

Environmental Management Program Performance Assessment Report

Version - Final V0

19 October 2020

Tendele Coal Mining (PTY) Ltd

GCS Project Number: 20-0635

Client Reference: KZN 30/5/1/2/2/135 MR

KZN30/5/1/2/2/216MR



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Tendele Coal Mining (PTY) Ltd
19-0624

DOCUMENT ISSUE STATUS

Report Issue	Version -Final V0		
GCS Reference Number	20-0635		
Client Reference	Annual EMP Assessment		
Title	Environmental Management Program (EMP) Performance Assessment Report		
	Name	Signature	Date
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EXECUTIVE SUMMARY

Somkhele is an operational anthracite mine, owned and operated by Tendele Coal Mining (Pty) Ltd (Tendele), which started its opencast mining activities in 2007. Somkhele is located on Portion 0 No. 15822 Reserve No. 3, within the Mtubatuba Local Municipality in the KwaZulu-Natal Province.

In terms of Regulation 55(4) of the MPRDA Regulations, the holder of a mining right is required to appoint an independent, competent person to conduct an Environmental Performance Assessment (EPA) and compile a Performance Assessment Report (PAR). GCS Water and Environment (Pty) Ltd (GCS) was contracted by Tendele to conduct an independent EPA audit for Somkhele. The audit was undertaken for all provisions included in the EMP for:

- Area 1;
- Area 2;
- Area 2 Amendment; and
- Area 8 and 9 (Luhlanga and KwaQubuka respectively)

A one (1) day site visit was undertaken at Somkhele on Thursday, 23 July 2020. The site visit was conducted together with Mr Chris Wright from Blackrock Consulting. The tour of the site consisted of observing and inspecting the activities being conducted.

Key Findings

The findings of the EPA at Somkhele is summarised below:

Positive findings for 2020 include:

- Continued rehabilitation measures are implemented throughout the site (hydro seeding was completed at North Pit (Figure 6-5 and Figure 6-6);
- Toolbox talks about various environmental topics are presented on a regular basis (Figure 6-3);
- Chemical stores were well managed and locked at time of assessment (Figure 6-15);
- MSDS sheets were available at all chemical storage areas (Figure 6-17);
- Dust monitoring is conducted on site (Figure 6-4);
- Oil spill kits were available in all workshops at the time of assessment (Figure 6-2 and Figure 6-14); and
- Aquatic Biomonitoring is taking place biannually (Figure 6-19).

Partial compliance for 2020 findings include:

- Waste rock dump in Area 1 is showing evidence of erosion (Figure 6-10);
- Cut-off drains at wash bay area are dirty and not being maintained thus not functioning effectively in diverting dirty water from clean areas (Figure 6-13); and
- Erosion is evident on north western side of the rehabilitated discard dump (Figure 6-11).

Non-compliance for 2020 findings include:

- Ponding of water was observed at isolated areas on site (Figure 6-22 and Figure 6-23).
- The river crossing at Luhlanga needs to be maintained to allow water flow to continue freely during rain events (Figure 6-24);
- Oil drums at hard park Area 1 workshop were observed standing outside bunded storage area with no drip trays underneath (Figure 6-9);
- Diesel spillage was observed at generator in Hard park Area 8 even though it was located within a drip tray (Figure 6-12);
- The designated fuelling station at the hard park area, Area 1, is not underlain with an impermeable surface;
- Incorrectly sized drip trays was used for vehicle servicing in the hard Park, Area 1 (Figure 6-7);
- Incorrect disposal of hazardous waste in hard park, Area 1 (Figure 6-8);
- Coal product removed from the opencast areas will lead to a deficit in available materials for the back filling of opencast, which ultimately will not represent the pre-mining topography.

Repeat non-compliances from the 2020 Audit include:

- The stream crossing at Luhlanga has impacted on the riverine environment and requires the culverts to be maintained to prevent impediment of water flow;
- Diesel spillage was observed at generator in hard park Area 8 even though it was located within a drip tray;
- The designated fuelling station at the hard park area, Area 1, is not underlain with an impermeable surface; and
- Soil erosion on some of the overburden dumps were still evident.

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1 INTRODUCTION

Somkhele is an operational anthracite mine, owned and operated by Tendele Coal Mining (Pty) Ltd (Tendele), which started its opencast mining activities in 2007. Somkhele is located on Portion 0 No. 15822 Reserve No. 3, within the Mtubatuba Local Municipality in the KwaZulu-Natal Province.

Current mining areas at Somkhele includes Area 1, Area 2, Area 8 (Luhlanga) and 9 (KwaQubuka) where Emalahleni, Ophondweni, Mahujini and Box Cut 0 (an extension of Luhlanga) are future mining areas (Refer to Figure 1-1). An old order Mining Right (MR) was granted in 2005 for Areas 2 (Section 102 amendment to include area 8 and 9 [Luhlanga and KwaQubuka] in 2013) and Area 1 (Refer to Figure 1-2). The application for a MR conversion was subsequently approved on 1 February 2011 and executed on 30 March 2011.

An Environmental Authorisation (EA) amendment, Ref no. KZN 30/5/1/2/2/216 MR was granted to the proposed mining of Box Cut 0 which is an expansion of the existing Area 8 (Luhlanga) opencast pit. The current approved Environmental Management Programme (EMP) together with the additional measures in the Environmental Impact Assessment Report was accepted as suitable mitigation against any possible negative impacts. However, at the time of this audit the proposed mining activities at Box Cut 0 had not commenced yet and therefor was not subject to this audit process.

The status of the MRs and corresponding Environmental Management Programmes (EMPs) in respect of the Somkhele operations are outlined in Table 1-1.

Table 1-1: Mining Rights and Corresponding EMPs

EMP Approval	Type	DMR Reference	Approval Date
Area 2/3	Old Order Mining Right	KZN 30/5/1/2/2/216 MR	2005
Area 1	New Order Mining Right Addendum 1	KZN 30/5/1/2/2/135 MR	2007
Area 2 Conversion	Conversion of Old Order to New Order Mining Right	KZN 30/5/1/2/2/216 MR	2011
Luhlanga (Area 8) & KwaQubuka (Area 9)	Section 102 EMP amendment	KZN 30/5/1/2/2/216 MR	2013
Amendment to Area 2 EMP	Amendment to include 2 nd washing plant and calcining plant and fuel storage	KZN 30/5/1/2/2/216 MR	2013
Addendum to Area 2 EMP	Addendum to EMP to include 3 rd washing plant	KZN 30/5/1/2/2/216 MR	2013
Area 4 and 5 (Emalahleni, Ophondweni, Mahujini)	MR Application for Areas 4 and 5	KZN 30/5/1/2/2/10041 MR	2016
Box Cut 0	Addendum to EMP to include Box Cut 0	KZN 30/5/1/2/2/216 MR	2020

SOMKHELE MINE LOCALITY

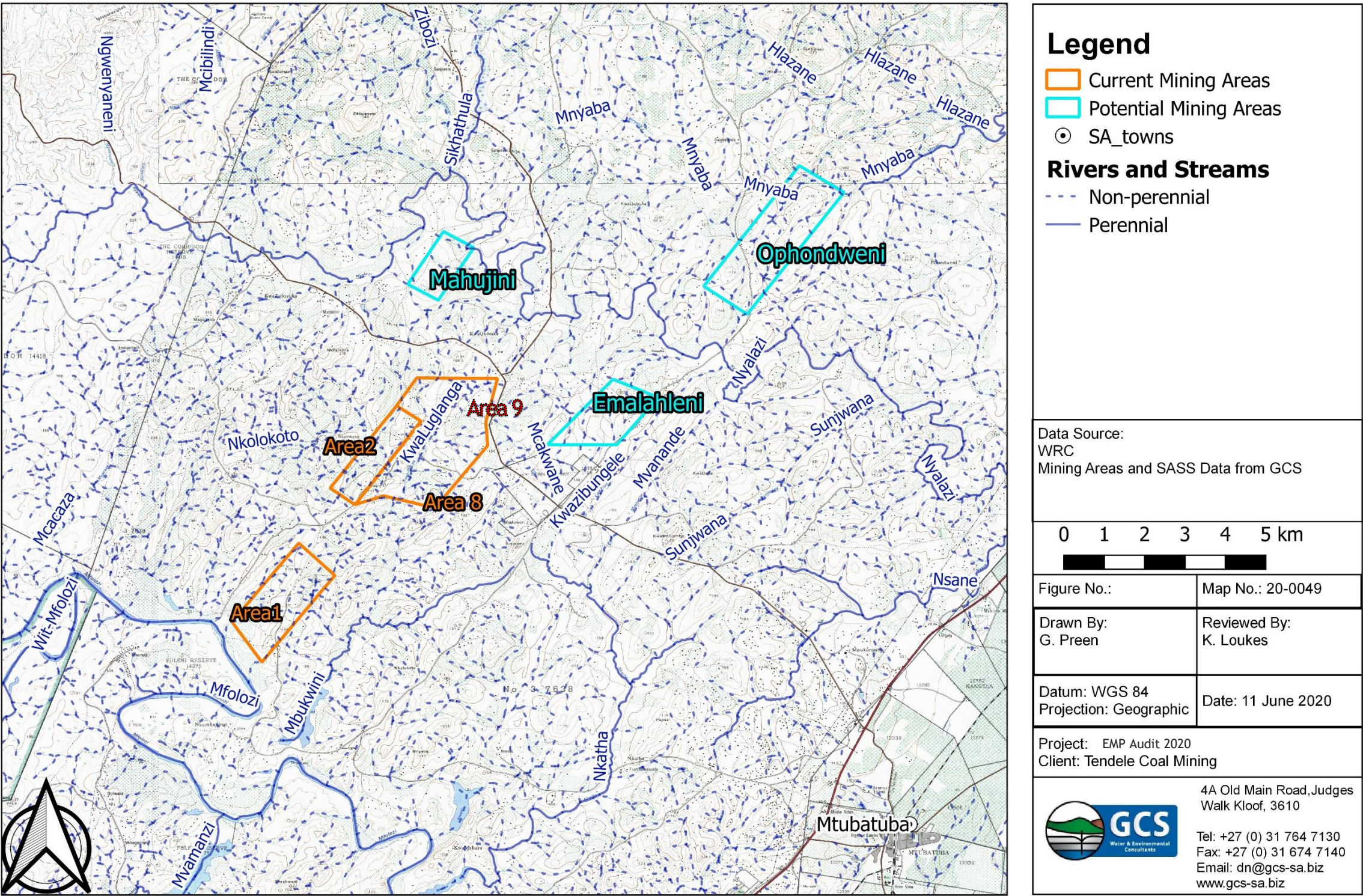


Figure 1-1: Somkhele mine Locality and Mining Areas.

Currently, Somkhele has three MRs with approved EMPs. The existing EMPs are very similar in content, and the EMP for Area 1 was submitted as an addendum to the initial EMP for Area 2 to ensure uniformity in management measures.

The EMP for Area 2, which was the first approved EMP, outlines all the management measures for the processing plants, workshops as well as for waste management. A Section 102 application was approved by the Department of Mineral Resources (DMR) which extended Somkhele's MR to include Luhlanga and KwaQubuka mining areas which are contiguous to Area 2. The EMPs in operation were consolidated to ensure that a single document could be utilised. A visual representation of the EMPs and how they correlate to each other is outlined in Figure 1-2.

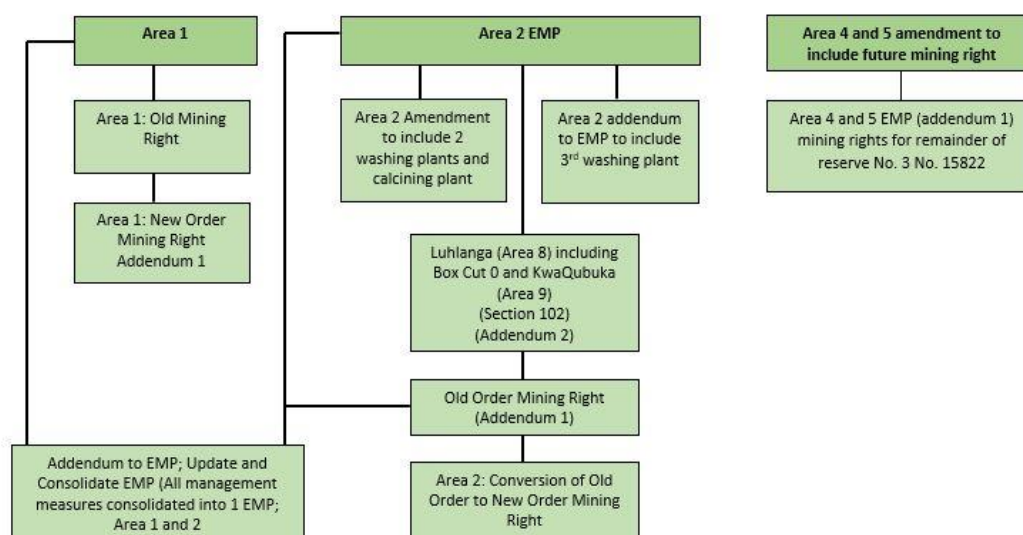


Figure 1-2: Visual representation of existing EMPs and future mining area authorisation

GCS Water and Environment (Pty) Ltd (GCS) was appointed by Tendele to undertake an independent Environmental Performance Assessment (EPA) audit for Somkhele Mine. In terms of Regulation 55(4) of the MPRDA Regulations, the holder of a MR is required to appoint an independent, competent person to conduct an EPA and compile a Performance Assessment Report (PAR).

1.1 Structure of this report

In terms of Regulation 55(4) of the MPRDA Regulations an independent audit was undertaken for Somkhele Mine. Please refer to the structure of this PAR as required by the regulations in Table 1-2.

Table 1-2: Structure of report

Content of a Performance Assessment Report	Section of this report
Details and expertise of independent ECO and author of this Performance Assessment Report.	Section 4
Declaration that the independent auditor is independent.	Appendix A
Scope and the purpose of environmental Performance Assessment Report.	Section 2
Methodology adopted in preparing the environmental Performance Assessment Report.	Section 3
Evaluation of the ability of the EMPr to sufficiently: 1. provide for continued avoidance, management and mitigation of environmental impacts and at closure; 2. ensure compliance with EA, EMPr and if applicable, closure plan.	Section 7 Table 7-1 and 7-2
Description of any assumptions, uncertainties or gaps in knowledge.	Section 8
Description of any consultation process undertaken for this Performance Assessment Report.	Section 3
A summary and copies of comments received during any consultation process.	Not applicable for this audit
Any other information requested by the competent authority.	Not applicable for this audit

2 SCOPE OF WORK

This EMP Audit is a regular, systematic, documented verification of whether Somkhele is compliant with the conditions of the approved EMP in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA), as approved by the DMR.

The audit was undertaken for all conditions included in the EMP for:

- Area 1;
- Area 2;
- Area 2 Amendment;
- Luhlanga and Box Cut 0 (Area 8); and
- KwaQubuka (Area 9).

3 AUDIT PROCESS

The following steps formed the basis of the EPA Audit.

3.1 Step 1: What is the objective of the audit?

The objectives of any audit should be clearly defined and settled before either an internal or external audit begins. The setting of objectives is important as it is against these objectives that Tendele will be reviewed and expected to improve.

The following objectives formed the basis for the EPA Audit:

- Ensuring legal compliance in terms of the approved EMP;

- Checking that the environmental management tools to achieve compliance are used correctly and efficiently;
- To check whether the environmental management tools are effectively fulfilling their intended purpose of environmental compliance;
- Ensuring environmental performance on a continuous basis, i.e. throughout the life cycle of the Somkhele operations;
- Reducing environmental liability;
- To facilitate the transfer of information or best practice between operating units;
- To increase environmental awareness among the employees; and
- To track the environmental accountability of managers.

3.2 Steps 2: Information required to conduct the audit

Table 3-1 sets out the procedures that were used to obtain the audit information.

Table 3-1: Process to obtain audit information

ACTION	DESCRIPTION
Inspection	Inspection consists of examining records and documents. Inspection of records and documents provides audit evidence of varying degrees of reliability depending on their nature and source and the effectiveness of internal controls over their processing.
Observation	Observation consists of on-site observation of the mining activities being conducted on site.
Enquiry	Enquiry consists of seeking information of knowledgeable persons inside the organisation.
Confirmation	Confirmation consists of making enquiries to corroborate information contained in the EMP.

3.3 Step 3: Conducting the audit

Regulation 55(4) of the MPRDA Regulations states that the holder of a MR may appoint an independent, competent person to conduct and compile a PAR. The audit consisted of comparing the information gathered during on-site interviews, from reports as well as assessing on-site activities with the conditions of the EMP. A checklist was developed based on the EMP conditions and used as an auditing tool to establish the audit results.

A one (1) day site visit was undertaken at Somkhele on Thursday, 23 July 2020. The site visit was conducted together with Mr Chris Wright from Blackrock Consulting. The tour of the site consisted of observing and inspecting the activities being conducted.

The areas that were inspected during the site inspection are detailed in the sections that follow.

3.3.1 Abstraction point at Mfolozi River

Seven boreholes are located next to the Mfolozi river from which water is abstracted.

3.3.2 Area 1 opencast

Some open cast mining is still underway, however the backfilling of North Pit has commenced with rehabilitation of certain areas taking place concurrently. The following facilities are located within Area 1; Return Water Dam (RWD) for pit water, the River Dam as a clean water dam serving as a transfer station from the Mfolozi River, the RoM from Area 1 pits is temporarily stockpiled and transported to the beneficiation plants in Area 2, the waste products from the beneficiation plants (slurry and discard) are then disposed into existing opencast pits (Pit A and Pit BDE) in Area 2.

3.3.3 Area 2 opencast

Mining has been completed in this area, and the discard facility has been rehabilitated. This area includes Myenge Dam 1 (Pollution Control Dam [PCD]), Myenge Dam 2 (clean water), two settling ponds, plant header dam, conservancy tanks, 3 washing/processing plants, Pit A and Pit BDE. Slurry and discard after processing is being disposed into existing opencast pits (Pit A and Pit BDE) in Area 2.

3.3.4 Area 8 (Luhlanga) opencast

The following facilities are located within Area 8; Luhlanga Return Water Dam, the RoM from Area 8 pit is temporarily stockpiled and transported to the beneficiation plants in Area 2, the waste products from the beneficiation plants (slurry and discard) are then disposed into existing opencast pits (Pit A and Pit BDE) in Area 2. Box Cut 0 is an authorised extension of Luhlanga pit and mining is planned to commence before the end of 2020.

3.3.5 Area 9 (KwaQubuka) opencast

Open Cast mining is currently underway. The RoM from Area 9 pit is temporarily stockpiled and transported to the beneficiation plants in Area 2, the waste products from the beneficiation plants (slurry and discard) are then disposed into existing opencast pits (Pit A and Pit BDE) in Area 2.

3.4 Step 4: Evaluating and presenting the audit results

The results of the audit are evaluated and presented in a table indicating whether an activity is compliant, partially compliant or non-compliant. The findings of the audit are included in Section 7 of this Report. The audit findings also include practical recommendations whereby the various non-compliance issues can be corrected.

3.5 Step 5: Instituting corrective action

Decision making, based on the audit results, must have the following objectives; to improve the present situation and to institute fair and reasonable corrective action. Somkhele should make decisions based on the significance of the problem or non-compliance and the resources required to improve the situation. The audit provides a basis for recommending actions to correct any deficiencies and to address any areas of environmental non-compliance recorded as part of the audit findings.

It is recommended that an environmental management action plan be implemented to address the audit recommendations. The plan may include:

- Goals;
- Strategies;
- Performance indicators;
- Responsibilities; and
- A timetable for achievement.

4 DETAILS OF AUDITOR

GCS has been appointed by Tendele to conduct an external EPA at Somkhele. GCS has extensive experience and expertise in undertaking and compiling compliance audits.

The audit assessment was undertaken by Ms. Karin Loukes from GCS. The project team is detailed in Table 4-1.

Table 4-1: Proposed Project Team

NAME	RESPONSIBILITY
Adam Gunn (Director)	• Sign off
Gerda Bothma (Environmental Unit Manager)	• Report Review
Karin Loukes (Environmental Scientist)	• Project manager • Environmental Auditor • Overall Legal Compliance • Site visit • Liaison with Client • Compilation of PAR

5 ASSUMPTIONS AND LIMITATIONS

The findings, results, observations, conclusions and recommendations given in this audit are based on the auditor's best legal and professional knowledge as well as available information.

Although GCS exercises due care and diligence in rendering services and preparing documents, GCS accepts no liability, and the client by receiving this document, indemnifies

GCS and its directors, managers, agents and employees against all actions, claims, demands, losses, liabilities, costs, damages and expenses arising from or in connection with services rendered, directly or indirectly by GCS and by the use of the information contained in this document.

This audit must not be altered or added to without the prior written consent of the auditor. This also refers to electronic copies of this audit which are supplied for the purposes of inclusion as part of other reports, including main reports. Similarly, any recommendations, statements or conclusions drawn from or based on this audit must make reference to this EPA audit. If these form part of a main audit relating to this investigation or report, this audit must be included in its entirety as an annexure or separate section to the main audit.

Refer to Appendix A for the Declaration of Independence of the Auditor.

6 PHOTOGRAPHIC LOG

Kindly refer to Table 6-1 for a photographic log of the most significant photographs taken on site during the site visit.

Table 6-1 Photographic Log

		
Figure 6-1 Wash and workshop area underlain with concrete at Duma Manje Workshop with oil trap installed (Positive observation).	Figure 6-2 Oil spill kit was available in oil storage area at Duma Manje Workshop (Positive observation).	Figure 6-3 Staff notice board with copies of latest toolbox talk (Positive observation).
		
Figure 6-4 Dust monitoring taking place on mine site (Neutral observation).	Figure 6-5 Rehabilitation at North Pit 1. Placement of topsoil (in yellow circle) (Positive observation).	Figure 6-6 Hydroseeding of rehabilitated areas in Area 1 (Positive observation).

		
Figure 6-7 Incorrect size of drip tray used, resulting in oil spills while servicing machinery in Hard Park Area 1 (Negative observation).	Figure 6-8 Incorrect disposal of hazardous waste in hard park, Area 1.	Figure 6-9 Oil drums standing outside store on bare soil at hard park, Area 1 (Negative observation).
		
Figure 6-10 Soil erosion evident at waste rock dump, Area 1 (Negative observation).	Figure 6-11 Erosion visible on the north western side of the discard dump. (Negative observation).	Figure 6-12 Diesel spill observed at the generator located in Hard Park Area 8 (Negative observation).

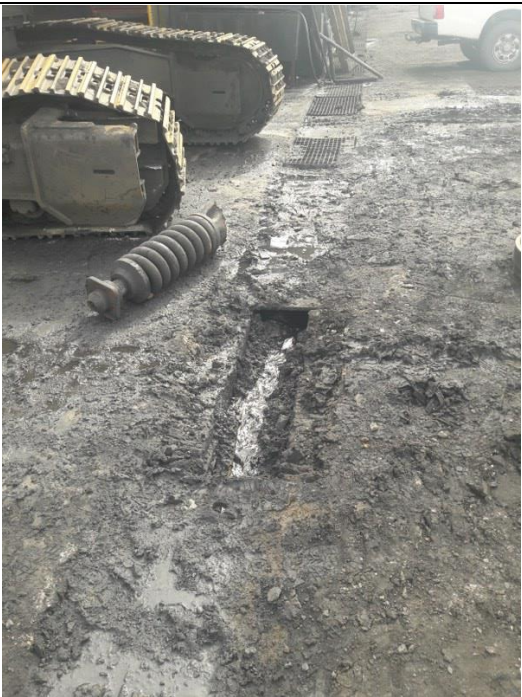
		
Figure 6-13 Drains were not maintained resulting in dirty run off from workshop on to bare soil (Negative observation).	Figure 6-14 Oil spill kits were available in workshop areas (Positive observation).	Figure 6-15 Oil and chemical stores locked in the general workshops (Positive observation).
		
Figure 6-16 Waste separated, and skips covered (Positive observation).	Figure 6-17 Material Safety Data Sheets (MSDS) available (Positive observation).	Figure 6-18 Waste skip overflowing and waste lying next to it (Negative observation).

		
Figure 6-19 Biannual SASS5 Monitoring site (Positive observation).	Figure 6-20 Flammable chemicals stored separately (Positive Observation).	Figure 6-21 Portable toilets utilised on site (Neutral observation).
		
Figure 6-22 Ponding of water next at the Luhlanga Road crossing (Negative Observation).	Figure 6-23 Continual flow of water with ponding next to the road downstream from North Pit RWD (Negative observation).	Figure 6-24 Culvert silted up at stream crossing at Luhlanga impeding water flow (Negative observation).

7 PERFORMANCE ASSESSMENT RESULTS

The EMP performance assessment findings are outlined in Table 7-1 and actions required to remedy any non-conformity are addressed in Table 7-2.

Table 7-1 Assessment Results

2020 EMP Somkhele				
Objective	Action Plan	2020 Audit	Compliant	Photo Reference
Topography				
Prevention of surface subsidence	Terracing will prevent or limit this movement of earth material throughout the operation	Terracing evident on discard dump. No subsistence witnessed.	Yes	
Free flow of surface water to prevent ponding	The levels will be surveyed and checked upon rehabilitation	Ponding of water was observed at two areas on site.	No	Figure 6-22 and Figure 6-23
Soils				
To maintain the viability of the soils for rehabilitation purposes: Soil Stripping	All soils should be stripped in a dry or near-dry state as possible, no soil stripping after rainfall events.	No soil stripping witnessed during assessment.	Yes	
	All soils will be stripped and stockpiled for use in rehabilitation of the site.	Soil stockpiled and mapped.	Yes	
	Soils should be stockpiled as close to harvested area as possible.	Soil stockpiled adjacent to pits in Area 1, Area 2, Luhlanga (Area 8) and KwaQubuka (Area 9).	Yes	
	Soil should not be handled during high wind conditions.	No wind was present at time of assessment, while soils were being handled.	Yes	
To maintain the viability of the soils for rehabilitation purposes: Soil Stockpiling	Stockpiles should be kept away from watercourses or areas where they will be prone to erosion.	Stockpile areas have been defined, generally above the highwalls away from potential erosion areas.	Yes	
	Stockpiles are to be protected from wind and water erosion and should not to exceed 5 meters in height.	All Stockpiled identified do not exceed 5 meters. However waste rock dumps are showing evidence of erosion.	Partial	Figure 6-10
	Long-term stockpiling (more than 3 months) the stockpiles must be vegetated by sowing with a suitable grass/legume mix.	Stockpiles at KwaQubuka has been hydroseeded. Stockpiles in Area 1, 2 and Luhlanga has established grass cover.	Yes	
To maintain the viability of the soils for rehabilitation purposes. To create indigenous grassland that will stabilize the soils : Mine and Road rehabilitation	Prevent the development of hollows where water may collect and result in the water-logging of materials.	No standing water was observed at stockpile areas.	Yes	
	Ensure the free drainage of water.	Pooling was present at two areas.	No	Figure 6-22 and Figure 6-23
	Limiting the access of vehicles onto the rehabilitated land.	Areas being rehabilitated were not accessed by vehicles.	Yes	Figure 6-6
	Soils will not be placed on slopes with a gradient greater than 6%.	No rehabilitated areas currently exceed 6%.	Yes	Figure 6-5
Fertilizer management: To ensure effective use of fertilizer.	Prior to rehabilitation preliminary soil sampling will be carried out to determine fertilizer requirements. Soil samples will be analysed for the following parameters: pH (H ₂ O); Electrical Conductivity; Calcium mg/kg; Magnesium mg/kg; Potassium mg/kg; Sodium mg/kg; Cat-ion exchange capacity; Phosphorus (Bray I); Zinc mg/kg; Clay%; Organic matter content (C%).	Soil sampling and testing conducted in July 2020 to determine fertilizer requirements. Fertilization has been used together with the hydroseeding that was completed as part of rehabilitation measures.	Yes	
Land Use				

The destruction of footpaths and access routes through mining activities	The Mine should assist in creating alternative routes that are safe and are located an adequate distance from the active mining areas and the intra-Mine haul roads.	Mine has developed new access routes with security points when passing through mine area.	Yes	
	The mine will construct safe crossings underneath haul roads in places where access to grazing land is compromised.	No dedicated grazing areas within in EMP audit area.	Not applicable	
	Assistance should be provided in making formal stream crossings for livestock and humans (e.g. rock causeways or similar).	Not required as there are existing stream crossings on site.	Yes	
Flora				
Controlled removal of vegetation to minimise the extent of vegetation clearance	Only the minimum area of vegetation is to be cleared to enable construction or mining to take place - excessive vegetation clearing leads to erosion problems	No vegetation clearing occurring during assessment. Vegetation clearing only within required mining footprint.	Yes	
	In grassland areas, the vegetation should be stripped together with the topsoil - this incorporates both seeds and mulch into the topsoil, which can be used for rehabilitation.	No soil stripping witnessed during assessment. Topsoil maps have been updated for 2020.	Yes	
	Larger trees and shrubs should not be wasted.- Prior to commencement, allow the community to enter the area to clear the trees and shrubs for firewood or building material. Where possible plant species should be relocated to areas undergoing rehabilitation.	No relocation of protected plant species at the time of the assessment. Latest relocation was completed in February 2020.	Yes	
Limit the impact on valuable vegetation communities, namely the riverine forest and the wetland area	A zero development, 50 m buffer zone on either side of the riverine forest community must be maintained. These should be clearly demarcated with beacons.	A 50 meter buffer zone on either side of the riverine forest community has been maintained.	Yes	
	Stream crossings are to be sensitively planned to target areas where: i) the riverine forest is naturally 'open' and there are gaps in the continuity; ii). there are no large trees present.	The initial construction of the Luhlenga river crossing impacted on vegetation.	Partial	
To limit the loss of ethnobotanical plants utilised by the community.	The local community, through the Tribal Authority, should be given the opportunity for collection of the site prior to the site clearing.	No clearing of vegetation has commenced yet.	Yes	
To conserve the protected plant species present within the affected region.	Specimens of <i>Sideroxylon inerme</i> need to be protected from damage. This tree occurs within the riverine forest so stream crossings or any future development must be planned to avoid damage to/disturbance of specimens of this species.	Currently there are no construction of river crossings. Future river crossing are planned to avoid damage to protected species.	Yes	
To prevent the colonisation and spread of alien vegetation	The Mine has implemented an alien plant eradication programme. A full time team is tasked with removing all alien plants found within the Mine-affected areas.	A Weed and Alien Invasive Eradication Plan (2016) is available. No evidence of alien plant eradication was visible on site at time of assessment.	Yes	
	All herbicides used must be registered as agricultural remedies in terms of the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, No. 36 of 1947	Mechanical forms in combination with a herbicide will be utilised to remove of invasive plants as described in the Weed and Alien Invasive Eradication Plan (2016).	Yes	
	Species-specific herbicides/methods should be favoured, provided they will not compromise the naturally occurring plants.	Plenum herbicide is used on site for eradication of weeds and alien invasive species. The use of this herbicide was this was recommended by and agreed upon by the Hluhluwe Imfolozi Park.	Yes	
	Invasive plants are to be collected and transferred to a site where they can be burned in a container (e.g. a skip).	Methods will be used as described in Somkhele Weed and Alien Invasive Eradication Plan (2016).	Not applicable	

	Alien plants should preferably not be removed when they are seeding as this may encourage the spread of the plant	Methods will be used as described in Somkhele Weed and Alien Invasive Eradication Plan (2016).	Not applicable	
Establish a nursery to harvest indigenous plant species	Develop a community nursery, initiate seed harvesting.	Somkhele is in a partnership with Monzi nursery which is located in the local region.	Yes	
Aquatic				
Prevent loss of important aquatic areas	Ensure that mining activities avoid the moderately sensitive and sensitive aquatic areas (outlined in Aquatic specialist report).	Applicable to extension areas (Area 4 and 5) and no mining activities have commenced yet.	Not applicable	
Establish appropriate Bio monitoring programme	Develop and initiate a water quality and aquatic bio-monitoring programme for the site to include sites on rivers/streams immediately downstream of mining operations.	Biannual (Summer and Winter) SASS monitoring has been conducted for 2020. Although the non-perennial nature of streams have produced limited monitoring data.	Yes	
Limit the impact on ecological sensitive watercourses	Where haul roads need to cross watercourses ecologically sensitive water resources (medium-high EIS rating), these should ideally be located at existing crossings. If this is not feasible, the crossings should be located in degraded areas of riverine habitat to limit potential impacts.	Stream crossing at Luhlanga has interrupted the river continuum and water flow and requires to be rehabilitated.	No	Figure 6-24
	Limit the removal of riparian vegetation to restrict the fragmentation of habitat.	Removal of vegetation is kept to the footprint of the mining activities.	Yes	
	Fences and other obstruction to wildlife movement should not be constructed across rivers and should remain outside of the vegetated riparian areas.	No fencing is across riverine areas except if it is a boundary fence.	Yes	
	Rivers should not be canalised or channelized.	Rivers are not canalised or channelized.	Yes	
	Restriction of surface flows through culverts or pipes should be designed to minimise interruption to flows and connectivity for aquatic organisms.	Stormwater control measures are applied as described in the SWMP 2015 and 2019.	Yes	
	Modifications to the bed and banks of a watercourse should be limited as far as possible.	Modifications to the bed and banks of a watercourse are limited to the where culverts were required for the construction of haul road crossings.	Yes	
Animal Life (Fauna)				
To limit the impact on the animals including cattle and bird life in the area,	Steps must be taken to ensure that workers do not poach animals and birds. These must include educating the workforce in toolbox talks as well as during the induction process.	Included in toolbox talks and contractor initiation. Toolbox talks on Snake awareness (November 2019) and Animal conservation (March 2020) were presented.	Yes	Figure 6-3
	No member of the mining team will be permitted to: I. hunt, kill, set devices to trap, tamper with or harass wild animals and II. feed indigenous animals; livestock or destroy any form of animal shelter; III. bring his/her own pets to the site.	No evidence hunting or feeding of indigenous or domestic animals were observed at the time of assessment.	Yes	
To implement measures that will minimise the direct and indirect effect on the local fauna population and encourage the re-introduction of species on decommissioning	Use plant species endemic to the site for rehabilitation purposes in order to recreate the pre-mining animal habitats - using other species may alter the habitat, especially for birds, and render it unsuitable	Hydro seeding was implemented for rehabilitation measures.	Yes	Figure 6-6
	Control the invasion of alien plants which will outcompete the indigenous vegetation that is favoured as a faunal habitat	Evidence of alien invasive plants were observed on site at the time of assessment.	No	

	Reduce the fragmentation of faunal habitat by confining the area of disturbance. This particularly applies to the riverine forest and the related stream crossings	The culverts at the KwaLuhlanga River crossing is silted up and impediment of aquatic fauna and stream flow will take place.	No	Figure 6-24
	Monitor rehabilitation in the long-term to ensure that the desired habitat is created for the re-colonisation of fauna.	Rehabilitation of pits ongoing. The backfilling of North Pit has commenced.	Yes	Figure 6-5
Protection of the African Rock Python. The African Rock Python is located in the area and is listed as an endangered species.	The Mine will adopt a policy of live capture and translocation to the game reserve for any python specimens found. KZN Wildlife will be contacted in this regard. Offering rewards for the identification of Pythons has proved ineffective but will be continued. No rewards or incentives will be offered if the snake is killed or injured	None relocated offsite for the audit year (2019/2020).	Yes	
Surface Water				
To ensure that community members have access to surface water.	Community dams have been constructed on the periphery of the existing mining area. The mine will investigate possibilities to assist in water provision.	Mine has assisted with water provision through trucking water to selected distribution points.	Yes	
To reduce the potential for contamination of surface water resources and control the impacts of Mine-contaminated water: Mining Pits	Diversion berms will be constructed upslope of the mining pits to divert clean water away from the active zone and separate clean/dirty water.	Division berms constructed according to the SWMP 2015. An updated SWMP 2019 is available for Area 8 and 9.	Yes	
To reduce the potential for contamination of surface water resources: Handling and Storage of Hazardous Chemicals	Ensure that quantities of fuels and chemicals stored on site are appropriate to the requirements.	Self-contained bunded fuel storage area is available on site.	Yes	
	All chemicals must be confined to specific and secured areas	All chemicals storage witnessed had controlled access.	Yes	Figure 6-15 and Figure 6-17
	All chemicals will be stored in close proximity to the workshop areas. These chemicals will be kept under lock and key and only authorized personnel will be allowed to access and remove the material.	All chemicals storage witnessed had controlled access.	Yes	Figure 6-15 and Figure 6-17
	Chemicals must be stored in an area with an impermeable base (e.g. concrete or plastic lining).	Oil drums observed standing outside bunded storage area with no drip trays underneath in hardpark of Area 1.	No	Figure 6-9
	Any generators used on site are to be underlain by an impermeable surface (e.g. concrete bund) or placed within a drip tray to intercept leaks.	Generator in hardpark Area 8 was not underlain by an impermeable surface and a diesel spill observed at this generator.	No	Figure 6-12
	Oil/grease traps are to be fitted at all workshops and wash-down sites	An oil separator is located at workshop area with a drain system to direct contaminated water to the separator. A soil bioremediation unit is currently being installed.	Yes	
To reduce the potential for contamination of surface water resources: Fuel Tanks	All liquid fuels (e.g. diesel and petrol) which are stored in tanks or drums must have a bund wall around the tanks to prevent liquids from escaping in the event of a spill or leak. The volume of the bund must be 100% of the volume of the storage tanks.	All diesel stored in self-contained bunded containers.	Yes	
	Gas and fuel must not be stored in the same storage area as chemicals	All fuel stored at designated fuel storage area. No dual storage of gas and fuel witnessed.	Yes	Figure 6-20
	The re-fueling of vehicles must only take place at designated sites underlain by a concrete bund.	The designated fueling station at the hard park area, Area 1, is not underlain with an impermeable surface. Other fueling areas on site are equipped with impermeable surfaces to contain any spillages and prevent contamination of water resources.	No	

	The fuels dispenser must be hung within the bunded area while not in use.	Fuel dispenser is hung within bunded area.	Yes	
	Any party delivering fuels or other chemicals to the site are to be made aware of the appropriate storage/drop-off locations.	All fuel stored/delivered to designated fuel storage area.	Yes	
To reduce the potential for contamination of surface water resources: Equipment/Machinery	Any equipment / machinery that may leak oil or fuel on must be placed on an impermeable surface (e.g. concrete bund).	Areas in workshops are underlain with concrete and therefore impermeable.	Yes	
	If the use of a bund is not possible (e.g. in active mining area, or during construction phase), the equipment / machinery must be underlain by watertight drip trays to catch any pollutants.	Drip trays were used were required.	Yes	
	Drip trays must be sized to allow the equipment to be placed inside it, must be cleaned regularly, and must not be allowed to overflow. If the item is too large to fit within the tray, the tray must placed below the item and must be sized to cover all potential leakage areas.	Incorrect sized drip trays was used for vehicle servicing in the hard park, Area 1.	No	Figure 6-7
	Chemicals collected in the drip trays must be collected and disposed of at permitted disposal sites.	EnviroServe collects all hazardous waste. Hazardous waste is disposed of at Dolphin Coast Landfill Management (DCLM).	Yes	
To reduce the potential for contamination of surface water resources: Spills of Hazardous Substances	The accidental or negligent spillage of fuels or potentially hazardous substances must be cleaned up immediately using the most appropriate methodologies, equipment and materials.	Incorrect disposal of hazardous waste in hard park, Area 1.	No	Figure 6-8
	The Site Manager / Mining Contractor must ensure that the necessary materials, equipment and chemicals are available on the site to deal with spills of any of the hazardous materials present (e.g. Drizit or Peat Sorb).	Spill kits were available at all assessed workshops.	Yes	Figure 6-2 and Figure 6-14
	Any contaminated soil or water must be removed and stored in a skip until it can be disposed of at a permitted disposal site.	Skip for hazardous materials at workshop.	Yes	
To reduce the potential for contamination of surface water resources: Wash-down Sites	Designated wash-down areas (for the cleaning and rinsing of equipment and machinery) must be created.	Designated washdown area at workshop with concrete underlying.	Yes	
	The wash-down area must be underlain by an impermeable surface.	Designated washdown area at workshop with concrete underlying.	Yes	
	The contaminated runoff from the wash-down areas must be channelled to cut-off drains and enter the water recycle system. During construction, wash-down water must be channelled to a sunken PVC tank or similar.	Cut-off drains at wash bay area, drains into oil sump. However drains are not cleaned and maintained thus not functioning effectively in diverting dirty water from clean areas.	Partial	Figure 6-13
	There must be no wash-down sites at the active mining area - equipment must be transferred to the plant site for cleaning.	No cleaning of machinery outside designated area witnessed.	Yes	
To design Mine structures in such a way as to limit development within the critical flood line areas and construct structures that will control the contamination from the mining and plant area.	Diversion berms will be constructed upslope of the mining area to divert all clean water away from the contaminated zones and to separate clean/dirty water.	Clean and dirty water separation occurring on site. Stormwater management plan available (2015 and 2019).	Yes	
	All surface water management ponds will be designed to have a capacity to cope with a 1 in 100 year rainfall event.	Stormwater Management plan designed to cater for 1:100 year flood events.	Yes	
To ensure that stream crossings are sensitively planned and constructed with care	Stream crossings are to be built rapidly so as to limit the time period that the area remains exposed.	No construction at stream crossings witnessed at time of assessment.	Not applicable	
	Wherever possible, manual construction methods should be utilised for construction of stream crossings.	No construction at stream crossings witnessed at time of assessment.	Not applicable	

	Ensure that the stream crossings do not obstruct flow within the stream.	The culverts at the KwaLuhlanga River crossing is silted up and impediment of stream flow will take place.	No	Figure 6-24
	The areas surrounding the crossing (including the banks) and the stream bed in the vicinity of the crossing will need to be reinforced with rock gabions (or similar) to protect against scour and erosion of the channel.	Gabions used at river crossings.	Yes	
	Any destabilised stream banks and erosion caused by the construction process are to be repaired immediately.	No erosion of riverbanks observed at stream crossings.	Not applicable	
	Replant the original vegetation along the disturbed section of the crossing. Vegetation from the adjacent drier areas should not to be used as it is not adapted to the wet conditions along the watercourse	Rehabilitation yet to begin.	Not applicable	
	The rehabilitation of the affected sites will include the installation of suitable long-term erosion control measures such as gabions and sandbags.	Rehabilitation yet to begin.	Not applicable	
The surface water monitoring programme should include a South African Scoring System (SASS) component for monitoring	SASS monitoring locations have been determined and will be monitored during summer months when the rivers have flow.	Biannual (Summer and Winter) SASS monitoring has been conducted. Although the non-perennial nature of streams have produced limited monitoring data.	Yes	Figure 6-19
Groundwater				
To monitor the extent of dewatering and to verify and update predicted results.	Groundwater levels and quality in the monitoring boreholes must be monitored on a quarterly basis.	Quarterly monitoring has been conducted by GCS. Water level monitoring data was supplied by Somkhele mine. Reports available include: • 2nd Quarter GCS Report 20-0240 July 2020; • 3rd Quarter GCS Report 19-0019 November 2019; • 4th Quarter GCS Report 19-0019 March 2020; and • 1st Quarter GCS Report 20-0240 July 2020.	Yes	
	Additional monitoring boreholes should be installed where necessary to effectively monitor the impact on groundwater quality and quantity.	No additional boreholes have been installed since 2018.	Yes	
	Calibration of numerical transport and de-watering models at least once every two years.	No underground mining occurring.	Yes	
	Continuous assessment of source term. This will require rock samples twice a year from pits, plant slurry and discard. Samples to be tested for ABA and leach potential.	Kinetic leach test data for 2019 is complete and 2019 geochemical model has been updated (GCS 19-0020 March 2020).	Yes	
	At least 3 kinetic leach cell tests must be completed once a year.	Kinetic leach test data for 2019 are complete.	Yes	
	Geochemical model to refine source terms must be updated once every two years and the data must be applied in the numerical groundwater model.	Geochemical model updated in 2019 (GCS 19-0020 March 2020).	Yes	
To control the acid Mine drainage and long-term sulphate concentrations.	Spoils, and specifically any pyritic material, like the shale must not be placed with overburden. All acid generating material must be disposed of with the discard from the mine. All slurry and discard must be placed at least 5 meters below the water table when disposing into voids. Material must be well compacted and lime added.	Spoils currently being backfilled into Pit BDE. Pit A has almost reached capacity but slurry disposal still takes place. Elevation levels need to be adhered to.	Yes	

	The shale that will be stripped above the coal seam will be backfilled to the lowest possible elevation during the roll-over method of mining. This will ensure that the shale is flooded as quickly as possible after mining is completed and so reduce the risk of oxidation and acidification.	Discard currently being placed into Pit BDE. Backfilling of North Pit 1 has commenced.	Yes	
	On final rehabilitation the pits will be shaped and re-vegetated according approved closure plans approved by the DMR.	Pits still being backfilled.	Not applicable	
	Based on the groundwater model, sites with a potential for decant must be included in the monitoring programme.	Decant Management plan has been updated 2019.	Yes	
Air Quality				
To reduce the impact of dust emissions relating to mining activities	With respect to haul road dust levels, limit vehicle speeds to 30km/hour.	Speed limits are indicated along haul roads on site. No speeding were observed at the time of the assessment.	Yes	
	Water bowsers must be utilized to wet roads to reduce fugitive dust.	Water bowsers are used to wet roads.	Yes	
To ensure compliance with SANS 1929:2005 levels of permissible dust.	A dust monitoring network has been set up, this network will follow the ASTM D 1739-98 methods for monitoring.	Dust monitoring is done, dust buckets are visible on site.	Yes	Figure 6-4
To ensure the calcine plant compliance with the National Air Quality Act emission requirements.	Emissions from the calcine plant will be measured monthly. The calcine plant will be decommissioned until: 1. The required emission licenses have been applied for or; 2. The emission levels fall within an acceptable level by maintain calcine plant or by the reduction in emissions through improved control of off gasses.	Calcining plant has not been constructed.	Not applicable	
Noise and Vibration				
To reduce the impact of mining noise on the overall environment and to minimise the noise impact on surrounding land users. To minimise the element of surprise associated with blast events.	All persons living within the 300 m radius of the active mining zone will be relocated to a new site.	All people within 300 m of active mining areas have been relocated.	Yes	
To monitor the noise impact and make ongoing recommendations for the improvement of noise control strategies	All equipment to be used during the construction and operational phases is to be kept in a good working condition. This is particularly important for the exhaust systems of the diesel earthmoving equipment.	All equipment is serviced at designated areas on site such as hard parks and workshops.	Yes	
	Regular checks on the noise emissions of equipment in operation should be performed. Equipment should be adequately maintained and serviced. Equipment that has an increased level of noise emissions should not be used until its noise levels are normalized.	Equipment and vehicles serviced regularly and noise levels indicated on vehicles used on mine.	Yes	
	Blasting must be restricted to times which will have the least impact on residents.	Blasting times restricted to Daylight hours.	Yes	
	The surrounding communities must be made fully aware of blasting procedures and schedules	Complains procedures and communication structures have been established.	Yes	
	All blasts are to be monitored.	Permanent blast monitoring in place.	Yes	
	The Hluhluwe Mfolozi game reserve is to be made aware of blasting times prior to any blasting events.	Memorandum of Agreement (MOA) between Tendele and Ezemvelo KZN Wildlife in relation to the potential noise impact of the mining activities at Somkhele was signed on the 22th of July 2020.	Yes	
Sites of Archaeological And Cultural Interest				

To actively involve the affected community in the grave relocation process, in order to minimise social disorientation	Actively make information about the project available to local communities as this will reduce the potential development of unnecessary fears and resentment towards the Mine;	A communication structure involving Indunas and locally elected representative has been established.	Yes	
	Actively and publicly support the important ritual activities relating ancestors and graves at the level of the community (both logistically and financially);	Grave relocation Policy has been adopted which outlines requirements for grave relocation. This includes engaging with families or "owners" of the grave as well as compensation for relocation of the graves.	Yes	
	Facilitate important ritual activities that need to take place in and around the project site wherever possible;	Grave relocation Policy has been adopted which outlines requirements for grave relocation. This includes engaging with families or "owners" of the grave as well as compensation for relocation of the graves.	Yes	
	Involve affected individuals, families, traditional leaders and elected leaders in the process.	Approval by Heritage KwaZulu-Natal (Amafa), Department of Cooperative Governance and Traditional Affairs and Department of Traditional and Local Government Affairs is provided before the relocation of any graves take place.	Yes	
To ensure compliance with legal requirements pertaining to the relocation of graves.	The mitigation, exhumation and re-interment of graves located outside of formal cemeteries (namely ancestral graves) may only proceed with the sanction of the bodies associated with the South African Heritage Resources Act, the KwaZulu-Natal Heritage Act, and the Graves and Crematoria's Act.	Approval by Heritage KwaZulu-Natal (Amafa), Department of Cooperative Governance and Traditional Affairs and Department of Traditional and Local Government Affairs is provided before the relocation of any graves take place.	Yes	
	The Department of Health requires proof that all reasonable means have been pursued to engage with the relatives and families of the deceased.	Grave relocation Policy has been adopted which outlines requirements for grave relocation. This includes engaging with families or "owners" of the grave as well as compensation for relocation of the graves.	Yes	
	The Department of Health also requires that a registered undertaker perform the exhumation and re-interment.	No graves were in the process of being relocated at the time of the assessment. Evidence of approval for graves located during 2019/2020 is available.	Not applicable	
	The necessary permission from the relevant organisations (as above) will need to be obtained by the Mine.	Approval by Heritage KwaZulu-Natal (Amafa), Department of Cooperative Governance and Traditional Affairs and Department of Traditional and Local Government Affairs is provided before the relocation of any graves take place.	Not applicable	
To define the costs associated with grave exhumation and re-interment.	All the costs associated with the relocation will be covered by the Mine, including both logistical costs as well as social costs.	Grave relocation Policy has been adopted which outlines requirements for grave relocation. This includes engaging with families or "owners" of the grave as well as compensation for relocation of the graves.	Yes	
	A box or coffin to contain the remains of the deceased; The services of traditional healer to preside over the process; Food for participants in the ceremony; The services of a religious representative to preside over the process; Traditional alcohol to be consumed for ritual purposes;	Grave relocation Policy has been adopted which outlines requirements for grave relocation.	Yes	
Outline a procedure for the relocation of graves	The known grave sites within the general area must be mapped and details of the grave recorded. Grave number (each grave must be allocated a number); Locality of the grave (GPS reading); Affected family and contact person; Name of deceased (if known).	Details of gravesites recorded. This includes GPS position and photographs.	Yes	

	The existing local tribal committee will discuss and negotiate, inter alia, the requirements relating to the grave exhumation and re-interment. The decisions to be taken will include: i. Logistical requirements; ii. Social requirements and costs; iii. Spiritual requirements; iv. Grave relocation site(s); v. Timing of the grave removal; Refer to procedure for grave exhumation Sanction / permission will need to be obtained from the following by the Mine: Department of Health; AMAFA, KwaZulu-Natal Heritage.	Formal grave sites were established in consultation with the family, Inkhosi and Somkhele Mine.	Yes	
Visual Aspects				
To minimise the visual impact of the mining activities on surrounding land users/passers-by.	The minimum amount of existing vegetation and soil material must be removed from Mine-affected areas.	Vegetation clearing only within required mining footprint.	Yes	
	An ecological approach to rehabilitation and screening measures, as opposed to a horticultural approach to landscaping, should be adopted. Communities of indigenous plants enhance biodiversity and blend well with existing vegetation.	Consultation with vegetation specialist has been undertaken.	Yes	
	Plant rows/clumps of fast-growing, indigenous trees along the northern and southern borders of the plant area as visual screens.	Large soil berms are strategically placed and grassed to act a visual barrier along the R618 road. This visual is used as an alternative to trees since the survival rate of trees are low.	Yes	
	Screening berms will need to be constructed to block views of the mining pits from passing traffic. Visual Berms should be approximately 3 meters in height and should be grassed. Various indigenous shrubs or smaller plant species should be planted to increase the aesthetic value of the berms.	Visual berm constructed and has been hydro seeded along the R618 road.	Yes	
Site Vegetation and Rehabilitation	Ensure that all berms and long-term stockpiles are vegetated i.e. flood control berm, diversion berms, pond berm walls.	Stockpiles in Area 1 and 2 have been grassed. Good establishment of grasses on the rehabilitated hill in KwaQubuka has taken place.	Yes	
	Continuously cap (with topsoil) and vegetate the surface of the discard dump.	Discard dump rehabilitated and vegetated, however some erosion is evident on north western side of the rehabilitated discard dump.	No	Figure 6-11
	Vegetate the terraces after construction.	Discard dump rehabilitated and vegetated.	Yes	
	Ensure that continuous rehabilitation of the mining pits is undertaken as mining is completed.	Backfilling of voids witnessed in Pit BDE in Area 2 and North Pit 1 in Area 1.	Yes	
	Ensure that the topography of backfilled, rehabilitated areas is consistent with the pre-mining landscape.	Volumes taken out will mean that there will be a deficit in available materials.	No	
To minimise the visual impact of Lighting	Lighting should be carefully planned and kept to a minimum to enable work to continue since light at night is visible at great distances.	Audit was conducted during daylight hours.	Not Assessed	
	Security flood lighting and operational lighting should only be used where absolutely necessary and carefully directed, preferably away from sensitive viewing areas (away from the game reserve and nearby homesteads).	Audit was conducted during daylight hours.	Not Assessed	
	Wherever possible lights should be directed downwards so as to avoid illuminating the sky.	Audit was conducted during daylight hours.	Not Assessed	
	Use should be made of lighting equipment that minimises the spread of light near to or above the horizontal.	Audit was conducted during daylight hours.	Not Assessed	
	Lights should be positioned and aimed to ensure minimum light spill.	Audit was conducted during daylight hours.	Not Assessed	
Safety and Security				

To minimise the safety impact on public roads during construction or upgrade activities undertaken by the Mine	During any construction or upgrade along a public road or at an intersection with a public road, the required traffic safety procedures must be followed.	No construction of roads affecting public road currently occurring.	Not applicable	
	Traffic control and safety must be done in accordance with the South African Safety Manual with the relevant signs, flagmen and barriers being provided and erected at the critical points	No construction of roads affecting public road currently occurring.	Not applicable	
	Traffic control will be done in co-operation with local traffic officials and will meet the requirements of the Provincial Roads Department.	No construction of roads affecting public road currently occurring.	Not applicable	
To ensure the safety of local residents and Mine workers and avoid injury or death due to Mine-related accidents.	Adhere to Fire emergency procedures	NOSA Health and safety implemented on site. Audits of compliance conducted by DMR.	Yes	
Adhere to the requirements outlined in NOSA accreditation body	Adhere to first aid and emergency advisory procedure	NOSA Health and safety implemented on site. Audits of compliance conducted by DMR.	Yes	
	The Site Manager / Mining Contractor will ensure that the necessary safety equipment is issued to all workers.	Staff all wearing required PPE.	Yes	
	Safety officer / Mining Contractor will ensure that the wearing of safety equipment is policed.	Staff all wearing required PPE.	Yes	
	All persons on site will be required to wear a hard hat when entering dangerous areas.	Signage outlining PPE requirements witnessed on site. Staff all wearing required PPE.	Yes	
	Protective gloves are to be worn by all persons engaging in the handling of heavy or sharp edged materials or persons engaged in welding or gas cutting activities.	Signage outlining PPE requirements witnessed on site. Staff all wearing required PPE.	Yes	
	All persons entering the plant, workshops and active working area will be required to wear approved safety shoes or safety boots.	Signage outlining PPE requirements witnessed on site. Staff all wearing required PPE.	Yes	
Social Economic Impacts				
To guarantee that women have direct access to the cash economy created by the Mine thereby reducing their reliance on agricultural production and natural resources	Ensure that potential benefits of mining are available to women in a manner that they can access.	Women involved in mining operations are 15% as indicated by Social and Labour Plan Reviewed 2018-2022 (SLP). This target was achieved in 2019 where 23% women was involved in mining operations.	Yes	
	Enable direct involvement of women in the development of appropriate resettlement and compensation plans.	Resettlement and compensation plans conducted in conjunction with Tribal authorities.	Yes	
	Establish employment policies that ensure women's access to appropriate types and numbers of job opportunities. The Social and Labour Plan (SLP) provides numbers of women that must be employed within the Mine. These levels must be adhered to and contractors used by the Mine must follow the guidelines as stipulated in the Mines SLP.	Women involved in mining operations are 15% as indicated by Social and Labour Plan Reviewed 2018-2022 (SLP). This target was achieved in 2019 where 23% women was involved in mining operations.	Yes	
To ensure that resettled communities can re-establish their ties to the land in a way that will not jeopardise their future security	Resettlement planning and implementation should be participative and should include potential host communities and traditional leaders and elders along with tribal authorities, community leaders and municipal representatives	Conducted in conjunction with Tribal structures.	Yes	
To reduce unsustainable pressures on surrounding land and resources	Identify alternative land near to the existing settlement for the purposes of resettlement of homesteads and subsistence activities.	Conducted in conjunction with Tribal structures under a Memorandum of Understanding signed between the mine and family.	Yes	
	Assess its future agricultural potential of the 'new' land, both with and without technological intervention	Conducted in conjunction with Tribal structures under a Memorandum of Understanding signed between the mine and family.	Yes	

	Identify and reach agreement on suitable alternatives when compensating for lost land and productivity, with active participation of affected parties.	Conducted in conjunction with Tribal structures under a Memorandum of Understanding signed between the mine and family.	Yes	
	Identify the needs for the 'new' land in terms of capacity to handle / requirements for grazing (number of head of livestock), area of arable land, water, etc. This will largely be based on the existing requirements of the various families.	Conducted in conjunction with Tribal structures under a Memorandum of Understanding signed between the mine and family.	Yes	
	Communication between the Mine and the Induna and community representatives is ongoing. Where possible homesteads should relocate to areas where potable water supplies and electricity can be installed. Remote areas will be difficult to provide remote areas with electricity and piped water.	Conducted in conjunction with Tribal structures under a Memorandum of Understanding signed between the mine and family.	Yes	
To ensure that anyone losing access to land and resources, either as a direct or indirect result of mining, is adequately compensated and to prevent conflict from arising over the matter of access to land.	Stakeholder manager in conjunction with the Somkhele Mining Community Committee, will need to: • Identify compensation alternatives for those resettled off their land and fields; • Identify compensation alternative for those losing fields; • Include discussion with other land users outside of the study area who may be impacted on as a result of the mining; • Actively involve host communities in integrating people resettled off the study area; • Identify and map when parcels of land will be absorbed into the mining area; and • Communicate this information to the affected families so that they may plan accordingly.	Resettlement and compensation plans conducted in conjunction with Tribal authorities with the establishment of a Memorandum of Understanding between the mine and family.	Yes	
To minimise conflict between 'outsiders' and the local community with respect to employment opportunities.	The use of local labour would mitigate possible social conflict between outsiders and existing residents. Maximise the usage of local service providers, maintenance, etc. No foreign workforce should be housed in the mining area or surrounding community	Local labour is preferred and a local first policy has been adopted.	Yes	
To improve understanding of STDs and HIV/AIDS through educational programmes and expanding awareness.	Develop and present accessible and culturally appropriate awareness programmes around the dangers of STDs for Mine employees at least twice a year.	Aids awareness programme is provided by Somkhele mine. Testing is offered by Somkhele Mine.	Yes	
	Present accessible and culturally appropriate awareness programmes around the dangers of STDs to the community members at least once a year. This can be done through forging links between the Mine and the Africa Centre. The Africa Centre has conducted extensive research within the Somkhele area.	Aids awareness programme is provided by Somkhele mine. Testing is offered by Somkhele Mine.	Yes	
To identify and implement programmes for skills training within the local community thus improving their skills (beyond subsistence agricultural) and increasing their marketability in the broader labour market.	Wherever possible, throughout the life of the Mine, a concerted effort must be made to impart skills to local people, either through a local employment policy and/or skills based adult education programme.	Training programmes describe in the Social and Labour Plan. Training that are funded by Somkhele mine includes the Code 14 driving license, machinery and entrepreneurial training.	Yes	
	The Mine will therefore seek to invest in forming partnerships for the skills training of the local community with skills.	ABET training project for the employees and community members as described in the Social and Labour Plan Revised 2018-2022.	Yes	
	Partnership organisations could include existing community-based concerns that have existing direct links to the community (e.g. Africa Centre) or those furthering the development and business skills of communities and SMMEs (e.g. the Mpukonyoni Business Association (MBA)).	Development assistance provided by the mine to SMME's. Training programmes describe in the Social and Labour Plan Revised 2018-2022.	Yes	

	Possible skills development opportunities include fence making, sewing, cooking and catering, block making, poultry farming, gardening, welding, brick laying, computer literacy, tender training, emerging contractors training. There are also those relating to the Mine's needs during rehabilitation. Refer to the Somkhele Anthracite Mine SLP for details with regards to all socio-economic factors.	N-courses training and leadership/apprenticeship provided to communities. Training programmes describe in the Social and Labour Plan Revised 2018-2022.	Yes	
To avoid damage to properties and structures outside of the Mine area, and to repair such damage should it inadvertently occur.	As far as possible, the Mine will restrict operations to the defined Mine-affected Area.	All mining operations are within the mine site.	Yes	
	Damage to structures, fences, crop lands and grazing land outside of the defined Mine-affected Area, will be avoided as far as possible.	All mining operations are within the mine site.	Yes	
	Should damage to the aforementioned occur, the Site Manager/Mining Contractor will be responsible for repairing the damage caused or compensating the property owner accordingly. The property owner must be consulted with regards to the repair and compensation.	No damage observed at time of assessment. A complaints and incident register is available where cases are assessed and resolved.	Yes	
	Any fencing that is removed to enable construction to proceed must be replaced on completion of work in that area.	No fencing being removed at time of assessment.	Not applicable	
	The Site Manager/Mining Contractor will be responsible for providing a temporary fenced off area (e.g. for keeping of livestock) if required by the property owner.	No fencing requirements observed at time of assessment.	Not applicable	
To establish and maintain an ongoing, transparent line of communication between the Mine and the community.	A Stakeholder manager has been appointed to manage the ongoing liaison with the community.	Community Development Officer, Nathi Kunene has been appointed to liaise with the community.	Yes	
	Any complaints or comments received from the community will be directed to the Stakeholder Manager who will in turn report to Somkhele	A complaint register for community grievances has been established. All grievances are investigated and signed off.	Yes	
	Residents are to be informed, ahead of time, about the duration and nature of the mining related activities that will take place in their neighbourhood. This will ensure that the community do not develop feelings of fear or resentment due to (the perception of) information being withheld.	Regular meetings are being conducted to inform communities of mining activities.	Yes	
	Regular community meetings will be held between the community, the Stakeholder Manager and the Somkhele Mine management.	Regular meetings are being conducted to inform communities of mining activities.	Yes	
To relocate all families resident within the 500 m radius of the active mining zone and ensure that no person should land up "worse off" as a result of relocation.	Negotiations with families will be done on an individual basis for compensation.	No relocation of families for 2019/2020.	Not applicable	
	No persons will be forced to relocate.	No relocation of families for 2019/2020.	Not applicable	
	All negotiations will be documented and signed by all parties.	No relocation of families for 2019/2020.	Not applicable	
The aim is to limit the negative socio-economic impacts as a result of cessation of the mining activities.	To be investigated fully nearer to mine closure	Not applicable.	Not applicable	

Table 7-2 Non-compliance and Corrective actions

Required Action	2020 Audit Result	Compliance	Corrective Action
Topography			
Free flow of surface water to prevent ponding	Ponding of water was observed at two areas on site.	No	Water leaks should be investigated and repaired as well as the maintenance of stormwater channels should be done to ensure free flow of water.
Soils			
Ensure the free drainage of water.	Ponding of water was observed at two areas on site.	No	Water leaks should be investigated and repaired as well as the maintenance of stormwater channels should be done to ensure free flow of water.
Stockpiles are to be protected from wind and water erosion and should not to exceed 5 meters in height	All Stockpiles identified do not exceed 5 meters. However waste rock dumps are showing evidence of erosion.	Partial	All stockpiles must be vegetated to prevent erosion taking place.
Flora			
Stream crossings are to be sensitively planned to target areas where: i) the riverine forest is naturally 'open' and there are gaps in the continuity; ii). there are no large trees present.	The initial construction of the Luhlanga river crossing impacted on vegetation.	Partial	Further damage or impacts to the riverine vegetation must be prevented by maintaining the banks of the crossing and allow water to flow freely.
Aquatic			
Where haul roads need to cross watercourses ecologically sensitive water resources (medium-high EIS rating), these should ideally be located at existing crossings. If this is not feasible, the crossings should be located in degraded areas of riverine habitat to limit potential impacts.	The culverts at the KwaLuhlanga River crossing is silted up and impediment of aquatic fauna and stream flow will take place.	No	The culverts installed required to be cleaned from silt build up to ensure that water flow is not impeded.
Animal Life (Fauna)			
Control the invasion of alien plants which will outcompete the indigenous vegetation that is favoured as a faunal habitat	Evidence of alien evasive plants were observed on site at the time of assessment.	No	Alien pant eradication must be undertaken as per the Weed and Alien Invasive Eradication Plan (2016).
Reduce the fragmentation of faunal habitat by confining the area of disturbance. This particularly applies to the riverine forest and the related stream crossings	The culverts at the KwaLuhlanga River crossing is silted up and impediment of aquatic fauna and stream flow will take place.	No	The culverts installed required to be cleaned from silt build up to ensure that water flow and movement of aquatic life is not impeded.
Surface Water			
Chemicals must be stored in an area with an impermeable base (e.g. concrete or plastic lining).	Oil drums observed standing outside bunded storage area with no drip trays underneath in hardpark of Area1.	No	All chemicals must be stored within bunded storage areas with an impermeable surface.
Any generators used on site are to be underlain by an impermeable surface (e.g. concrete bund) or placed within a drip tray to intercept leaks.	Generator in Hardpark Area 8 was not underlain by an impermeable surface and a diesel spill was observed at this generator.	No	Generator must be underlain by an impermeable surface (e.g. concrete bund) or placed within a correctly sized drip tray to intercept leaks. Corrective action must be taken to clean up existing spill. It is recommended that a register of all spills are kept and incidents are recorded and followed up. Training should be provided to employees on the spill procedure.

The re-fueling of vehicles must only take place at designated sites underlain by a concrete bund.	The designated fueling station at the hard park area, Area 1, is not underlain with an impermeable surface and large spill of diesel was present. Other fueling areas on site are equipped with impermeable surfaces to contain any spillages and prevent contamination of water resources.	No	Even though the refueling of vehicles at the hard park area, Area 1, will only be for a limited time, it is recommended that an impermeable surface is put in place to manage spills. Training should be provided to employees on spill prevention and cleaning up of spills.
Drip trays must be sized to allow the equipment to be placed inside it, must be cleaned regularly, and must not be allowed to overflow. If the item is too large to fit within the tray, the tray must be placed below the item and must be sized to cover all potential leakage areas.	Incorrect sized drip trays were used for vehicle servicing in the hard park, Area 1.	No	Spill trays of correct size must be placed under vehicles and machinery when they are not in use. Corrective action must be taken to clean up any spills. It is recommended that a register of all spills are kept and incidents are recorded and followed up. Training should be provided to employees on the spill procedure.
The accidental or negligent spillage of fuels or potentially hazardous substances must be cleaned up immediately using the most appropriate methodologies, equipment and materials.	Incorrect disposal of hazardous waste in hard park, Area 1.	No	Hazardous waste should be disposed of correctly to prevent any spills. Corrective action must be taken when spills occur. It is recommended that a register of all spills are kept and incidents are recorded and followed up. Training should be provided to employees on the spill procedure.
The contaminated runoff from the wash-down areas must be channelled to cut-off drains and enter the water recycle system. During construction, wash-down water must be channelled to a sunken PVC tank or similar.	Cut-off drains at wash bay area drains into oil sump. However drains are not cleaned and maintained thus not functioning effectively in diverting dirty water from clean areas.	Partial	Drains must be cleaned and maintained on a regular basis to prevent contaminated water entering a clean environment.
Ensure that the stream crossings do not obstruct flow within the stream.	The culverts at the KwaLuhlanga River crossing is silted up and impediment of stream flow will take place.	No	The culverts installed required to be cleaned from silt build up to ensure that water flow and movement of aquatic life is not impeded.
Ensure that the topography of backfilled, rehabilitated areas is consistent with the pre-mining landscape.	Volumes taken out will mean that there will be a deficit in available materials.	No	No corrective action is available.
Visual Aspects			
Continuously cap (with topsoil) and vegetate the surface of the discard dump.	Discard dump rehabilitated and vegetated, however some erosion is evident on north western side of the rehabilitated discard dump.	Partial	Areas displaying erosion should be stabilised, capped with topsoil and vegetated.

8 SUMMARY OF FINDINGS

Based on the observations on the day of the audit, the level of EMP compliance at Somkhele is good. A detailed description of all the audit findings, observations and recommendations are provided in Table 7-1 and Table 7-2.

Positive findings for 2020 include:

- Continued rehabilitation measures are implemented throughout the site (hydro seeding was completed at North Pit (Figure 6-5 and Figure 6-6);
- Toolbox talks about various environmental topics are presented on a regular basis (Figure 6-3);
- Chemical stores were well managed and locked at time of assessment (Figure 6-15);
- MSDS sheets were available at all chemical storage areas (Figure 6-17);
- Dust monitoring is conducted on site (Figure 6-4);
- Oil spill kits were available in all workshops at the time of assessment (Figure 6-2 and Figure 6-14); and
- Aquatic Biomonitoring is taking place biannually (Figure 6-19).

Partial compliance for 2020 findings include:

- Waste rock dump in Area 1 is showing evidence of erosion (Figure 6-10);
- Cut-off drains at wash bay area are dirty and not being maintained thus not functioning effectively in diverting dirty water from clean areas (Figure 6-13); and
- Erosion is evident on north western side of the rehabilitated discard dump (Figure 6-11).

Non-compliance for 2020 findings include:

- Ponding of water was observed at isolated areas on site (Figure 6-22 and Figure 6-23).
- Evidence of alien evasive plants were observed on site at the time of assessment;
- The river crossing at Luhlanga needs to be maintained to allow water flow to continue freely during rain events (Figure 6-24);
- Oil drums at hard park Area 1 workshop were observed standing outside bunded storage area with no drip trays underneath (Figure 6-9);
- Diesel spillage was observed at generator in Hard park Area 8 even though it was located within a drip tray (Figure 6-12);
- The designated fuelling station at the Hard park area, Area 1, is not underlain with an impermeable surface;
- Incorrect sized drip trays was used for vehicle servicing in the hard Park, Area 1 (Figure 6-7);
- Incorrect disposal of hazardous waste in hard park, Area 1 (Figure 6-8);

- Coal product removed from the opencast areas will lead to a deficit in available materials for the back filling of opencast, which ultimately will not represent the pre-mining topography.

Repeat non-compliances from the 2020 Audit include:

- The stream crossing at Luhlanga has impacted on the riverine environment and requires the culverts to be maintained to prevent impediment of water flow;
- Diesel spillage was observed at generator in Hard park Area 8 even though it was located within a drip tray;
- The designated fuelling station at the Hard park area, Area 1, is not underlain with an impermeable surface; and
- Soil erosion on some of the overburden dumps were still evident.

9 CONCLUSION

The EMP compliance for the July 2020 EPA is good. Somkhele should strive to maintain their level of compliance and improve where possible by implementing the actions recommended.

A major area of concern noted year upon year, including this year's EMP assessment, is the river crossing at Luhlanga. Pipe culverts were installed to assist with water flow at the crossing however due to poor maintenance, the pipes have silted up resulting in an impediment of water flow and obstruction of aquatic fauna movement at the crossing.

The storing and disposal of oils and/or hydrocarbons were noted to be compliant across site except for in the hard park Area 1. It was noted in this area that oil drums were stored outside the allocated oil storage area and incorrect disposal of hazardous waste was evident.

It is recommended that Somkhele Mine implement the corrective actions for each non-compliance as described in Table 7-2 to improve their EMP performance. It is essential to ensure that site personnel including sub-contractors do not become complacent and disregard the requirements of the EMP and are aware of previous infringements to ensure that these are not repeated in future.

APPENDIX A

Declaration of Independence of the Auditor.

DECLARATION OF THE AUDITOR

I, Karin Loukes, declare that -

General declaration:

- I act as the independent environmental auditor in this assessment;
- I will perform the work relating to the assessment in an objective manner, even if this results in views and findings that are not favourable to the authorisation holder;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental auditing, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activities;
- I will comply with the Act, Regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation 34 of the Regulations when preparing this assessment and any report relating it;
- I have no, and will not engage in, conflicting interests in the undertaking of this assessment;
- I undertake to disclose to the holder and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the assessment is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the assessment;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be

submitted to the competent authority may be attached to the report without further amendment to the report;

- I will provide the competent authority with access to all information at my disposal regarding the assessment, whether such information is favourable to the holder or not;
- All the particulars furnished by me in this form are true and correct;
- I will perform all other obligations as expected from an environmental auditor in terms of the Regulations; and
- I realise that a false declaration is an offence in terms of regulation 48 of the Regulations and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014;



Signature of the auditor

GCS Water and Environmental Consultants (Pty) Ltd

Name of company

16/08/2020

Date