No surface blasting to take place during windy conditions	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Ground level vibrations resulting from blasting activities should not exceed 10 m/s beyond the mine boundary	Duplicate Condition.	-	Dup	Dup	No additional recommendation.	-
Table 6-4:	Vegetation Clearance						
Biodiversity	Vegetation clearance must be limited to the smallest area practical to enable construction activities and the establishment of structures and infrastructure. These areas need to be clearly marked out (e.g. taped off) under the supervision/assistance of the Internal Environmental Officer as vegetation clearance proceeds on site. Required to ensure that all vegetation clearance is restricted to designated areas to the greatest extent practical.	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	No protected species may be removed, relocated or destroyed without the necessary permits for such having been	Various tree removal permits, as well as amendments to tree removal permits issued by DAFF are in place for areas where construction	Various Permits (NCU 500114, NCU 5140115, NCU 7360417, NCU	3	3	No additional recommendation.	-



Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	obtained from the relevant competent authority	were planned. Permits for floral species removal are also in place approved by the NCDENC. These permits are <i>inter alia</i> applicable to the Nchwaning II TSF expansion, Maintenance of powerlines, Old Black Rock Hostel, Nchwaning III Parking areas, Haul roads, Black Rock to Gloria powerline, etc.	8680718, NCU 9890919, etc. and ODB 2657-2015)				
	The removal, relocation or destruction of protected plant and tree species must be undertaken in compliance with all conditions stipulated in the abovementioned permits, as well as supporting biodiversity off-set implementation plan	Various tree removal permits, as well as amendments to tree removal permits issued by DAFF are in place for areas where construction were planned. Permits for floral species removal are also in place approved by the NCDENC. These permits are <i>inter alia</i> applicable to the Nchwaning II TSF expansion, Maintenance of powerlines, Old Black Rock Hostel, Nchwaning III Parking areas, Haul roads, Black Rock to Gloria powerline, etc.	Various Permits (NCU 500114, NCU 5140115, NCU 7360417, NCU 8680718, NCU 9890919, etc. and ODB 2657-2015)	3	3	No additional recommendation.	-
	Any <i>Ammocaris coranica</i> , <i>Harpogophytum procumbens</i> , <i>Babiana hypogaea</i> and <i>Boophane disticha</i> , or any other red data listed (RDL) species identified on site, need to be rescued and relocated under the guidance of a competent ecologist, or by parties trained to undertake such by a competent ecologist, as part of species specific rescue and relocation plans formulated by a competent ecologist, where possible.	Various tree removal permits, as well as amendments to tree removal permits issued by DAFF are in place for areas where construction were planned. Permits for floral species removal are also in place approved by the NCDENC. These permits are <i>inter alia</i> applicable to the Nchwaning II TSF expansion, Maintenance of powerlines, Old Black Rock Hostel, Nchwaning III Parking areas, Haul roads, Black Rock to Gloria powerline, etc.	Various Permits (NCU 500114, NCU 5140115, NCU 7360417, NCU 8680718, NCU 9890919, etc. and ODB 2657-2015)	3	3	No additional recommendation.	-
	All contractors and employees involved in vegetation clearance must be trained to identify the species above.	The mine has a detailed Procedure for the Management of Biodiversity in in place. This procedure identifies the responsibilities, and procedures for the protection of fauna, flora and eradication of alien invasive plant species. All contractors are subjected to training in procedures, as well as detailed induction.	Procedure for Management of Biodiversity document no. PRO- SHE-E-GE-G-1847	3	3	No additional recommendation.	-
	All areas stripped of indigenous vegetation cover and topsoil need to be regularly inspected for the potential establishment	In terms of the site investigations, invasive plant control is in general lacking due to COVID-19 restrictions.	Site Inspection observations.	0	3	Invasive plant species control should be	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	of alien invasive species, and appropriate control measures applied where these species are observed to have established (i.e. in accordance with the provisions of the BRMO 'alien invasive species management plan').			3		implemented as soon as practically possible.	
	A copy of the BRMO alien invasive species management plan, inclusive of quick 'weed identification' flashcard sets, to be supplied to the relevant employees and contractor/s involved in vegetation stripping.	The mine has a detailed Procedure for the Management of Biodiversity in in place. This procedure identifies the responsibilities, and procedures for the protection of fauna, flora and eradication of alien invasive plant species. All contractors are subjected to training in procedures, as well as detailed induction. In addition to this environmental talk topics are conducted on site.	Procedure for Management of Biodiversity document no. PRO- SHE-E-GE-G-1847	3	3	No additional recommendation.	-
Soils	The degree of 'topsoil' lost to vegetation stripping needs to be kept to an absolute minimum by the relevant contractor/	No excessive clearance was present on site. Proof of tree, floral species and fauna removal permits were provided to the auditor. Topsoil stockpiles are also kept in place.	Various Permits (NCU 500114, NCU 5140115, NCU 7360417, NCU 8680718, NCU 9890919, etc. and ODB 2657-2015) Site Inspection observations.	3	3	No additional recommendation.	-
	Any runnels, or erosion channels, which develop shall be backfilled and the area restored to the acceptable condition. The contractor shall not allow erosion to develop on a large scale before effecting repairs and all erosion damage shall be repaired as soon as possible (Topsoil washed away shall be replaced).	Erosion channels were present in the rehabilitated area at Gloria.	Site Inspection observations.	1	3	Where erosion channels are present these must be rectified.	Environmental Representative
Heritage Resources	Appropriate training to be issued to BRMO Internal Environmental Officer and other relevant staff by a suitably qualified specialist.	Qualified Environmental Superintendent and Environmental Officers are appointed on site to manage the implementation of Environmental Management Measures.	Site Inspection observations.	3	3	Where erosion channels are present these must be rectified.	Environmental Representative
	Basic training needs to be provided to the relevant contractor/s, as well as their relevant vehicle/grader operator/s, for the identification of possibly encountered elements of cultural and heritage significance (e.g. archaeological sites, graves, etc.)	According to an email received from Mr. Mbonani on 9 October 2020, the following is undertaken to ensure Environmental Awareness: ☞ Environmental Monthly Talk Topic – The topic is drafted by the Environmental Management Section and distributed to all BRMO employees, and / including contractors. (i) The recipient of the topic, share it with their respective team /	Email, 9 October 2020 Talk Topic Example, 30 September 2020	3	3	It is recommended that a chance finds procedures of heritage resources be developed to guide employees on the process to follow should heritage resources be encountered.	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		<p>Department / Section ,i.e. Engineering and retain acknowledgement of such briefing. Additionally, the topic/ communique is displayed on notice board for at least month / period required.</p> <ul style="list-style-type: none"> ☛ The Departments / Contractors / Section are required to have an Environmental File “ called green file” which should contain all pertinent Environmental Documents(policies, system / operational procedures, objectives etc.) which are shared with the team and the communication “ modus operandi” detailed in section (i) applies. ☛ Specific legal training, i.e. Environmental Legal Compliance Training would be arranged and provided to specific candidates (i.e Top/ Middle Management) based on need required. 					
	If archaeological sites are exposed during vegetation or topsoil stripping and borrowing activities, these should immediately be reported to the Local and National Branches of the South African Heritage Resources Agency (SAHRA)	The Licence Holder is aware of this condition. A Heritage Report by Johan van Vollenhoven is available. No areas of concern have been identified.	Site Inspection observations.	3	3	No additional recommendation.	-
	Under no circumstances shall archaeological artefacts discovered on site during construction or operational activities be removed, destroyed or interfered with.	The Licence Holder is aware of this condition. No incidence of chance finds has been encountered.	Site Inspection observations.	T/N	T/N	No additional recommendation.	-
Socio-economics	The wood from trees stripped during this phase of construction must be supplied to local community/ies as firewood; unless otherwise directed in the respective ‘protected tree removal/destruction permit/s’.	No wood is removed from site. The conditions of tree removal permits take prevalence.	Site Inspection observations.	T/N	T/N	No additional recommendation.	-
Table 6-5	Topsoil Stripping						
Soils	Topsoil to be stripped to a depth of at least 30 cm from all development footprints and stockpiled for reuse in rehabilitation actions at mine closure.	This condition could not be verified - cannot be assessed retrospectively. However, topsoil stockpiles are available on site. According to the January 2020 ECO Quarterly Audit Report, it is stated that no vegetation stripping occurring during the audit.	Site Inspection observations. Quarterly ECO Report, January 2020	NV	NV	It is recommended that for auditing purposes, records are kept indicating that soils are stripped to 30cm – this could be kept in	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
						contractors appointment files.	
	Vegetation stripping should not be conducted more than two weeks (14 calendar days) prior to topsoil stripping, in preparation of development, or mining.	This condition could not be verified - cannot be assessed retrospectively. No clearance was observed during the site inspection. Audit Report, it is stated that no vegetation stripping occurring during the audit.	Site Inspection observations. Quarterly ECO Report, January 2020	NV	NV	No additional recommendation.	-
	Topsoil and subsoil must only be utilised as required for rehabilitation within the mining area, and according to the topsoil management plan.	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Stockpiles must be monitored for alien vegetation any existing alien vegetation must be removed and destroyed in accordance biodiversity management plan	In terms of the site investigations, Invasive plant control is in general lacking due to COVID 19 restrictions. The mine has a detailed Procedure for the Management of Biodiversity in place. This procedure identifies the responsibilities, and procedures for the protection of fauna, flora and eradication of alien invasive plant species. All contractors are subjected to training in procedures, as well as detailed induction. In addition to this environmental talk topics are conducted on site.	Site Inspection observations. Procedure for Management of Biodiversity document no. PRO- SHE-E-GE-G-1847	1	3	Invasive Plant Specie control should be implemented as soon as practically possible.	Environmental Representative
	A 'topsoil balance calculation' will be held by the BRMO, showing reasonable estimates of the topsoil volumes available in stockpiles against the volumes required for rehabilitation of affected development footprints for the project.	A topsoil balance should be updated for the site according to the 2020 Financial Provision Report.	Meeting, 28 September 2020 Financial Provision Report, June 2020	1	3	According to the 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan the following should be implemented: Update topsoil balance as rehabilitation is undertaken; Areas which are rehabilitated must be monitored, to check whether the rehabilitation activities implemented were adequate and successful. Commence with rehabilitation trials to establish alternative	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
						method of preparing site surfaces for affecting the establishment of sustainable, climax, plant communities supportive of the closure objectives for the BRMO.	
	In view of the overall deficiency of topsoil for rehabilitation, and the absence of alternative sources of topsoil, rehabilitation trials must be undertaken. Trials must be undertaken to assess the propensity for modification of subsoil to be effectively used in lieu of topsoil.	The Licence Holder is aware of this condition. This will only be undertaken once rehabilitation commences.	-	T/N	T/N	It is recommended that a topsoil balance be developed to identify whether the volumes of topsoil available on site are sufficient to implement rehabilitation.	Environmental Representative
Table 6-6	Civil- and Earthworks						
Topography	Soil erosion resulting from the creation of steep, unnatural, slopes - No slopes with gradient > 33° (i.e. 3H:1V) should be established on site; unless otherwise protected from erosion by appropriate storm water management measures, or slope stabilisation - No slopes with gradient >33° (i.e. 3H:1V) should be established on site; unless otherwise protected from erosion by appropriate storm water management measures, or slope stabilisation/re-vegetation	Duplicate Condition.	-	Dup	Dup	No additional recommendation.	
Surface water	Provision must be for the diversion of 'clean' storm water run-off away from or around potentially contaminated working surfaces	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Provision must be made for the diversion, and appropriate containment of 'dirty' storm water run-off generated within potentially contaminated mine works areas.	No areas of concern were observed in the areas inspected during the site investigation. Clean and dirty water management was well implemented where required.	Site Inspection observations.	3	3	No additional recommendation.	-
	All 'dirty' storm water containment dams must be lined with a durable, impermeable, liner system as required in the BRMO IWWMP (e.g. HDPE liner), such that 'dirty/potentially contaminated' storm	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	water is effectively contained for ultimate return to the process water circuit.						
	All civil- and earth work must ensure that no surface ponding of storm water ultimately occurs at the operational mine works areas	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
Biodiversity	Civil- and earth works may only proceed where vegetation- and topsoil stripping have been affected in compliance with the provisions of the EMPr	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
Table 6-7	Shaft Sinking						
Topography	All waste rock generated through shaft sinking is to be temporarily stockpiled at surface within the greater surface shaft complex development footprint/s, and subsequently used as fill/founding aggregate in the construction of structural, or infrastructural, foundations and/or establishment of operational working floors (or any other environmentally acceptable use within the greater BRMO)	No waste rock is generated as a result of shaft sinking.	Site Inspection observations.	N/A	N/A	No additional recommendation.	-
Surface water	No storm water run-off at surface should enter underground workings through vertical shaft/s openings at surface	According to the site inspections the open old shaft at Black Rock is sufficiently elevated to prevent this. No areas of concern were observed at other adits.	Site Inspection observations.	3	3	No additional recommendation.	-
Table 6-8	Borrow Pit Establishment						
Topography	Borrow pit dimensions must be optimised, such that final shaping and rehabilitation measures at closure are able to return the disturbed footprint/s to a state commensurate with end land use objectives for the site	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Borrow pits may not be established within 32 m of any prominent drainage lines on site. Borrow pits may not be established within the buffer zone and delineated wetland/riparian zone of the Gamagara River (Figure 4-2), or 100m from the edge of the Gamagara river.	No borrow pits were observed within 32m of drainage lines.	Site Inspection observations.	3	3	No additional recommendation.	-



Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	Where borrow pits are established outside of dam/TSF footprint/s, the borrow pits must be appropriately rehabilitated within 6 months of the last borrowing from the respective pit/s	Some borrow pits are still present in the Nchwaning II (north western corner), which have not been rehabilitated.	Visual aerial imagery.	1	3	Borrow pits should be identified and rehabilitation practices should be implemented as part of the annual rehabilitation plans.	Environmental Representative
Surface water	Appropriate storm water diversions must be installed on the up-slope/s of borrow pits, such that storm water ingress therein is minimised to the greatest extent possible (Borrow pit access on down-slope thereof)	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
Biodiversity	Borrow pits must be established within the proposed development footprints to the greatest extent that is practical (i.e. based on the suitability for purpose of the underlying material)	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
Table 6-9	Haul/Access Roads						
Air Quality	Dust palliation with an effectiveness of at least 80% must be applied to all unsurfaced/ gravel access and haul roads for the duration of the construction period	Duplicate Condition.		Dup	Dup	No additional recommendation.	
	Palliatives must be applied and reapplied as necessary per the manufacturer/supplier's recommendations	Aquatico is responsible for dust monitoring on site. Ten monitoring points have been established on site. When considering the May 2020 monitoring report, the dust fall out of the sampling sites are mostly below the 1200mg/m ² /d limit, with the exception of the point at the Skoonpspruit Residential Area which exceeded the 1200mg/m ² /d limit during March/April 2020. This further exceeded the 600mg/m ² /d residential limit. Based on the information over 12 months, this was a once off exceedance and specific concern was raised and no further exceedances were documented. No concerns were raised over the operational areas where unpaved roads are present.	Aquatico Dust Monitoring Report, May 2020	3	3	No additional recommendation.	-
	Vehicle speeds must be limited to 60 km/h on access roads unless these have bound paving, in which case sped regulations as per the relevant traffic regulations must apply. Vehicle speeds must be limited to 40 km/h on any exposed surfaces where palliatives or paving have not been applied.	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-



Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
Biodiversity	Access and haul roads may only be established, immediately adjacent to (within 20 m), or directly between, the anticipated development footprints of the various project components.	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
	Access to and from development sites must be strictly maintained to designated access/haul roads on site	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
Table 6-10	Raw/Construction Material Stockpiles and Storage						
Topography	Raw/construction material storage areas and stockpiles may not be established within 32 m of any prominent drainage lines on site. Nor within the buffer zone and delineated wetland/riparian zone of the Gamagara River, or within 100 m of the Gamagara river	The only place where raw stone etc. was observed were at the batch plant, which is in compliance with this condition.	Site Inspection observations.	3	3	No additional recommendation.	-
Biodiversity	Raw/construction material storage may only take place within the development footprints of project structures and infrastructure, or designated construction site/s	Compliant. No areas of concern were observed during the site inspection.	Site Inspection observations.	3	3	No additional recommendation.	-
Soils	Where daily quotas/stocks of hazardous materials are to be stored outside of the construction site/s, the materials must be stored such that there is no contact between the material and site soils	No observations were made of the storage of hazardous waste outside of the construction sites.	Site Inspection observations.	3	3	No additional recommendation.	-
Table 6-11:	Gamagara River Railway Bridge Construction						
Topography	The engineering design for the railway bridge must be such that it does not result in the ponding of potential flood waters behind the bridge structure, or associated supporting columns and railway alignments	The new bridge has not been constructed as yet.	Meeting, 28 September 2020	T/N	T/N	It is important that the mine ensure that once construction commences, all conditions are well understood.	Environmental Representative
	In the event that a new bridge will be constructed, the redundant bridge columns north of the 'existing' railway bridge must either – a) be used in the construction of the new bridge (i.e. where this is technically feasible and safe), or b) removed from the river bed and either disposed of, or safely recovered for use as aggregate elsewhere on the project	The new bridge has not been constructed as yet.	Meeting, 28 September 2020	T/N	T/N	It is important that the mine ensure that once construction commences, all conditions are well understood.	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	The alignment of the 'old'/redundant bridge, and what was once its associated railway track, should be used as the alignment for the 'new' bridge crossing over the Gamagara River; unless otherwise deemed technically flawed, in writing, by a competent engineer	The new bridge has not been constructed as yet.	Meeting, 28 September 2020	T/N	T/N	It is important that the mine ensure that once construction commences, all conditions are well understood.	Environmental Representative
Biodiversity	The construction of the railway bridge, as well as the associated track alignments either side thereof, must take place within a 30 m construction corridor	The new bridge has not been constructed as yet.	Meeting, 28 September 2020	T/N	T/N	It is important that the mine ensure that once construction commences, all conditions are well understood.	Environmental Representative
	Care should be taken by the contractor/s during any development activities, that if any archaeological and/or historical sites, features or artefacts are accidentally discovered, a qualified archaeologist be called in to investigate.	The Licence Holder is aware of this condition. A detailed Heritage Impact Assessment has also been conducted during March 2019 by Archaetos Culture and Cultural Resource Consultants to ensure that the heritage setting is understood.	Heritage Impact Assessment, March 2019	T/N	T/N	It is important that the mine ensure that once construction commences, all conditions are well understood.	Environmental Representative
Heritage Resources	Phase II heritage mitigation measures, as required by SAHRA, should be undertaken before the bridge development commences. This will need to entail the following: a) (Mapping of the most significant sites (highest density of material) in the area. Sites 6 and 12, as identified by Dr. A. Pelsler, are recommended. With Site 6 located outside the area earmarked for development activities, Site 12 will therefore be mapped; and b) Controlled sampling of material in order to obtain a representative sample of the Stone Age material in the area. This will be in the form of blocks on the site, which will be mapped and material in these blocks	The Licence Holder is aware of this condition. A detailed Heritage Impact Assessment has also been conducted during March 2019 by Archaetos Culture and Cultural Resource Consultants to ensure that the heritage setting is understood.	Heritage Impact Assessment, March 2019	3	3	It is important that the mine ensure that once construction commences, all conditions are well understood.	Environmental Representative
OPERATIONAL PHASE							
Table 6-12	Operation of all authorised activities						
Resource Preservation	Waste generated on the site must be separated at sources into recyclable categories and non-recyclables.	Waste is being separated at source into recyclable i.e. plastics, cans, food waste, office paper and non-recyclables categories (computer cartridges and hazardous waste). Some minor mixing of waste was observed.	Site Inspection observations.	3	3	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	Waste must be recovered, recycled and reused to the greatest practical extent.	Compliant, waste is being recovered, recycled and reused in the Salvage Yard to the greatest practical extent within the mining areas, except for dried sewage waste which is removed off site.	Site Inspection observations.	3	3	No additional recommendation.	-
	Water abstraction, use and disposal must be monitored and BRMO must set targets and implement plans for optimisation of water used per tonne of product.	The Licence Holder has a detailed water flow diagram in place which details all the water abstraction points, water storage and transfer points. Water is being monitored. The current WUL limits are being used as targets. Due to the dry environment in which the mine is located, the reuse of water is optimised, through a closed water circuit. Water from the Sewage Treatment Plants are reused, and the mine is further planning on the establishment of a Reverse Osmosis (RO) Plant in order to further treat dirty water for reuse.	BRMO Water Flow Diagram v24	3	3	No additional recommendation.	-
	Electricity and fuel use must be monitored, and energy improvement plans must be developed and implemented for optimisation of energy used per tonne of product.	Electricity and fuel usage are monitored on an ongoing basis. This information is in turn issued to ARM - ARM Ferrous, which analyses the information of all the mines and report on the sustainable use of resources in the annual Sustainability Reports. According to the ARM Sustainability Report, 2019, ARM Ferrous has an Energy Efficiency Charter that includes targets for energy efficient practices. In terms of fuel usage, diesel is used to power mobile equipment and also for standby electricity. The Total Groups (ARM) diesel consumption increased by 2% in the 2019 Financial Year, of this Khumani (40% of the Group's total diesel use), Nkomati (27%) and Beeshoek (16%) are large open pit mines that use diesel mainly to haul run-of-mine material to the concentrator plants. When considering the remaining percentages Black Rock is a lower fuel utilisation operation in relation.	ARM Sustainability Report, 2019	3	3	No additional recommendation.	-
Waste Management	All areas where waste is generated must have suitable receptacles for source accumulation of separated waste.	Compliant. Waste is being separated at source into recyclable i.e. plastics, cans, food waste, office paper and non-recyclables categories (computer cartridges and hazardous waste). During the site inspection, no areas of concern	Site Inspection observations.	3	3	No additional recommendation.	-



Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		were observed. Some minor waste mixing of no significant impact was observed.					
	Waste must be stored in accordance with the requirements of the National Norms and Standards for storage of waste	Compliant. During the site inspection, no areas of concern were observed. No waste is being treated at the waste management facilities. Hazardous waste is temporarily stored at the Waste Transfer Facility, for collection by Interwaste and ultimate disposal at Holfontein Hazardous Landfill Site. Note that safe disposal records were not available for review.	Site Inspection observations.	3	3	No additional recommendation.	-
	All waste that must be treated and/or disposed of, must be treated and/or disposed at suitably licenced facilities.	Used Oil is captured in tanks and removed by a contractor to a licensed facility (Vlakfontein). Hazardous waste is temporarily stored at the Waste Transfer Facility, to be collected by Interwaste for ultimate disposal at Holfontein Hazardous Landfill Site. General domestic waste is disposed of at the licenced landfill site on site. Safe disposal records were verified.	Audit Evidence	3	3	No additional recommendation.	-
	The landfill must be managed in accordance with its Waste Management Licence.	The landfill site on site is very well managed, and waste is categorised into general waste, hazardous waste, tyre waste, recyclable waste, etc. The facility is fenced, and access is controlled. Signages are in place written in three (3) official languages describing the type of waste to be disposed. The domestic landfill site is well maintained and was in the process of being covered with soil during the site investigation. No signs of non-permissible waste were noted in the landfill.	WML (dated 23 September 2013): Ref: 12/9/11/L872/8; Site Inspection observations.	3	3	No additional recommendation.	-
Air Quality	National limits for ambient air quality, in terms of those published in Government Notice No. 1210 of 24 December 2009, in terms of S9(1) of NEMAQA, must be met by the proponent	Aquatico is responsible for dust monitoring on site. Ten monitoring points have been established on site. When considering the May 2020 monitoring report, the dust fall out of the sampling sites are mostly below the 1200mg/m ² /d limit, with the exception of the point at the Skoonpspruit Residential Area which exceeded the 1200mg/m ² /d limit during March/April 2020. This further exceeded the 600mg/m ² /d residential limit. Based on the information over 12 months, this was a once off exceedance and specific concern was	Aquatico Dust Monitoring Report, May 2020	3	3	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		raised. No concerns were raised over the operational areas where unpaved roads are present.					
	Cumulative dust deposition target thresholds, in terms of SANS 1292, 2009/11/17, at the BRMO site boundary must be met	Aquatico is responsible for dust monitoring on site. Ten monitoring points have been established on site. When considering the May 2020 monitoring report, the dust fall out of the sampling sites are mostly below the 1200mg/m ² /d limit, with the exception of the point at the Skoonpspruit Residential Area which exceeded the 1200mg/m ² /d limit during March/April 2020. This further exceeded the 600mg/m ² /d residential limit. Based on the information over 12 months, this was a once off exceedance and specific concern was raised. No concerns were raised over the operational areas where unpaved roads are present.	Aquatico Dust Monitoring Report, May 2020	3	3	No additional recommendation.	-
	Where the above standards are not met, the cause of this non-compliance must be investigated, and subsequent corrective and preventative action must be implemented.	The Licence Holder is aware of this condition. Ongoing monthly monitoring is being undertaken to determine trends and identify areas where additional measures may be required.	Aquatico Dust Monitoring Report, May 2020	T/N	T/N	No additional recommendation.	-
	A dust palliative with at least 80% dust reduction efficiency must be applied to unpaved roads (See Appendix 5 for alternative palliative options). Roads paved with low grade ore or aggregate shall be considered as being paved.	Aquatico is responsible for dust monitoring on site. Ten monitoring points have been established on site. When considering the May 2020 monitoring report, the dust fall out of the sampling sites are mostly below the 1200mg/m ² /d limit, with the exception of the point at the Skoonpspruit Residential Area which exceeded the 1200mg/m ² /d limit during March/April 2020. This further exceeded the 600mg/m ² /d residential limit. Based on the information over 12 months, this was a once off exceedance and specific concern was raised. No concerns were raised over the operational areas where unpaved roads are present.	Aquatico Dust Monitoring Report, May 2020	Dup	Dup	No additional recommendation.	-
	Waste shall not be burnt unless in a waste management facility, or other facility, licenced for that purpose. Evidence of lawful disposal all wastes steams generated must be maintained.	No fires or burning of waste are allowed on mine.	Site Inspection observations.	Dup	Dup	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
Surface Water, Soil and Ground Water	Bunded facilities must be compliant with specifications of the BRMO Spill Management and Specifications for Bund Walls procedure, as appended	<p>In terms of this procedure, it is clear that the Licence Holder is aware of the specific requirements, based on reporting requirements, the presence of Safety Data Sheets (SDSs), and presence of spill kits. Overall, the bunded areas were well managed.</p> <p>Some areas of concern included:</p> <ul style="list-style-type: none"> • Hazardous chemicals are stored in bunded areas, however at Black Rock, diesel drums are stacked on top of one another. If these fall over or are damaged during offloading or unloading spills may not be contained. • At the Gloria fuel facility, no capacity indicators are in place on bund walls. Vegetation was also present in this bunded area which could be a fire hazard. 	Site Inspection observations; Appendix 7 of the EMPr BRMO Spill Management and Specification for Bund Wall Management Procedure.	1	3	All bund walls must be labelled in terms of the allowable volume. Bund walls must be free of vegetation.	Environmental Representative
	All liquid (including sludges and slurries) hazardous substances (including wastes) must be stored within bunded facilities.	Compliant. No areas of concern were observed during the site visit.	Site Inspection observations.	3	3	No additional recommendation.	-
	Appropriate spill management kits must be kept and maintained on site wherever liquid hazardous materials are stored, and where refuelling and/or servicing of plant, vehicles and machinery takes place, in order to manage potential spillages effectively.	Compliant. Spill management kits were present on site. At the Salvage Yard (Black Rock Section), some ground pollution was evident from machinery/equipment/vehicles that drip oil and grease.	Site Inspection observations.	1	3	Hydrocarbon spills at the Salvage Yard should be remediated.	Environmental Representative
	Training, in the use and maintenance of the abovementioned kits, as well as any contaminated waste products, must be provided to ALL staff either directly or indirectly involved in any of the activities identified above.	<p>The EMPr and Environmental Authorisation/ ROD are contained in the Contractors SHE file. A copy of the EMPr (Extract for Construction Contracts) were provided during the audit. The BRMO Spill Management and Specifications for Bund Wall Procedures forms part of this EMPr and is therefore available to contractors and employees.</p> <p>In addition to this, a strict induction protocol is in place, which all employees and contractors must complete prior to gaining access on site. According to past audits, training on various procedures is undertaken within the mining and operations areas and registers are available.</p>	Manyabe Consultancy External EMPr Environmental Performance Assessment, July 2018; EScience EMPr Extract for Construction Contractors, September 2018; Appendix 7 of the EMPr BRMO Spill Management and Specification for Bund Wall Management Procedure; Training records were not verified during the 2020 Audit. Training History Report, 2019-2020	2	3	Records specific to spill kits management must be kept on file for audit purposes.	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		<p>It should however be noted that as part of the 2019 ELCA, strong recommendations were made to improve on training on site.</p> <p>A training register for the management of hazardous waste was presented by the Licence Holder dated April 2019 to 26 August 2020. No areas of concern were however observed during the site inspection.</p> <p>It could not be verified whether training was undertaken in the use of spill kits.</p>					
	Sorbents and contaminated soil must be immediately collected and placed within a water-tight, skip/container for subsequent disposal or treatment at an appropriately licensed hazardous waste management facility.	Sorbents are being used to decontaminate soils and spill kits are present on site. Sorbents are also being used at the Engineering departments and within BRMO. Contaminated soils are being kept in spill skip bins and disposed of at a licensed hazardous waste management facility, Holfontein. Safe disposal certificates were available for review.	Audit Evidence Site observations	3	3	No additional recommendation.	-
	All equipment (e.g. gear boxes, portable generators) which may leak oil, liquid fuels, or hazardous chemical substances must be located on impermeable bases which can contain leaks or must have appropriately sized drip trays.	At the Salvage Yard (Black Rock Section), some ground pollution was evident from machinery/equipment/vehicles that drip oil and grease.	Site Inspection observations.	1	3	Hydrocarbon spills at the Salvage Yard should be remediated.	Environmental Representative
	Where storm water flow paths are identified, storm water management infrastructure must be installed (i.e. cut-off trenches, diversion berms, silt traps, etc.).	Storm water infrastructure is in place within the mining area. During the site inspection no specific areas of concern were observed.	Site Inspection observations.	3	3	No additional recommendation.	-
	Storm water management infrastructure must be regularly inspected, and maintenance applied as necessary to ensure the efficient functioning thereof.	Storm water infrastructure is in place within the mining area. During the site inspection no specific areas of concern were observed.	Site Inspection observations.	3	3	No additional recommendation.	-
Noise	Noise caused by operations must not cause a nuisance. Any environmental noise complaints reported must be investigated and appropriate corrective and/or preventative action taken.	No noise monitoring data has as yet been conducted since 2016. The study concluded that the environmental noise indicated that all sites measured during the day, at fence line, were within the acceptable SANS Industrial guideline noise levels. The maximum LAeq recorded noise level during the day was recorded at GL_MP_02	Integrated Environmental Monitoring Report, June 2016	3	3	As there has been incidents in the past of exceedances it is important the monitoring be conducted in line with the EMPr.	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		<p>(Gamagara River) with a noise level of 77.8 dBA (ranging between 33.4 dBA and 104.3 dBA), this is due to the cargo hauling train passing the SLM.</p> <p>During the night there were some monitoring points that did exceed the SANS Industrial night guideline. These points were BR_MP_03, BR_MP_09, BR_MP_10, NC_MP_04, GL_MP_02 & GL_MP_10. The only point in the list that is applicable to fence line conditions was GL_MP_02 (a passing train influenced the noise level at this point) and BR_MP_03 (high volume of traffic passing the SLM).</p> <p>According to the Environmental Superintendent, no concerns have been lodged by neighbouring landowners and a repeat integrated environmental monitoring programme will be conducted during the end of the year. For this reason, it is assumed that no nuisance has been caused.</p>					
Biodiversity	The potential presence of alien invasive species on, and adjacent to the operational sites must be monitored and appropriately managed, in accordance with the BRMO alien invasive species management plan (Appendix 10)	In terms of the site investigations, Invasive plant control is in general lacking due to COVID 19 restrictions.	Site Inspection observations.	1	3	Invasive Plant Specie control should be implemented as soon as practically possible.	Environmental Representative
	The use of herbicides on site must be undertaken according to the BRMO environmental procedure for the use of herbicides, and in accordance with the manufacturers' instructions.	The Licence Holder is aware of this condition. An Alien Invasive Plant Species Plan is available on site based on past audit reports – note that this document was not available for review. In terms of the site investigations, Invasive plant control is in general lacking due to COVID-19 restrictions.	Manyabe Consultancy External EMPr Environmental Performance Assessment, July 2018	2	3	Invasive Plant Specie control should be implemented as soon as practically possible.	Environmental Representative
Preparation for Rehabilitation	Current topsoil stockpile volumes at the time of updating the EMPr are insufficient for rehabilitation of the entire disturbed area. BRMO must therefore undertake an assessment of subsoils for use in rehabilitation and determine suitable procedures for successful use thereof if found to be possible.	Topsoil stockpile volumes were observed but not assessed during the audit, due to time constraints. The mine's Closure Criteria (Table 13 of the Final Rehabilitation, Decommissioning and Mine Closure Plan) requires that replacement of stockpiled topsoil (where available) be undertaken to a depth of at least 200mm. The Report also indicated that there is a shortfall on topsoil volumes for use in on-site	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan	0	3	<p>According to the 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan the following should be implemented:</p> <ul style="list-style-type: none"> Update topsoil balance as rehabilitation is undertaken; 	Environmental Representative

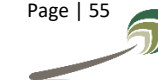
BLACK ROCK MINE OPERATIONS ENVIRONMENTAL MANAGEMENT PROGRAMME ENVIRONMENTAL PERFORMANCE ASSESSMENT

Departmental Ref: NC30/5/1/2/3/2/1/203(EM)

Project Ref: 20216

Version: Final

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		rehabilitation. No topsoil or rehabilitation trial studies have been listed or initiated to address this constraint.				<ul style="list-style-type: none"> • Areas which are rehabilitated must be monitored, to check whether the rehabilitation activities implemented were adequate and successful; • Commence with rehabilitation trials to establish alternative methods of preparing site surfaces for the establishment of sustainable, climax plant communities supportive of the closure objectives for the BRMO. 	
Table 6-13:	Ore Processing Plant						
Soil and Water contamination	All water and storm water contaminated through process works must be collected into the process water circuit.	During the site investigation, no areas of concern were observed. Storm water infrastructure is in place. Water from process works at all mining areas is collected into the process water circuit. The water is transported from the processing works to settling plants for further processing and is directed back to the mines for re-use. Water from the TSFs are discharged to return water dams and reused in the circuit. In cases where water is mixed with oils/ hazardous substances, the water is decanted into the oil/water separator. The separated water and oil are temporarily stored in JoJo tanks for re-use.	BRMO Water Flow Diagram v24; Site Inspection observations	3	3	No additional recommendation.	-
Table 6-14:	Manganese Product Stockpiles						
Clearance of Land and Vegetation	Product stockpile areas must be contained to the designated footprints. No further land may be cleared without appropriate permitting and review of the EMPr.	Compliant. Product stockpiles are contained to the designated footprints throughout all mines. The rehabilitation plan makes provision for the final rehabilitation thereof and funds are provided for.	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan	3	3	No additional recommendation.	-
Generation of fugitive dust	Stockpile areas and road will be compacted and covered with ore to prevent generation of dust. Dust suppression will be applied to unpaved roads.	Compliant. No areas of concern were observed in the monitoring reports or during the site investigation.	Aquatico Dust Monitoring Report, May 2020; Site Inspection observations.	3	3	No additional recommendation.	-



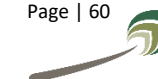
Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
Soil Erosion	Areas where significant runoff and subsequent erosion may occur must be identified and berms, cut-off trenches, soakaways and/or other suitable measures put in place to prevent erosion.	No areas of concern were observed during the site inspection of the area where Manganese Product Stockpiles were situated. The 2019 GN704 Audit further stated that due to the low rainfall, flat terrain, permeable sandy soils, and high evaporation rates, there is no flow of clean water into dirty areas.	Site Inspection observations; EScience, 2019 GN704 Audit Report	3	3	No additional recommendation.	-
Table 6-15:	Sinter Plant Raw Material Stockpiles						
Soil, Ground water and surface water	Reductants must be off-loaded and stored at a single dedicated storage area; unless otherwise stored in day bins provided for such Reductants with potential to cause contamination of soil and water must be stored in impermeable bunkers, ideally roofed to prevent ingress of rain.	The Sinter Plant has not been constructed.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
	All potentially contaminated/'dirty' water run-off from the storage area must be diverted to a pollution control dam on site	The Sinter Plant has not been constructed.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
	Appropriate berms, cut-off trenches or other suitable infrastructure must be in place to prevent ingress and subsequent contamination of clean surface water, and outflow of contaminated surface water.	The Sinter Plant has not been constructed.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
Soil erosion	All storm water management infrastructure (i.e. cut-off trenches, diversion berms, silt traps, pollution control/storm water dams, etc.) applicable to storm water management in relation to raw material stockpile floors must be regularly inspected, and maintenance applied as necessary to ensure the efficient functioning thereof	The Sinter Plant has not been constructed.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
Table 6-16:	Sinter Plant						
Air Quality	Stack emission limits and tolerable exceedances must not exceed those	The Sinter Plant has not been constructed.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	stipulated for all applicable criteria pollutants, in terms of the conditions of the AEL issued.					with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	
	Stack emissions must be measured, monitored, and reported according to requirements set out in the AEL issued.	The Sinter Plant has not been constructed.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
	A fugitive dust emission plan must be developed and implemented if dust fall out exceeds the limits stipulated in the national dust control regulations.	The Sinter Plant has not been constructed.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
Waste Management	Sludge produced from flue gas desulphurisation must be analysed and classified in accordance with the requirements of NEM:WA. An MSDS and labelling must be formulated for handling of this material.	The Sinter Plant has not been constructed.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
	FGD sludge must be treated and/or disposed at a facility appropriately authorised for that purpose.	The Sinter Plant has not been constructed.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
Table 6-17:	Flue Gas Desulphurisation Waste Disposal						
Ground water	As a precautionary approach, the intermediary FGD disposal facility must be lined to "Class A" performance equivalent, until such time as FGD waste sampling and analysis can take place to determine the actual groundwater risk posed by the waste (i.e. to inform the engineering design of the operational FGD disposal site).	The Flue Gas Desulphurisation (FGD) waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	Detailed intermediary FGD disposal site engineering- and liner designs must be submitted to the DWS and the DMR for approval prior to construction of the facility	The FGD waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
	No waste, or materials, other than FGD residues may be deposited onto the intermediary disposal site	The FGD waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
	The final positioning of the intermediary FGD disposal site must be informed by a geo-physics survey of the proposed area, as well as inputs from a specialist geohydrologist, to ensure that groundwater pollution risks are minimised	The FGD waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
	Any person either directly, or indirectly, involved in aspects relating to the disposal of FGD waste residues must receive training to ensure competency in respect of fulfilling their operational role in a manner that yields acceptable environmental outcomes	The FGD waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
	Assmang must rehabilitate the site or any portion thereof upon decommissioning, in accordance with a closure and rehabilitation plan, which must be submitted to the DMR for approval	The FGD waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
	Once operational, the FGD waste residues from the sinter plant must be subjected to sampling and analysis by a competent, specialist, EAP, such that the actual risk posed to the groundwater environment by the waste can be determined.	The FGD waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	The FGD disposal facility must be lined according to the 'risk profile' of the waste, as determined through the prescribed method in the 'National Standard for the Assessment of Waste for Landfill' – presently in draft, but reasonably believed to be in effect at the time of project implementation.	The FGD waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
	Detailed FGD disposal site engineering- and liner designs must be submitted to the DWS and the DMR for approval prior to construction of the facility	The FGD waste disposal facility has not been implemented.	Site Inspection observations	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
	No waste, or materials, other than FGD residues may be deposited onto the disposal site	The FGD waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
	The final positioning of the FGD disposal site must be informed by a geo-physics survey of the proposed area, as well as inputs from a specialist geo-hydrologist, to ensure that groundwater pollution risks are minimised	The FGD waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
	The final positioning of the TSF must be approved by the DWS and the DMR prior to construction of the facility	The FGD waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
	Any person either directly, or indirectly, involved in aspects relating to the disposal of FGD waste residues must receive training to ensure competency in respect of fulfilling their operational role in a manner that yields acceptable environmental outcomes	The FGD waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	Assmang must rehabilitate the site or any portion thereof upon decommissioning, in accordance with a closure and rehabilitation plan, which must be submitted to the DMR for approval	The FGD waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
Soils	All pipe-work and associated infrastructure used in the transport of FGD waste residues from the processing plant to the disposal site must be regularly inspected (i.e. for structural integrity) and maintenance applied as necessary to ensure no losses between the plant and the disposal site	The FGD waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
Access Control and Signage	The proponent must ensure effective access control of the waste management facility to prevent unauthorised access thereto	The FGD waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
	Weatherproof, durable and legible signs in at least three relevant languages applicable to the area must be displayed at all site entrances and must convey information pertaining to at least the following: <ul style="list-style-type: none"> • Risks involved in entering the site; and • Name and contact details of the licence holder and person/s responsible for the operation of the site. 	The FGD waste disposal facility has not been implemented.	Site Inspection observations.	N/A	N/A	The Licence Holder must familiarise themselves with the specific conditions relating to the Sinter Plant prior to construction and operation thereof.	Environmental Representative
Table 6-18:	Tailings Management - TSF						
Ground water	The TSF must have an installed pollution containment barrier with at least a "Class C" performance equivalent.	The old TSF dams were not lined, however these were constructed prior to the NEMWA and not subjected to the condition of the Norms and Standards for the disposal of waste in terms of liners. The new TSFs are being constructed having been lined accordingly.	Site Inspection observations.	3	3	No additional recommendation.	-
	Detailed TSF liner designs are to be submitted to the Department of Mineral Resources for consideration and approval prior to commencing with construction or operation of the TSF.	According to past audit reports, the TSF liner designs were submitted to the DMR for consideration and approval prior to commencing with the construction activities. Proof of submission was not provided to the	There have been shortcomings in the available information and as such, EnviroGistics is unable to express a conclusive opinion on the state of compliance.	NV	NV	It is recommended that the Licence Holder provides the auditor with the required information in order to	Environmental Representative



Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		<p>auditor for verification.</p> <p>The facilities are further approved by the DWS Civil Department – WUL 2019.</p>	<p>Manyabe Consultancy External EMPr Environmental Performance Assessment, July 2018</p> <p>WUL, 2019 Ref 10/D41M/ABEGJ/3490</p>			confirm compliance in terms of stipulated conditions.	
	No waste, or materials, other than tailings may be deposited into the TSF	Compliant. No areas of concern were observed during the site investigation.	Site Inspection observations.	3	3	No additional recommendation.	-
	Update Geochemical model	<p>No proof of an updated numerical groundwater model has been made available to the auditor for assessment. The WUL (2015) also requires that the Licence Holder ensure that an additional Geohydrological Assessment be conducted within one (1) of issuance of this licence which encompasses the information indicated above. This WUL was however superceded by the 2019 WUL.</p> <p>The 2019 WUL requires the Licence Holder to assess the possible impacts of contamination of water as well as the background water resource quality to evaluate impacts of specific actions/pollution sources on the groundwater regime. No evidence is in place based on available information or the past WUL Audit Reports that such a study was undertaken.</p>	<p>Manyabe WUL Audit, 2019 WUL, 2015 WUL, 2019 Ref 10/D41M/ABEGJ/3490</p>	0	3	An update of the numerical groundwater model should be undertaken in line with this line item condition and to determine the impacts of contamination of water as well as the background water resource quality to evaluate impacts of specific actions/pollution sources on the groundwater regime.	Environmental Representative
Water Demand Management	The proponent must investigate and implement processes to maximise recovery of process water for re-use in the processing plant	The Licence Holder has a detailed water flow diagram in place which details all the water abstraction points, water storage and transfer points. Water is being monitored, with the current WUL limits are being used as targets. Due to the dry environment in which the mine is located, the reuse of water is optimised, through a closed water circuit. Water from the Sewage Treatment Plants are reused, and the mine is further planning on the establishment of a RO Plant in order to further treat dirty water for reuse.	BRMO Water Flow Diagram v24	3	3	No additional recommendation.	-
	Supernatant (i.e. water pooling at compartment surfaces - predominantly derived from storm water ingress) must be decanted from the top surfaces of the TSF	Compliant, the TSF circuit is designed to capture water in lined facilities for reuse. Water pooling at the TSF surfaces is decanted from the top surfaces of the TSF via purpose	BRMO Water Flow Diagram v24; Site Inspection observations.	3	3	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	compartments via purpose built decant barges, and diverted into a purpose built decant water dam adjacent to the TSF; for subsequent reuse in plant processes	built decant barges and diverted into a purpose built decant water dam adjacent to the TSF for reuse in the plant process.					
Soils	All pipe-work and associated infrastructure used in the transport of tailings from the processing plant to the TSF must be regularly inspected (i.e. for structural integrity) and maintenance applied as necessary to ensure no losses between the plant and the TSF	Compliant. Pipes and associated infrastructure used in the transport of tailings from the processing plant to the TSF are being regularly inspected and maintained as there were no signs of leaks.	Site Inspection observations	3	3	No additional recommendation.	-
	The TSF must have a minimum design freeboard for storm water infiltration, in addition to a minimum 0.8 m dry freeboard over and above the normal operating level and excluding decant return.	Compliant. No areas of concern were observed during the site investigation.	Site Inspection observations	3	3	No additional recommendation.	-
	Any tailings spillages outside of the TSF footprint, resulting from tailings recovery activities, must be immediately removed from location for subsequent recovery thereof.	No tailings spillages were observed during the site investigation.	Site Inspection observations.	3	3	No additional recommendation.	-
Table 6-19:	Mechanical shaft ventilation						
Noise propagation	Vent shaft openings are to be directed away from sensitive noise receptors, and appropriately coupled with diffusers if necessary, to ensure compliance with ambient noise limits stipulated in SANS 10103 of 2008	During the physical audit, vent shaft openings were observed to be directed away from sensitive noise receptors. The auditor did not have records of noise monitoring data to determine compliance with ambient noise limits stipulated in SANS 10103 of 2008 and whether diffusers are required. No diffusers were observed. During the site investigation no noise concerns were observed. The Licence Holder has also erected berms around vent shaft to minimize noise. Noise monitoring in the past has indicated that daytime noise is within limits. Some nighttime noise raised from the site, but this were mostly due to trains and not fans.	Site investigation and observation. Integrated Monitoring Report, 2016	3	3	No additional recommendation.	-
Table 6-20:	Sewage Treatment Plant						
Ground water	The plant must be regularly inspected, and maintenance applied as necessary (within 2 days of problem identification), to ensure the optimal efficiency thereof and	Black Rock Sewage Treatment Plant A permanent operation is on site. During the site inspection the facility was observed to be well maintained and operated. There were	Site inspections Purchase Order 20000593 / Q1, August 2020	3	3	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	prevention of leaks and spillages. Daily inspection log to be signed off by plant operator	<p>signs of a recent spill that was cleaned up. Based on the site interviews, this spill took place a week ago and was caused by a mine wide power failure. This site receives all dried sewage sludge from the other sewage facilities.</p> <p>Gloria Sewage Plant The site was observed to be well maintained and operated. A permanent operator was not available during the site inspection. No signs of recent spillages were observed. Sludge sumps in good condition and emptied regularly.</p> <p>Nchwaning II The site was observed to be well maintained and operated. No signs of recent spillages were observed.</p> <p>It could however not be verified whether daily inspections are undertaken.</p>					
	Flow meters must be installed on the incoming sewerage feed, as well as treated effluent output pipelines, in order to allow for water balance approximations as part pro-active identification of any significant plant leaks to the groundwater environment	Compliant.	BRMO Water Flow Diagram v24	3	3	No additional recommendation.	-
Water demand management	Treated effluent must be recovered to the process water circuit for reuse on site	Compliant.	BRMO Water Flow Diagram v24	3	3	No additional recommendation.	-
Soils	Final plant design must ensure adequate installed treatment capacity in relation to additional project demand	The January 2020 Quarterly Water Monitoring Report states that three (3) sewage treatment localities were sampled during the assessment period. These include the Black Rock Mine Sewage Treatment Plant, Gloria Mine Sewage Treatment Plant and the Nchwaning Sewage Treatment Plant. The monitoring results indicated that the Black Rock Mine Sewage Treatment Plant, as well as the Nchwaning Sewage Treatment Plant qualities for Chemical Oxygen Demand (COD) and NO ₃ , exceeded the General Limits, with Total Suspended Solids (TSS) also present within the first mentioned facility.	Aquatico, January 2020 Water Monitoring Report.	0	3	The plant designs must be assessed to ensure that the facilities can treat water to the required limits.	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	The mine must ensure that the operator/s of the plant are technically trained to operate the specific plant and prevention of environmental impacts therefrom.	Training is being undertaken for the sewage treatment plants.	AquaPlan Training, February 2020	3	3	No additional recommendation.	-
	All sewage sludge and screenings must be stored on impermeable, bunded, platforms within the plant grounds	Compliant. No areas of concern were observed.	Site Inspection observations.	3	3	No additional recommendation.	-
	Screenings and sludge from the sewage plant must be temporarily stored as hazardous waste, in accordance with the NEMWA national norms and standards for storage of waste.	Compliant. No areas of concern were observed.	Site Inspection observations.	3	3	No additional recommendation.	-
Access control	The site must be fenced off from the remainder of the operations and access thereto well regulated by a designated operator	The Black Rock Mine and Gloria Mine Sewage Treatment Plants are fenced off with proper access control. However, although located in the overall fenced off mining area, the Nchwaniing II Sewage Treatment Plant was not fenced.	Site Inspection observations.	0	3	The sewage treatment plant at Nchwaniing II should be fenced off to ensure proper access control.	Environmental Representative
Table 6-21:	Salvage Yard						
Soil, surface water and groundwater	The salvage yard floor must be concreted where potentially contaminated bulky material/items are stored outside of water tight steel skips/containers, and appropriately integrated with the remainder of the site's 'dirty' storm water management system.	The Salvage Yard floor is not concreted where potentially contaminated materials are stored. During the site inspection ground pollution evident from machinery/equipment/vehicles that drip oil and grease was observed. The overall view during the inspection was that this area requires more attention and control.	Site Inspection observations.	0	3	The Salvage Yard area should be assessed in terms of best environmental management practices. It is recommended that bunding, surfacing, clean and dirty water management be considered in this assessment.	Environmental Representative
	All machinery that may leak lubricants or any other pollutants that is not stored on an impermeable surface must have appropriate drip trays in place.	During the site visit ground pollution evident from machinery/equipment/vehicles that drip oil and grease was observed. No drip trays to be used to prevent the hazardous substances from contaminating the soil beneath them, were observed.	Site Inspection observations.	0	3	Where machinery is parked, drip trays must be placed to capture any potential leaks. Vehicles should at all times be well maintained to avoid unnecessary leaks from occurring. Where leaks have	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
						occurred these must be cleaned as soon as practical, at least within 24 hours.	
	The salvage yard must be inspected on a monthly basis to ensure that there is no contamination of soil and water from leakages or exposure of hazardous materials to soil and rainfall.	Based on the site inspections, the sites are assessed and inspected, and spills are cleaned, but the control of these management measures are reactive, with presence of ongoing spills observed. This was also a finding in past audit reports.	Site Inspection observations; Manyabe Consultancy External EMPr Environmental Performance Assessment, July 2018	0	3	Regular inspections must be undertaken to improved environmental management practices at the Salvage Yard. The cause of the environmental impacts must be addressed to allow for a more proactive management approach in this area specifically.	Environmental Representative
Records	Records of all materials deposited at the salvage yard must be maintained including the date of placement.	Compliant.	Site Inspection observations.	3		No additional recommendation.	-
Access control	The site must be fenced off from the remainder of the operations and access thereto well regulated by a designated gate controller.	Compliant.	Site Inspection observations.	3		No additional recommendation.	-
	Records must be kept of all parties entering the site (Name, Section, Date, Time and Signature), as well as of the type and estimated volumes of wastes off-loaded by those parties.	The Salvage Yard has access control, with the gate locked at all times. The site is fenced off from the remainder of the operations. Based on the site observations the Licence Holder is compliant in this regard.	Site Inspection observations.	3		No additional recommendation.	-
Table 6-22	Bulk Fuel (including inter alia diesel, petrol, HFO and CTF)/Oil/Chemical Storage)						
Soil, surface water and groundwater	Above ground fuel, or oil storage tanks, must be located within appropriately sized, impermeable, bund walls (inclusive of valve for release of storm water ingress, unless otherwise roofed)	<p>The area at the Black Rock fuel facility is very well maintained and operated. All bunds were observed to be in good order. Valves are closed and locked. Oil on stock is stacked in a bunded area and spill kits are available.</p> <p>At the Black Rock back-up diesel power generators there are no signs of spills. Area is locked and fenced, and access controlled. No concerns were observed.</p> <p>The Nchwaning II fuel storage facility will be dismantled in the near future. No areas of concern were observed.</p>	Site Inspection observations.	1	3	The necessary capacity indicators (signage) at the Gloria fuel storage area should be indicated on the bund wall.	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		At the Gloria fuel storage facility, no capacity indicators are present on the bund walls. There is also grass growing inside the facility which may pose a fire hazard.					
	Appropriate hydrocarbon spill management kits must be kept and maintained on site wherever fuels and oils are stored, and where refuelling and/or servicing of plant, vehicles and machinery takes place, in order to manage potential hydrocarbon spillages effectively	Compliant. No areas of concern were observed.	Site Inspection observations.	3	3	No additional recommendation.	-
	Training, in the use and maintenance of the abovementioned kits, as well as any contaminated waste products, must be provided to ALL staff either directly, or indirectly, involved in any of the activities identified above	<p>The EMPr and Environmental Authorisation/ ROD are contained in the Contractors SHE file. A copy of the EMPr (Extract for Construction Contracts) were provided during the audit. The BRMO Spill Management and Specifications for Bund Wall Procedures forms part of this EMPr and is therefore available to contractors and employees.</p> <p>In addition to this, a strict induction protocol is in place, which all employees and contractors must complete prior to gaining access on site. According to past audits, training on various procedures is undertaken within the mining and operations areas and registers are available.</p> <p>It should however be noted that as part of the 2019 ELCA, strong recommendations were made to improve on training on site.</p> <p>A training register for the management of hazardous waste was presented by the Licence Holder dated April 2019 to 26 August 2020. No areas of concern were however observed during the site inspection.</p> <p>It could not be verified whether training was undertaken in the use of spill kits.</p>	<p>Manyabe Consultancy External EMPr Environmental Performance Assessment, July 2018; EScience EMPr Extract for Construction Contractors, September 2018; Appendix 7 of the EMPr BRMO Spill Management and Specification for Bund Wall Management Procedure; Training records were not verified during the 2020 Audit. Training History Report, 2019-2020</p>	2	3	Records specific to spill kits management must be kept on file for audit purposes.	Environmental Representative
	Hazardous material/chemical containers/tanks must be stored within	The area at the Black Rock fuel facility is very well maintained and operated. All bunds were	Site Inspection observations.	Dup	Dup	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	appropriately sized, impermeable, bund walls (inclusive of valve for release of storm water ingress, unless otherwise roofed or indoors)	<p>observed to be in good order. Valves are closed and locked. Oil on stock is stacked in a bunded area and spill kits are available.</p> <p>At the Black Rock back-up diesel power generators there are no signs of spills. The area is locked and fenced, and access is controlled. No concerns were observed.</p> <p>The Nchwane II fuel storage facility will be dismantled in the near future. No areas of concern were observed.</p> <p>At the Gloria fuel storage facility, no capacity indicators are present on the bund walls. There is also grass growing inside the facility which may pose a fire hazard.</p>					
Soils	Sorbents and contaminated soil must be immediately collected and placed within a water-tight, skip/container for subsequent disposal or treatment at an appropriately licensed hazardous waste management facility.	Compliant. No areas of concern were observed.	Site Inspection observations.	3	3	No additional recommendation.	-
	Spill management must take place according to the BRMO 'Spill Management' environmental procedure – Appendix 7)	<p>In terms of this procedure it is clear that the Licence Holder is aware of the specific requirements, based on reporting requirements, the presence of SDSs, and presence of spill kits. Overall, the bunded areas were well managed. The Spill Management and Specification for Bund Wall Management procedure requires measures such as the total capacity of the bund wall must be displayed on the bund wall or on the fence if the bunded area is fenced. The procedure further requires that spill kits are provided in the various sections of the mine to assist with the cleaning of spillages.</p> <p>Some areas of concern included:</p> <ul style="list-style-type: none"> Hazardous chemicals are stored in bunded areas, however at Black Rock, diesel drums are stacked on top of one another. If these fall over or are damaged during 	Site Inspection observations; Appendix 7 of the EMPr BRMO Spill Management and Specification for Bund Wall Management Procedure.	1	3	All bund walls must be labelled in terms of the allowable volume. Bund walls must be free of vegetation.	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		<p>offloading or uploading spills may not be contained.</p> <ul style="list-style-type: none"> At the Gloria fuel facility, no capacity indicators are in place on bund walls. Vegetation was also present in this bunded area which could be a fire hazard. 					
Access control	The site must be fenced off from the remainder of the operations and access thereto well regulated by a designated operator	Compliant. No areas of concern were observed.	Site Inspection observations.	3	3	No additional recommendation.	-
Table 6-23	Vehicle Maintenance and Wash Bays						
Soil, surface water and groundwater	All servicing and washing of vehicles are to take place strictly within maintenance workshops or otherwise off-site at appropriate maintenance facilities.	Compliant. No areas of concern were observed. All servicing and washing of vehicles take place strictly within maintenance workshops.	Site Inspection observations.	3	3	No additional recommendation.	-
	Furthermore, servicing and maintenance of vehicles must take place on impermeable surfaces with appropriate measures in place to contain contaminated run-off. Impermeable surfaces must be maintained.	Compliant. No areas of concern were observed. All servicing and washing of vehicles take place strictly within maintenance workshops.	Site Inspection observations.	3	3	No additional recommendation.	-
	Where emergency/unplanned repairs are required, or oil leaks are identified, suitable drip trays must be used to prevent contamination of soil and water.	At all the wash bays visited during the site inspection, suitable drip trays are being used to prevent contamination of soil and water during emergency/unplanned repairs, and also in areas of identified oil leaks. In these areas both drip trays and spill kits are available.	Site Inspection observations.	3	3	No additional recommendation.	-
	Vehicle wash bay surfaces must be concreted, and all wash water run-off diverted to an impermeable collection sump linked to an oil-water separate	<p>At Nchwaniing II the current wash bay is being demolished, with a new wash bay planned to be constructed. It is unsure where vehicles are currently being washed in this area.</p> <p>All other areas were well maintained and operated.</p>	Site Inspection observations.	2	3	It should be determined where vehicles are washed in the interim whilst the new wash bay is being constructed at Nchwaniing II. It is important that all washing be undertaken within contained and demarcated areas.	Environmental Representative
	Wash water must be effectively diverted, contained and managed, such that no hydrocarbon contaminants are never in contact with site soils	At Nchwaniing II the current wash bay is being demolished, with a new wash bay planned to be constructed. It is unsure where vehicles are currently being washed in this area.	Site Inspection observations.	2	3	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		All other areas were well maintained and operated.					
	Vehicles may only be serviced on site in a dedicated workshop, which must; <ul style="list-style-type: none"> • Have a concrete floor; • Have a dedicated hazardous waste skip/container (marked clearly for purpose) for temporary storage of oiled rags, oil/fuel filters, etc.); and • Well banded waste oil container; and • Available, well maintained, hydrocarbon spill kits 	Compliant. Vehicles are serviced on site in a dedicated workshop. All the workshops have a concrete floor, a dedicated hazardous waste skip/container (marked clearly for purpose) for temporary storage of oiled rags, oil/fuel filters, etc., a well banded waste oil container and maintained, hydrocarbon spill kits.	Site Inspection observations.	3	3	No additional recommendation.	-
	Potentially contaminated water must be effectively diverted, contained and managed, such that no contaminants are ever in contact with site soils	At Nchwaning II the current wash bay is being demolished, with a new wash bay planned to be constructed. It is unsure where vehicles are currently being washed in this area. All other areas were well maintained and operated.	Site Inspection observations.	2	3	It should be determined where vehicles are washed in the interim whilst the new wash bay is being constructed at Nchwaning II. It is important that all washing be undertaken within contained and demarcated areas.	Environmental Representative
	Uncontaminated storm water run-off within the sites must be prevented from flowing through workshops and wash bays or any other contaminated areas.	At Nchwaning II the current wash bay is being demolished, with a new wash bay planned to be constructed. It is unsure where vehicles are currently being washed in this area. All other areas were well maintained and operated.	Site Inspection observations.	2	3	It should be determined where vehicles are washed in the interim whilst the new wash bay is being constructed at Nchwaning II. It is important that all washing be undertaken within contained and demarcated areas.	Environmental Representative
	All equipment (e.g. gear boxes) which may leak oil, liquid fuels, or hazardous chemical substances must be located on impermeable bases which can contain leaks or must have appropriately sized drip trays.	Compliant. No areas of concern were observed.	Site Inspection observations.	3	3	No additional recommendation.	-
	All potentially hazardous waste (e.g. oily rags, used oil filters, etc.) must be stored in appropriately labelled hazardous waste containers, and kept in a banded area or indoors on an impermeable floor as	Compliant. No areas of concern were observed.	Site Inspection observations.	3	3	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	appropriate. Non-recyclable waste must be treated and/or disposed of at an appropriately authorised facility. Used oil must be stored separately for collection.						
	Uncontaminated storm water run-off within the sites must be prevented from flowing through workshops and wash bays or any other contaminated areas.	Compliant. No areas of concern were observed.	Site Inspection observations.	3	3	No additional recommendation.	-
	Used oil must be collected and recycled if economically feasible.	Compliant. No areas of concern were observed. Used oils are sent through an oil separator and then removed from site.	Site Inspection observations.	3	3	No additional recommendation.	-
REHABILITATION OBJECTIVES p136-p138							
	The rural/agricultural nature of the mine, and the aridity of the area, limits the range of potentially feasible end land-use alternatives available to BRMO at the end of life of the mine. The overall environmental objectives of mine closure are proposed as follows: <ul style="list-style-type: none"> • To rehabilitate the disturbed areas to arable grazing land capable of at least supporting an extensive livestock production system; • To restore the pre-development topography to the greatest extent that is practical and feasible at closure; • To restore the site biodiversity and ecological system functioning to as close as practically possible to pre-development conditions; • To ensure that the site is made safe; where such entails: <ul style="list-style-type: none"> o Remediation of contaminated land; o Effective sealing-off of shafts and declines; and o Effective removal and decommissioning of redundant structures and infrastructure; o Effective closure of the general landfill site; and, o Effective closure of the tailings facilities should they be in existence at the time of closure. • To ensure that final site shaping allows 	Compliant in terms of the current Final Rehabilitation, Decommissioning and Mine Closure Plan. Various areas which have been rehabilitated, i.e. Gloria Mine (past-mined areas), Nchwaning II (old residential area), and the old golf course have been rehabilitated to mimic pre-mining topography through shaping, such that the topography of rehabilitated areas commensurate with that of adjacent areas.	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan	3	3	No additional recommendation.	-



Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	<p>for free drainage of rain water and the prevention of erosion;</p> <ul style="list-style-type: none"> To ensure that the pollution generating potential of residue deposits and residue stockpiles is addressed through appropriate capping and closure thereof, where applicable; and To ensure that there are no significant residual impacts on the underlying calcrete aquifer. To ensure that significant entrainment of particulate matter is prevented through adequate land cover and shaping where necessary. 						
7.2.1 RE-VEGETATION	<ul style="list-style-type: none"> A grass mixture of species endemic (particularly important to ensure that grasses are non-invasive) within the area, such as <i>Aristida meridionalis</i>, <i>Centropodia glauca</i>, <i>Stipagrostis ciliata</i>, <i>Eragrostis lehmanniana</i> and <i>Schmidtia pappophoroides</i>, should be utilised in the seeding process; The seed mixture should be incorporated into a mulch which includes fertiliser and germination acceleration agents; The seed mulch should then be used to fill the "Hessian socks"; The seeded areas should then be irrigated; and Weekly monitoring should take place in order to ascertain the efficacy of the seeding and to repair any areas where gullies or rills are forming. 	<p>This condition is included into the Final Rehabilitation, Decommissioning and Mine Closure Plan. The report stipulates that this be a part of the annual rehabilitation plan implementation. Based on the current understanding, no concurrent rehabilitation is being undertaken, other than those areas rehabilitated in the past.</p>	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan	0	3	A detailed annual rehabilitation plan must be developed to ensure concurrent rehabilitation in line with the EMPr requirements.	Environmental Representative
7.2.2 MAINTENANCE	<ul style="list-style-type: none"> Along the crest of steep gradients a 1 m high Hessian screen should be placed around the facility to assist with the trapping of seeds and to protect the crest from wind erosion; Regular application of fertiliser should take place in order to ensure efficient establishment of vegetation cover until such time as sufficient organic matter is being produced by the established grasses 	<p>The site is still operational. Various areas which have been rehabilitated, i.e. Gloria Mine (past-mined areas), Nchwaning II (old residential area), and the old golf course have been rehabilitated to mimic pre-mining topography through shaping, such that the topography of rehabilitated areas commensurate with that of adjacent areas. No specific areas of concern have been observed in these areas.</p>	Site Inspection observations.	3	3	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	<p>to allow for self-sustaining growth;</p> <ul style="list-style-type: none"> The process of 'Unification' can be utilised to ensure a constant supply of organic compost (fertiliser). This entails the establishment of a compost heap, where cleared indigenous organic matter is stored and allowed to break down naturally to the point of resembling garden compost; and Care must be taken to ensure that only indigenous plant matter is utilised for this process, as the presence of alien invaders may cause the establishment of invader plant communities in the rehabilitated areas. 	<p>A more recent rehabilitated area is present at Gloria. Vegetation growth in this area was observed to be adequate considering the recent drought experienced in the Northern Cape. Minor signs of erosion were present on slopes running towards the Gamagara River. A dust bucket is present in the area and the bucket was well below the 1 200mg/m²/day limit. No signs of invasive plants were present in the rehabilitated area.</p>					
7.3 ESTABLISHMENT OF NATURAL KATHU BUSHVELD AND GORDONIA DUNEVELD ON THE REHABILITATED AREAS	<ul style="list-style-type: none"> Once sufficient basal cover has been established, the introduction of species representative of the applicable vegetation types must commence; Introduction of these species should commence through the stages of natural floral succession [i.e. Pioneer species (grasses, herbaceous species), Secondary species (grasses, small shrubs, and small trees) and Climax state (larger shrubs, large trees)]; This process will also occur naturally as seeds from the neighbouring areas are introduced and germinate; Certain tree species with special mention of <i>Acacia erioloba</i>, <i>Acacia haematoxylon</i> and <i>Boscia albitrunca</i> can be selectively introduced, however consideration will need to be given to rooting depths and soil stability as well as the ability of the trees to establish on the subject area; A test area should be designated to test possible tree species to be introduced for their ability to grow in different substrates. This should commence immediately in order to allow informed decision making once rehabilitation commences; and The primary goal is to achieve a stable, 	<p>The site is still operational. Various areas which have been rehabilitated, i.e. Gloria Mine (past-mined areas), Nchwaning II (old residential area), and the old golf course have been rehabilitated to mimic pre-mining topography through shaping, such that the topography of rehabilitated areas commensurate with that of adjacent areas. No specific areas of concern have been observed in these areas.</p> <p>A more recent rehabilitated area is present at Gloria. Vegetation growth at this area was observed to be adequate considering the recent drought experienced in the Northern Cape. Minor signs of erosion were present on slopes running towards the Gamagara River. A dust bucket is present in the area and the bucket was well below the 600mg/m/day limit. No signs of invasive plants were present in the rehabilitated area.</p> <p>The mine is however still operational and final rehabilitation has not been initiated. However, considering the areas previously rehabilitated, the methods have been successful.</p> <p>At this time, a test area to test possible tree</p>	Site Inspection observations.	2	3	It is recommended that the establishment of a test area to determine the most suitable tree species to be used in rehabilitation be investigated.	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	climax state, representative of the vegetation types where the ecological function of the plant community is tolerant of most environmental conditions it encounters.	species for use in rehabilitation has not been established.					
7.4 MAINTENANCE OF REHABILITATED AREAS	<p>All areas must be maintained for a period of 5 years after formal rehabilitation ceases. During maintenance, the following should be done:</p> <ul style="list-style-type: none"> • Clearing of alien and invasive plants to allow native and indigenous plants to out-compete invasive and take a strong hold in the area; • Watering of larger trees that were planted during rehabilitation to allow for these trees to establish adequately; • Patching/fixing (if necessary) of any areas that have eroded since rehabilitation; • If hydro-seeding was not effective during 1st application, a second application of hydro-seed mixture may have to be applied in certain areas. The application of hydro-seed should be at the discretion of the hydroseeding specialist; • Maintain water run-off areas so as to not increase chances of further potential erosion; • Encourage growth of plants and grasses by cordoning off, fertilising and watering areas that have struggled to take root or re-vegetate; and • Areas of high importance (i.e. slopes and riparian areas) should be more vigorously maintained, fertilized and watered during maintenance. 	<p>The Licence Holder is aware of this condition. The mine is still fully operational. Various areas which have been rehabilitated, i.e. Gloria Mine (past-mined areas), Nchwaning II (old residential area), and the old golf course have been rehabilitated to mimic pre-mining topography through shaping, such that the topography of rehabilitated areas commensurate with that of adjacent areas. No specific areas of concern have been observed in these areas.</p> <p>A more recent rehabilitated area is present at Gloria. Vegetation growth in this area was observed to be adequate considering the recent drought experienced in the Northern Cape. Minor signs of erosion were present on slopes running towards the Gamagara River.</p>	Site Inspection observations.	2	3	The areas were erosion were identified or is identified in the future should be rehabilitated.	Environmental Representative
7.5 AREAS AND ACTIVITIES TO BE REHABILITATED	In general terms, the rehabilitation requirements for various areas of disturbance at the mine will not be relatively homogenous, with the exception of distinct features such as the tailings facilities and the general landfill. Distinction has been made between areas that require general surface rehabilitation	The Licence Holder is aware of this condition. The mine is still fully operational. Various areas which have been rehabilitated, i.e. Gloria Mine (past-mined areas), Nchwaning II (old residential area), and the old golf course have been rehabilitated to mimic pre-mining topography through shaping, such that the topography of rehabilitated areas	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan	T/N	T/N	It is important that the rehabilitation measures as committed to be incorporated into the annual rehabilitation plans which must be developed in terms of the NEMA.	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	alone (i.e. following the removal of surface structures and infrastructure, as well as site preparation for rehabilitation), and those activities that warrant unique management and rehabilitation provisions at closure (Table 7-2); where, inter alia, the following circumstances warrant such interventions: <ul style="list-style-type: none"> • The activity/area presents a potential, residual, point source of groundwater- or soil pollution; or • The activity/area presents a potential, direct, risk to human health or well-being. 	<p>commensurate with that of adjacent areas. No specific areas of concern have been observed in these areas.</p> <p>A more recent rehabilitated area is present at Gloria. Vegetation growth in this area was observed to be adequate considering the recent drought experienced in the Northern Cape. Minor signs of erosion were present on slopes running towards the Gamagara River.</p> <p>The site-specific rehabilitation conditions have been included into the Final Rehabilitation and Decommissioning Report and for this reason financial provision has been allowed for to implement the measures as stipulated in Table 7-2.</p>					
7.5.1 EXTENT OF REQUIRED 'GENERAL SURFACE REHABILITATION'	The relevant extent of requiring 'general surface rehabilitation' at BRMO is as per Figure 7-1 that follows (concurrent and end of life of mine); unless the area or activity is otherwise detailed in the following two sub-sections. The requisite requirements for 'general surface rehabilitation' are discussed in the sections that follow.	<p>The Licence Holder is aware of this condition. The mine is still fully operational. Various areas which have been rehabilitated, i.e. Gloria Mine (past-mined areas), Nchwaning II (old residential area), and the old golf course have been rehabilitated to mimic pre-mining topography through shaping, such that the topography of rehabilitated areas commensurate with that of adjacent areas. No specific areas of concern have been observed in these areas.</p> <p>A more recent rehabilitated area is present at Gloria. Vegetation growth in this area was observed to be adequate considering the recent drought experienced in the Northern Cape. Minor signs of erosion were present on slopes running towards the Gamagara River.</p> <p>The site-specific rehabilitation conditions have been included into the Final Rehabilitation and Decommissioning Report and for this reason financial provision has been allowed for to implement the measures as stipulated in Table 7-2.</p>	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan	2	3	It is important that the rehabilitation measures as committed to be incorporated into the annual rehabilitation plans which must be developed in terms of the NEMA.	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		It must be noted that no specific concurrent rehabilitation activities have been specified at this time.					
7.5.2 MINE RESIDUE	Mine residue deposits i.e. tailings dams, present potential point sources of groundwater pollution and continued visual intrusion following closure of the mines. These facilities will, unless otherwise recovered, remain on the surface at mine closure and require specific actions at closure, or concurrent to operation, to mitigate the potential longterm impacts thereof on groundwater quality and the visual and aesthetic character of the landscape. The required mitigation at closure will differ from the greater closure and rehabilitation provisions for 'general surface rehabilitation'. These facilities will also need to be effectively fenced-off from the remainder of the site in order to prevent any potential injury, or loss of life, that could result through indiscriminate access thereto until final closure status is achieved. The unique closure and rehabilitation of such facilities is discussed in Table 7-2.	<p>The rehabilitation practices associated with the TSFs are provided for in the Final Rehabilitation and Decommissioning Report.</p> <p>Some of the TSFs are not lined, and therefore pose a risk to the groundwater regime. All TSFs are also not fenced off.</p>	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan	1	3	It is recommended that more regular numerical models be undertaken to determine the impact of the Old TSFs on the groundwater conditions to establish management measures implementation needs.	Environmental Representative
7.5.3 OPENCAST VOIDS	The legacy opencast pit from historical opencast mining at Black Rock has been transformed into a general landfill. This presents BRMO with the opportunity of using this landfill to dispose of demolition rubble (concrete, bricks, and other relatively inert demolition waste). The landfill can thus be filled to be in line with the surrounding landscape, and subsequently capped and vegetated. Capping must be undertaken in accordance with closure requirements of the DWAF Minimum Requirements for Disposal of Waste to Landfill (or its successor as applicable at the time of closure).	The landfill site is operated in line with the approved WML. Ongoing covering is undertaken by means of topsoiling. During the site visit the area was very well managed.	Site Inspection observations.	3	3	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
7.5.4 SHAFT, INCLINES AND UNDERGROUND WORKS	Underground works consist in the main of steel and concrete structures which are not expected to pose a significant risk to groundwater if sealed in situ. Facilities which may pose a risk include, in the main: <ul style="list-style-type: none"> • Hydrocarbon storage (fuel and lubricants) • Transformers • Oil separators and waste accumulation receptacles • Gear boxes and any other mechanical systems with significant quantities of lubricants. • Vehicles and mobile equipment 	The mine is still operational. The Licence Holder is aware of this condition. The rehabilitation plan makes provision for hydrocarbon management and shaft rehabilitation.	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan	T/N	T/N	It is important that the rehabilitation measures as committed to be incorporated into the annual rehabilitation plans which must be developed in terms of the NEMA.	Environmental Representative
7.6 LEGACY BLACK ROCK KOPPIE MINING	It has been noted that the mine works at the Black Rock Koppie may be considered as a heritage site. BRMO must establish with assistance whether the site must be declared and managed as such, or whether rehabilitation thereof may proceed. Notably the site may be home to various red data species of bats.	The Black Rock Koppie is fenced of and patrolled by Security. No concurrent rehabilitation is undertaken in this area. Some old offices (the Old Environmental Offices) were demolished some time ago. The audit team was advised that SAHRA wants the remaining structures to remain as is, due to heritage value.	Site Inspection observations.	3	3	No additional recommendation.	-
7.7 GENERAL SURFACE REHABILITA	The 'general surface rehabilitation' of degraded/disturbed mine areas to meet the stated end land-use objectives, must comply with the following broad sequentially implemented phases of rehabilitation: Phase 1: Removal of all surface structures and infrastructure, as well as buried service infrastructure that may act to impede subsequent phases of rehabilitation; Phase 2: Preparation and amelioration of structural and infrastructural development footprints for further rehabilitation; Phase 3: Sequential replacement of stockpiled top- and treatment of sub-soil where topsoil is lacking, to mimic pre-mining soil profiles; Phase 4: Initial hydro-seeding of prepared areas to establish basal cover for subsequent rehabilitation; Phase 5: Initial maintenance and monitoring of basal cover;	The Licence Holder is aware of this condition. The mine is still fully operational. Various areas which have been rehabilitated, i.e. Gloria Mine (past-mined areas), Nchwaning II (old residential area), and the old golf course have been rehabilitated to mimic pre-mining topography through shaping, such that the topography of rehabilitated areas commensurate with that of adjacent areas. No specific areas of concern have been observed in these areas. A more recent rehabilitated area is present at Gloria. Vegetation growth in this area was observed to be adequate considering the recent drought experienced in the Northern Cape. Minor signs of erosion were present on slopes running towards the Gamagara River.	Site Inspection observations	2	3	The areas were erosion were identified or is identified in the future should be rehabilitated.	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	Phase 6: Establishment of Central Sandy Bushveld tree species once sufficient basal cover is achieved; and Phase 7: On-going monitoring and maintenance.						
7.7.1 BUILDINGS AND INFRASTRUCTURE	Brick buildings and infrastructure serving as offices, workshops, etc. can be put to beneficial use upon closure of the mine, and thus should not be removed if there is an adequate use for these buildings post-closure. This "adequate use" should be determined before final closure and rehabilitation measures are formally implemented. If, however, any agreement is reached with the community and or any other organization to take over the occupation of one (1) or more buildings, then a formal agreement to that extent needs to be entered into and signed by all parties concerned. The DMR also needs to be alerted to this fact, and adequate legal arrangements need to be made in this regard. If various parties cannot reach agreement on the adequate use for these buildings, then these buildings too need to be demolished. All temporary buildings (prefabricated buildings) should be removed and their footprints rehabilitated.	The mine is still operational. The Licence Holder is aware of this condition. The rehabilitation plan makes provision for the rehabilitation of brick buildings, workshops and offices in line with the EMPr requirements.	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan	T/N	T/N	It is important that the rehabilitation measures as committed to be incorporated into the annual rehabilitation plans which must be developed in terms of the NEMA.	Environmental Representative
7.8 CONCURRENT REHABILITATION	The procedures stipulated in 7.5 and 7.7 apply hereto as well. This section relates to ongoing rehabilitation requirements, as well as areas identified at the time of updating this EMPr which require rehabilitation as depicted in the ensuing maps.	No specific concurrent rehabilitation has been formalised. However, saying this, various areas have been demolished and rehabilitated in the past.	Site Inspection observations.	1	3	It is important that the rehabilitation measures as committed to be incorporated into the annual rehabilitation plans which must be developed in terms of the NEMA.	Environmental Representative
	Redundant Building, water reservoirs, plant and other such structures						
1.1	Any items of economically salvageable or recyclable value (e.g. steel, electrical cabling etc.) must be identified and marked for salvaging.	The mine is still operational. The Licence Holder is aware of this condition.	Site Inspection observations.	T/N	T/N	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
1.2	Structures to be demolished must be inspected to identify if there are any red data or protected species which require removal or relocation prior to disposal. Permits for removal must be obtained prior to removal if they are required (e.g. removal of camel thorn and grey camel thorn trees).	No recent demolition activities observed. There are no structures that are currently being demolished at the visited mines. Based on the numerous tree removal permits in place for construction activities it is clear that the Licence Holder is aware of the legal requirements relating to protected and/or red data species.	Site Inspection observations.	3	3	No additional recommendation.	-
1.3	Asbestos roofs and materials containing asbestos must be identified and removed by a person competent to do so. Asbestos waste must be disposed of to an appropriately licenced facility.	In July 2017, an Asbestos Inventory Report was compiled for BRMO. The document provides for management plan methodologies appropriate to the inventoried materials being managed, in compliance with waste related legislation and best practices. Safe disposal certificates are available and was observed by the auditor during the site investigation.	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan. Site Inspection observations.	3	3	No additional recommendation.	-
1.4	All structures must be demolished and removed.	The mine is still operational. The Licence Holder is aware of this condition.	Site Inspection observations.	T/N	T/N	No additional recommendation.	-
1.5	All foundations must be excavated and removed to a depth of 0.5m below ground level where applicable.	The mine is still operational. The Licence Holder is aware of this condition.	Site Inspection observations.	T/N	T/N	No additional recommendation.	-
1.6	Potentially contaminated soil must be removed for treatment or disposal at an appropriately licenced facility.	The mine is still operational. The Licence Holder is aware of this condition.	Site Inspection observations.	T/N	T/N	No additional recommendation.	-
1.7	Shape to contours of natural surrounds, Rip to 500 m, and scarify compacted soil.	The Licence Holder is aware of this condition. The mine is still fully operational. Various areas which have been rehabilitated, i.e. Gloria Mine (past-mined areas), Nchwaning II (old residential area), and the old golf course have been rehabilitated to mimic pre-mining topography through shaping, such that the topography of rehabilitated areas commensurate with that of adjacent areas. No specific areas of concern have been observed in these areas. A more recent rehabilitated area is present at Gloria. Vegetation growth in this area was observed to be adequate considering the recent drought experienced in the Northern	Site Inspection observations.	2	3	The areas were erosion were identified or is identified in the future should be rehabilitated.	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
		Cape. Minor signs of erosion were present on slopes running towards the Gamagara River.					
1.8	Cover exposed surfaces with topsoil and revegetate.	The Licence Holder is aware of this condition. The mine is still fully operational. Various areas which have been rehabilitated, i.e. Gloria Mine (past-mined areas), Nchwaning II (old residential area), and the old golf course have been rehabilitated to mimic pre-mining topography through shaping, such that the topography of rehabilitated areas commensurate with that of adjacent areas. No specific areas of concern have been observed in these areas.	Site Inspection observations.	3	3	No additional recommendation.	-
1.9	Monitor and manage rehabilitated area in accordance with alien and invasive management procedure.	Compliant, no areas of concern were observed in these areas. It should however be notified, that major growth of young Prosopis is present in the Gamagara Riverbed at the Gloria rehabilitated area.	Site Inspection observations.	0	3	The Alien Invasive Plant Species Plan should be implemented in the area around the Gamagara Riverbed.	Environmental Representative
1.10	Any areas with slope $\geq 3^\circ$ should be inspected for signs of topsoil erosion following the replacement thereof, and appropriate action taken to curb any problematic areas. This to be undertaken until vegetation is permanently established.	A more recent rehabilitated area is present at Gloria. Vegetation growth in this area was observed to be adequate considering the recent drought experienced in the Northern Cape. Minor signs of erosion were present on slopes running towards the Gamagara River.	Site Inspection observations.	1	3	The areas were erosion were identified or is identified in the future should be rehabilitated.	Environmental Representative
	Disturbed area on the eastern boundary of Gloria mine encroaching on the Gamagara river						
2.1	Obtain a Water Use Licence or a General Authorisation in terms of the National Water Act (Act 36 of 1998) prior to commencement of rehabilitation activities in the riverbed/riparian zone or other restricted demarcation.	The Licence Holder is aware of this condition. A WUL or a GA in terms of the NWA will be applied for prior to commencement of rehabilitation activities in the riverbed/riparian zone or other areas with restricted demarcation.	Site Inspection observations.	T/N	T/N	No additional recommendation.	-
2.2	Identify any protected species that may require permitting prior to disturbing	No recent demolition activities observed. There are no structures that are currently being demolished at the visited mines. Based on the numerous tree removal permits in place for construction activities it is clear that the Licence Holder is aware of the legal requirements relating to protected and/or red data species.	Site Inspection observations.	3	3	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
2.3	If any archaeological artefacts of potential significance are identified at any stage, work must cease and SAHRA must be notified for instruction on how to proceed.	The Licence Holder is aware of this condition.	Site Inspection observations.	T/N	T/N	No additional recommendation.	-
2.4	Removal of all foreign material and legacy waste in the area to be rehabilitated.	The Licence Holder is aware of this condition. No areas of concern have been observed.	Site Inspection observations.	T/N	T/N	No additional recommendation.	-
2.5	Rip compacted areas, and landscape to prevent erosion.	A more recent rehabilitated area is present at Gloria. Vegetation growth in this area was observed to be adequate considering the recent drought experienced in the Northern Cape. Minor signs of erosion were present on slopes running towards the Gamagara River.	Site Inspection observations.	1	3	The areas were erosion were identified or is identified in the future should be rehabilitated.	Environmental Representative
2.6	Revegetate in accordance with the recommendations of the biodiversity specialist and monitor in accordance with alien and invasive management procedure.	A more recent rehabilitated area is present at Gloria. Vegetation growth in this area was observed to be adequate considering the recent drought experienced in the Northern Cape. Minor signs of erosion were present on slopes running towards the Gamagara River.	Site Inspection observations.	3	3	No additional recommendation.	-
	Golf Course, old laydown areas, old railway track (removed), and other disturbed surfaces						
3.1	All residual structures must be demolished and removed.	The Licence Holder is aware of this condition. During rehabilitation these areas will be demolished, and the area rehabilitated in line with the EMPr. This is included in the current Final Rehabilitation, Decommission and Mine Closure Plan and financial provision for this has been made.	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan; Site Inspection observations.	T/N	T/N	No additional recommendation.	-
3.2	Shape to contours of natural surrounds, Rip to 500 m, and scarify compacted soil.	The Licence Holder is aware of this condition. During rehabilitation these areas will be demolished, and the area rehabilitated in line with the EMPr. This is included in the current Final Rehabilitation, Decommission and Mine Closure Plan and financial provision for this has been made.	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan; Site Inspection observations.	T/N	T/N	No additional recommendation.	-
3.3	Cover exposed surfaces with topsoil and revegetate.	The Licence Holder is aware of this condition. During rehabilitation these areas will be demolished, and the area rehabilitated in line with the EMPr. This is included in the current Final Rehabilitation, Decommission and Mine Closure Plan and financial provision for this has been made.	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan; Site Inspection observations.	T/N	T/N	No additional recommendation.	-



Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
3.4	Monitor and manage rehabilitated area in accordance with alien and invasive management procedure.	The Licence Holder is aware of this condition. During rehabilitation these areas will be demolished, and the area rehabilitated in line with the EMPr. This is included in the current Final Rehabilitation, Decommission and Mine Closure Plan and financial provision for this has been made.	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan; Site Inspection observations.	T/N	T/N	No additional recommendation.	-
3.5	Any areas with slope $\geq 3^\circ$ should be inspected for signs of topsoil erosion following the replacement thereof, and appropriate action taken to curb any problematic areas. This to be undertaken until vegetation is permanently established.	The Licence Holder is aware of this condition. During rehabilitation these areas will be demolished, and the area rehabilitated in line with the EMPr This is included in the current Final Rehabilitation, Decommission and Mine Closure Plan and financial provision for this has been made.	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan; Site Inspection observations.	T/N	T/N	No additional recommendation.	-
General provisions							
4.1	All areas disturbed through construction related activities, and which can reasonably and feasibly be rehabilitated once the subject construction ceases, should be rehabilitated in accordance with Phases 4 to 7 in Table 7-1.	<p>The Licence Holder is aware of this condition. The mine is still fully operational. Various areas which have been rehabilitated, i.e. Gloria Mine (past-mined areas), Nchwaning II (old residential area), and the old golf course have been rehabilitated to mimic pre-mining topography through shaping, such that the topography of rehabilitated areas commensurate with that of adjacent areas. No specific areas of concern have been observed in these areas.</p> <p>A more recent rehabilitated area is present at Gloria. Vegetation growth in this area was observed to be adequate considering the recent drought experienced in the Northern Cape. Minor signs of erosion were present on slopes running towards the Gamagara River.</p> <p>It must be noted that no specific concurrent rehabilitation activities have been specified at this time. However as mentioned before, various areas have been rehabilitated in the past. No presence of historic construction activities was observed.</p>	Shangoni, 2020 Final Rehabilitation, Decommissioning and Mine Closure Plan; Site Investigation observations.	3	3	It is important that the rehabilitation measures as committed to be incorporated into the annual plans which must be developed in terms of the NEMA.	Environmental Representative
8.1 SURFACE AND GROUNDWATER	Surface and groundwater monitoring must be undertaken in accordance with BRMO's Water Use Licence with the inclusion of	Monitoring is being undertaken by Aquatico to highlight and evaluate data according to the applicable and WUL Guidelines. The Quarterly	Aquatico Water Monitoring Report, January 2020	3	3	No additional recommendation.	-



Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	antimony. Figure 8-1, Figure 8-2, and Figure 8-3 indicate the locations of boreholes for groundwater monitoring, wastewater usage monitoring points, and treated water quality monitoring points respectively.	<p>Water Quality Report, January 2020 states:</p> <p>The selected guidelines for wastewater including bacteriological evaluation are:</p> <ul style="list-style-type: none"> Assmang Black Rock. Licence in terms Chapter 4 of the National Water Act, 1998 (Act no. 36 of 1998) (The Act). Licence No: 10/D41M/ABEGJ/3490. South Africa, General Authorisations Limit for Irrigation with Wastewater in terms of Section 39 of the National Water Act, 1998 (Act NO. 36 of 1998). Government Gazette, 36820, 6 September 2013. <p>The selected guidelines for process water including bacteriological evaluation are:</p> <ul style="list-style-type: none"> Assmang Black Rock. Licence in terms Chapter 4 of the National Water Act, 1998 (Act no. 36 of 1998) (The Act). Licence No: 10/D41M/ABEGJ/3490. South Africa, General Authorisations in terms of Section 39 of the National Water Act, 1998 (Act NO. 36 of 1998). Government Gazette, 36820, 6 September 2013. <p>The selected guidelines for groundwater including bacteriological evaluation are:</p> <ul style="list-style-type: none"> Assmang Black Rock. Licence in terms Chapter 4 of the National Water Act, 1998 (Act no. 36 of 1998) (The Act). Licence No: 10/D41M/ABEGJ/3490. SANS 241-1:2015: Drinking Water, Part 1: Microbiological, Physical, Aesthetic and Chemical Determinants, Edition 1, 2015. 					
8.2 DUST FALLOUT	Because of the potential impact the haul road PM entrainment has on ambient air quality, it is required that the proponent implements a palliative abatement method on unpaved road surfaces, with a minimum abatement efficiency of 80%. The monitoring of the effectiveness thereof will be needed, and it is proposed that this be done at least at the locations indicated in	Aquatico is responsible for dust monitoring on site. Ten monitoring points have been established on site. When considering the May 2020 monitoring report, the dust fall out of the sampling sites are mostly below the 1200mg/m ² /d limit, with the exception of the point at the Skoonpspruit Residential Area which exceeded the 1200mg/m ² /d limit during March/April 2020. This further exceeded the	Aquatico Dust Monitoring Report, May 2020	3	3	No additional recommendation.	-

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	Figure 8-4 and Table 8-1. The locations were chosen so that while they will still be able to collect dust from the surroundings it will not result in the overestimation of ambient dust emissions by being placed too close to any haul roads and product stockpile areas (6 Sampling points). Monitoring must be undertaken as per the requirements of national dust control regulations (NEM:AQA GN.R 827 2013 or their successor as appropriate).	600mg/m ² /d residential limit. Based on the information over 12 months, this was a once off exceedance and specific concern was raised. No concerns were raised over the operational areas where unpaved roads are present.					
8.3 NOISE	BRMO has undertaken baseline noise monitoring in 2013 (dBAcoustics Project No.: 046/2013), and subsequently in 2015 (Royal Haskoning DHV report Reference: 14003217/O1/ST). In respect of current mining operations, should BRMO receive noise complaints, then further monitoring must be undertaken in consultation with a noise specialist. In respect of the proposed sinter plant, an independent noise monitoring campaign must be undertaken by a competent noise and vibration specialist within 6 months of commissioning of the proposed sinter plant complex, or infrastructure. Subsequent periodic monitoring, if recommended by the specialist, can either be undertaken by a competent noise and vibration specialist, or by BRMO environmental management staff who have received appropriate training to undertake such.	Subsequent noise monitoring was undertaken during 2016 and is again planned for 2020.	Integrated Environmental Monitoring Report, June 2016	3	3	No additional recommendation.	-
8.4 BIODIVERSITY MONITORING PLAN	Monitoring should occur on an annual basis in the summer growing season. In order to ensure that temporal comparisons can be made assessments should take place at the same time each year.	A Biodiversity Action Plan has been developed for the mine during May 2011. No monitoring in this regard has however been undertaken based on available information. An implementation plan has been provided in word document to the auditor, but no confirmation of implementation could be confirmed.	Biodiversity Action Plan, 2011 Biodiversity Implementation Plan, 2019	0	3	It is recommended that regular updates in line with the EMPr be undertaken of the Biodiversity Monitoring Plan.	Environmental Representative
8.6 FAUNAL DATA CAPTURING PROTOCOLS	Monitoring should occur on an annual basis in the summer. In order to ensure that temporal comparisons can be made	A Biodiversity Action Plan has been developed for the mine during May 2011. No monitoring in this regard has however been undertaken	Biodiversity Action Plan, 2011 Biodiversity Implementation Plan, 2019	0	3	It is recommended that regular updates in line with the EMPr be	Environmental Representative

Black Rock Mne EMPr, 2017							
Reference	Management Action Condition	Observation 2020	Audit Evidence	Actual score	Max score	Recommendations/ Measures in Place to address condition	Responsibility
	assessments should take place at the same time each year.	based on available information. An implementation plan has been provided in word document to the auditor, but no confirmation of implementation could be confirmed.				undertaken of the Biodiversity Monitoring Plan.	
9.2.3 REPORTING, TRAINING AND MANAGEMENT	The SHEQ Department, in conjunction with the Training Department, will generate a one-page quick step-by-step reference (to be laminated and attached to all mobile machinery) for use by operators in a case of spillage.	Although training is undertaken on site, proof of this one-page training could not be obtained.	There have been shortcomings in the available information and as such, EnviroGistics is unable to express a conclusive opinion on the state of compliance.	1	3	It is recommended that the one-page training page be included in the areas required	Environmental Representative
10 ENVIRONMENTAL AWARENESS PLAN	The responsible person will revise these environmental awareness procedures from time to time. The date of commencement of the revised procedure will always be indicated to prevent confusion.	The Licence Holder is aware of this condition.	Site Investigation observations.	T/N	T/N	No additional recommendation.	-
Compliance Score				505	585	86%	

5 KEY FINDINGS AND RECOMMENDATIONS

5.1 Assumptions and Gaps

The audit was undertaken with the view that the information provided to the audit team was true and correct. It is possible that not all areas of concern or of improvement have been listed, documented or observed. The auditor did however attempt to assess all applicable areas on site.

Certain conditions in the EMPr and Approvals could not be verified due to information not made available to the auditor.

5.2 Key Findings

The findings below, which should receive attention on the mine, were observed. Please take note that not all findings have been presented here. For the complete list of findings please review table presented in Section 4.

- ☞ In general, the Licence Holder's waste management procedure is good. One area of concern observed during the site inspection was the Black Rock Salvage Yard, where sufficient containers were not available and ground pollution was present due to hydrocarbon spills.
- ☞ The EMPr requires that no slopes with gradient > 33° (i.e. 3H:1V) should be established on site; unless otherwise protected from erosion by appropriate storm water management measures, or slope stabilisation/re-vegetation. Based on the site investigations the topsoil stockpiles are not compliant in terms of the required slope as it exceeds the 33 degrees.
- ☞ The EMPr requires that ground level vibrations and air over pressure must be monitored. According to the mines' Superintendent Rock Engineer, no vibration monitoring has been conducted on site. The current blasting underground does not produce PPV's high enough to cause any significant damage to structures or rock mass (assumed that this will then be within the provided limits). It was stated that the mine is in the process of installing blasting vibration monitoring instruments on surface to determine the amount of blasting vibration produced by surrounding mines due to the high PPV's from those areas which may cause rock mass and infrastructure damage.
- ☞ Due to the Covid Restrictions there has been a delay in implementing alien invasive species management on site. This has resulted in a general increase in the presence thereof on site. The mine is in the process of reinitiating these services again.
- ☞ Erosion channels were present in the rehabilitated area at Gloria.
- ☞ The EMPr states that a 'topsoil balance calculation' will be held by the BRMO, showing reasonable estimates of the topsoil volumes available in stockpiles against the volumes required for rehabilitation of affected development footprints for the project. According to the 2020 Financial Provision Report, a topsoil balance should be updated for the site.
- ☞ The EMPr requires that where borrow pits are established outside of dam/TSF footprint/s, the borrow pits must be appropriately rehabilitated within 6 months of the last borrowing from the respective pit/s. Some borrow pits are still present in the Nchwaning II (north western corner), which have not been rehabilitated.
- ☞ In terms of bunding and management of hydrocarbons, some areas of concern included:
 - Hazardous chemicals are stored in bunded areas, however at Black Rock, diesel drums are stacked on top of one another. If these fall over or are damaged during offloading or uploading spills may not be contained.
 - At the Gloria fuel facility, no capacity indicators are in place on bund walls. Vegetation was also present in this bunded area which could be a fire hazard.
 - Spill management kits were present on site. At the Salvage Yard (Black Rock Section), some ground pollution was evident from machinery/equipment/vehicles that drip oil and grease.

- ☛ A Geochemical Model must be updated for the site in terms of the EMPr. The outcomes of the audit found that, no proof of an updated numerical groundwater model has been made available to the auditor for assessment. The WUL (2015) also requires that the Licence Holder ensure that an additional Geohydrological Assessment be conducted within one (1) of issuance of this licence which encompasses the information indicated above. This WUL was however superceded by the 2019 WUL. The 2019 WUL requires the Licence Holder to assess the possible impacts of contamination of water as well as the background water resource quality to evaluate impacts of specific actions/pollution sources on the groundwater regime. No evidence is in place based on available information or the past WUL Audit Reports that such a study was undertaken.
- ☛ In terms of the Sewage Plant Management the following is required:
 - Final plant design must ensure adequate installed treatment capacity in relation to additional project demand. The January 2020 Quarterly Water Monitoring Report states that three (3) sewage treatment localities were sampled during the assessment period. These include the Black Rock Mine Sewage Treatment Plant, Gloria Mine Sewage Treatment Plant and the Nchwaning Sewage Treatment Plant. The monitoring results indicated that the Black Rock Mine Sewage Treatment Plant, as well as the Nchwaning Sewage Treatment Plant qualities for Chemical Oxygen Demand (COD) and NO₃, exceeded the General Limits, with Total Suspended Solids (TSS) also present within the first mentioned facility.
 - The Black Rock Mine and Gloria Mine Sewage Treatment Plants are fenced off with proper access control. However, although located in the overall fenced off mining area, the Nchwaning II Sewage Treatment Plant was not fenced.
- ☛ Although a requirement in terms of the EMPr, the Salvage Yard floor is not concreted where potentially contaminated materials are stored. During the site inspection ground pollution evident from machinery/equipment/vehicles that drip oil and grease was observed. The overall view during the inspection was that this area requires more attention and control.
- ☛ No specific concurrent rehabilitation has been formalised. However, saying this, various areas have been demolished and rehabilitated in the past.
- ☛ A Biodiversity Action Plan has been developed for the mine during May 2011. No monitoring in this regard has however been undertaken based on available information. An implementation plan has been provided in word document to the auditor, but no confirmation of implementation could be confirmed.

5.3 Level of Compliance (this will be completed once the first review has been concluded)

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

Table 5: Compliance Scores

Licence Reference	2020 Compliant (%)
EMPR ROD, 2018	94
Amended Integrated EMPr, 2017	86

5.4 Overall Opinion

In general, environmental management on site is conducted to a high standard, with minor incidents of non-compliances observed. This is highly commended considering that the audit was conducted during the COVID lockdown period.

A recommendation to consider is that in general record keeping for the purposes of information sharing could be improved to streamline auditing processes.

5.5 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 External 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 assessments, including knowledge of the relevant Acts, regulations and any guidelines that have relevance to the External Audit;
5. I have no, and will not engage in, conflicting interests in the undertaking of the External Audit;
6. All the particulars furnished by me in this form are true and correct;
7. Will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
8. 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: 3 November 2020