



Isibonelo Colliery

Final

Environmental Audit Report

Submitted as contemplated in section 24N(7)(d) of the Regulation 34 under National Environmental Management Act, 1998 (Act 107 of 1998)(NEMA) and Regulation 34 under Part 3 of Chapter 5 of the amended Environmental Impact Assessment Regulations, 2014 (Government Notice No. 982) (EIA Regulations, 2014)

DMRE Reference No.:

MP30/5/1/2/3/2/1 (130) EM, OT6/2/2/447, 17.2.4 EV 37, 17/2/3N-184, 17/2/3N-362

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As of 7 June 2021, following the completion of the demerger of high-quality export thermal coal operations from Anglo American, Thungela has successfully listed on the Johannesburg and London stock exchanges. As such, we will now legally change our name from Anglo Operations Proprietary Limited ("AOPL") to Thungela Operations Proprietary Limited ("TOPL")

Thungela offers investors access to a high-quality thermal coal business with low cash cost and high-margin assets, as well as a strong balance sheet, underpinned by a robust environmental, social and governance ("ESG") framework

Thungela owns interests in and produces thermal coal predominantly from six collieries located in Mpumalanga, South Africa. The business address has changed to **25 Bath Avenue; Rosebank; 2196; South Africa** however, the specific mines addresses remain unchanged. It is important to note that the legal name change from Anglo Operations (Pty) Ltd to Thungela Resources (Pty) Limited will officially be effective early 2022.

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1. INTRODUCTION

Isibonelo Colliery had a mining licence issued under section 9(1) of the largely repealed Minerals Act (Act 50 of 1991) to mine coal on various farm portions as depicted in their Mining Licence i.e. ML 13/2003. Isibonelo Colliery's EMPr was approved in 2003. Isibonelo Colliery is situated approximately 5 km north of the town of Trichardt in the Govan Mbeki Local Municipality of the Gert Sibande District Municipality, Mpumalanga Province. In 2009, Isibonelo's old mining licence was converted to a new order mining right by the then Department of Mineral Resources and Energy (DMRE) in terms of the Mineral and Petroleum Resources Development Act, Act 28 of 2002 (MPRDA).

Further to the above, the DMRE instructed Anglo Operations (Pty) Limited to align their approved Environmental Management Programmes (EMPr's) with the then new MPRDA and the Regulations under the MPRDA (GNR 527). In view of the above and in order to ensure that all EMPr's submitted by Anglo Operations (Pty) Limited for the Isibonelo Colliery were in alignment with the requirements of the MPRDA, Anglo Operations (Pty) Limited consolidated all their EMPr's into one document that satisfied the requirements of the MPRDA. The consolidated EMPr for Isibonelo Colliery was approved on 4 February 2013. Isibonelo was also granted approval for two EMPr's for the mine's Block Z Project (Reference No.: 17/2/3N-362) and Bulk Fuel Storage Facility (Reference No.: 17/2/3N – 184) under NEMA, respectively.

In addition to the above-mentioned approved EMPr's, Isibonelo Colliery has been granted two NEMA Environmental Authorisations (EAs) and a NEMA exemption. Two of the EAs were granted for the Block Z Project and Bulk Fuel Storage Facility and the NEMA exemption with reference number 17/2/4 EV37 25 A, was granted for the construction of two above-ground diesel tanks (83 m³), two underground petrol storage tanks (14 m³) and five above ground lubricant tanks (23 m³). The Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA) granted all of the above-mentioned EAs as well as the exemption.

Isibonelo Colliery is an opencast strip-mining operation, where the No. 5 Lower and No. 4 coal seams are exploited. Isibonelo Colliery utilises the dragline strip-mining method as a primary means of removing the coal from the target coal seams. The Colliery produces approximately 5.6 million tons of thermal coal per annum to a number of clients that include Sasol Synthetic Fuel ("SSF") who uses the coal for conversion to synthetic fuels. The mining operation is currently strictly opencast strip mining with onsite crushing. Run-of-mine coal from the opencast workings is transported via dump trucks to the primary crusher plant for coal sizing and then transported via a conveyor to Syferfontein Mine (this conveyor was constructed in 2004). The coal is then taken from Syferfontein Mine via conveyor to Sasol Synthetic Fuels at Secunda.

Rehabilitation is ongoing as mining progresses, with spoils from the pit and topsoil that was removed ahead of each operational strip. The mine has clean storm water diversion canals to minimise water ingress into the active pits. Permanent stream diversions on the Steenkoolspruit and an un-named tributary of the Steenkoolspruit, as well as re-alignment of the provincial D618 road, took place prior to the commencement of mining.

Dirty water from the workings is stored in surface dirty water dams. The mine has one main pollution control dam (Vaskop Dam) where water is removed and used as process water and for dust suppression. Dirty runoff water from the mine office and workshop area is also collected into a surface water dam (Barber dam belonging to Syferfontein Underground Mine). The water from this dam is currently used for dust suppression and as process water in Syferfontein Underground Mine and at Isibonelo Colliery overland conveyor belt transfer point.

In terms of the National Environmental Management Act, 1998 (Act 107 of 1998), the amended NEMA Environmental Impact Assessment Regulations, 2014 and the EMPr approval letter, Anglo Operations (Pty) Limited must assess its compliance with the conditions of the EAs and approved Environmental Management Programmes (EMP) for its mining and associated activities at Isibonelo Colliery.

Anglo Operations (Pty) Limited appointed Geovicon Environmental (Pty) Limited to assess the compliance of Isibonelo Colliery's mining operation against conditions/commitments of the environmental authorisations and the Environmental Management Programmes issued and approved in terms of the National Environmental Management Act 107 of 1998 ("NEMA") and the Mineral and Petroleum Resource development Act, Act No. 28 of 2002 ("MPRDA") (for further details on the scope, please see Item 3 further below).

2. LEGAL FRAMEWORK

2.1. NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 198 (ACT 107 OF 1998), AS AMENDED ("NEMA")

Section 24N(7)(d) of NEMA requires that the holder and any person issued with an EMPr must monitor and audit compliance with the requirements of the such EMPr, Regulation 34 of the EIA Regulations, 2014 states that the holder of an EA must, for the period during which the EA and EMPr remain valid, ensure that compliance with the conditions of the EA and the approved EMPr is audited and that an environmental audit report, prepared by an independent person, is submitted to the relevant competent authority, which in the case of Isibonelo Colliery is the DMRE, Mpumalanga Regional Office. The above-mentioned environmental audit report must determine the ability of the approved EA and/or EMPr to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the mining operation on an ongoing basis and the level of compliance with the provisions of EAs and the approved EMPr.

With the amendment of the EIA Regulations, 2014, on 7 April 2014, regulation 54A was introduced. Regulation 54A (2) of the EIA Regulations, 2014 which has also been amended¹, further states that: *"where a right or permit issued in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) and the associated Environmental Management Programme or Environmental Management Plan approved in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) is still in effect after 8 December 2014, the requirements contained in Part 3 of Chapter 5 of these Regulations apply to such Environmental Management Programmes or Environmental Management Plans, and where-*

(a) the audit or performance assessment cycle of the Environmental Management Programme or Environmental Management Plan exceeds five years, an audit report will be required to be submitted at least every five years commencing from the date of submission of the last audit, for the period during which the right or permit remains in effect; or

(b) no audit or performance assessment requirement was set in the Environmental Management Programme or Environmental Management Plan, an audit report will be required to be submitted to the competent authority no later than 7 December 2021 and at least every 5 years thereafter for the period during which the right or permit remains in effect".

¹ Government Notice R517 in Government Gazette 44701 of 11 June 2021

Isibonelo Colliery's approved consolidated EMPR was valid after 8 December 2014 and the two NEMA EMPR's for the mine's Block Z Project and Bulk Fuel Storage Facility remain valid. Therefore, the requirements of regulation 54A (2) read with regulation 34(1) of the amended EIA Regulations, 2014 are relevant to the operation.

In view of the above and in complying with the above approval conditions of the EMPR and relevant regulations of the NEMA EIA Regulations, a compliance assessment for Isibonelo Colliery's approved EMPR's and NEMA EAs are undertaken.

1. SCOPE AND PURPOSE OF THE ENVIRONMENTAL AUDIT

The purpose of this assessment is to undertake an audit in terms of section 34 of the NEMA in order to verify the Mine's compliance with and adequacy of the following environmental authorisations and EMPR's –

Environmental Management Programmes (Approved EMPR's):

- Consolidated EMPR for Isibonelo Colliery, dated October 2012 and approved on 4 February 2013, with DMR reference no.: OT6/2/2/4447, MP 30/5/1/2/3/2/1 (130) EM;
- Final Environmental Management Programme for the proposed bulk fuel storage expansion project, dated 17 April 2013 and approved 3 September 2015, with DMR reference no.: MP 30/5/1/2/3/2/1 (130) EM; and
- Final Environmental Impact Assessment Report/Environmental Management Programme for the proposed Block Z Project at Isibonelo Colliery, dated 31 March 2015 and approved 13 September 2018, with DMR reference no.: MP 30/5/1/2/3/2/1 (130) EM.

Environmental Authorisations ("EAs"):

- Bulk fuel storage exemption, approved 25 August 2004, with reference no.: 17.2.4 EV 37;
- Bulk fuel storage expansion environmental authorisation, approved 4 July 2013, with reference no.: 17/2/3N-184; and
- Block Z environmental authorisation, approved 8 September 2015, with reference no.: 17/2/3N-362.

Copies of any of these documents are available from the operation upon request.

The environmental audit was conducted to determine the level of performance against and compliance of the mining operation with the provisions of the issued EAs and Approved EMPR's. The audit was conducted to further determine the ability of the measures contained in the Approved EMPR's to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with Isibonelo Colliery's mining operation and associated surface infrastructure and activities.

In view of the above, the scope of this compliance assessment is as follows:

- To report on the compliance of the mine with the conditions, commitments and/or mitigation measures in the Approved EMPR's and EAs and the extent to which the avoidance,

management and mitigation measures provided for in the Approved EMPr, achieve the objectives and outcomes of the Approved EMPr.

- To identify and assess any new impacts and risks arising from the Isibonelo Colliery mining activities;
- To evaluate the effectiveness of the Approved EMPr's,
- To identify any inadequacies in the Approved EMPr's, and
- To identify the need for any changes to the avoidance, management and mitigation measures provided for in the Approved EMPr's.

2. METHODOLOGY ADOPTED IN PREPARING THE ENVIRONMENTAL AUDIT REPORT

2.1. AUDIT TEAM AND STATEMENT OF INDEPENDENCE

Auditor 1: Mr. Ornassis Tshepo Shakwane (Pr.Sci.Nat. & Registered EAP - EAPASA)

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Experience of the Auditor

Mr. O.T. Shakwane obtained his BSc (Microbiology and Biochemistry) from the University of Durban Westville in 1994, and completed his honours degree in Microbiology in 1995. Mr O.T. Shakwane has also completed short courses on environmental law, environmental impact assessment, environmental risk assessment and environmental management systems. He has worked within the three state departments tasked with mining and environmental management i.e. Department of Water and Sanitation (Gauteng and Mpumalanga Regions), Department of Mineral Resources (Mpumalanga Region) and Department of Agriculture, Conservation and Environment (Gauteng Region). Mr. Shakwane has been in the consulting field since 2004 and has undertaken environmental audits for mining operations similar to Isibonelo Colliery. Mr. Shakwane is one of the auditors that audited

Isibonelo Colliery's compliance with their EAs and EMPR's. Mr. Shakwane has been involved in the field of environmental auditing for the past sixteen years.

He is registered with the Environmental Assessment Practitioners Association of South Africa and South African Council for Natural Scientific Professions as an Environmental Assessment Practitioner and a Professional Natural Scientist in terms of section 24H of the National Environmental Management Act, (Act 107 of 1998) and section 20(3) of the Natural Scientific Professions Act, 2003 (Act 27 of 2003), respectively. He is also a member of the International Association for Impact Assessment, South Africa.

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Ms. Phangisile Mthimunye is a member of the International Association for Impact Assessment South Africa (IAIASa). She obtained her degree of Bachelor of Earth Sciences in Mining and Environmental Geology from University of Venda. Her responsibilities include but limited to: compilation of mining rights, mining permits and prospecting right applications, environmental reports (EMPr, Scoping Reports, BARs, EIRs, and Public Participation Reports), Water Use Licence applications with Integrated Water and Waste Management Plans, environmental assessment audits, Integrated Water Use Licence audits, environmental inspections and Water Quality Reports.

4.2 FREQUENCY OF REPORTING

Isibonelo Colliery is operated under an EMPr approved in terms of the MPRDA and two EAs, one exemption and EMPR's approved in terms of NEMA.

The Isibonelo Colliery's approval letter for the consolidated EMPr, bulk fuel storage expansion project EMPr, Block Z Project EMPr, indicate that the auditing of the adequacy of the EMPr must be conducted annually.

In terms of regulation 34(2)(d) of the NEMA EIA Regulations 2014 "*the environmental audit report contemplated in sub-regulation (1) must be conducted and submitted to the competent authority at intervals as indicated in the environmental authorisation*". In the NEMA EAs, no auditing frequency is indicated. In view of the above and since the authorisations did not comply with the requirements of

regulation 26 (e) of the NEMA EIA Regulations which requires an EA to specify the frequency of auditing of compliance with the conditions of the EA the maximum auditing interval allowed is five years

4.3 PERIOD THAT APPLIES TO THIS COMPLIANCE ASSESSMENT

The audit review period for this environmental audit report is May 2020 to May 2021.

4.4 PROCEDURE USED DURING THE COMPLIANCE ASSESSMENT

The following was used as a procedure for the compliance assessment i.e.:

- Desktop assessment of the approved Isibonelo Colliery's Approved EMPR's, NEMA exemption and NEMA EAs. The desktop assessment was used to list all commitments and conditions indicated in the Approved EMPR's, NEMA exemption and NEMA EAs. Also, as part of the desktop assessment, we had access to previous audit reports in order to establish the "direction of travel" where possible (i.e., has the mine progressed or regressed in its compliance status).
- The Environmental Audit was conducted by reviewing and abstracting the commitments (management and mitigation measures) from the Approved EMPR's and conditions from the EAs in cases where the commitments had not been fulfilled, such has been indicated in this report. As described further below, we also had extensive interviews with the relevant Isibonelo Colliery personnel and Anglo Operations Proprietary Limited head office officials. These interviews were held over a period of two days and each day comprising of at least seven hours.
- To assess the compliance with the conditions and commitments of the EAs and Approved EMPR's and reach our findings, we conducted extensive interviews with the mine personnel. We also reviewed comprehensive documentation which was provided by the mine on a collaboration platform.
- One-day site visit/inspection was conducted with the mine personnel to determine measures implemented to mitigate potentially negative environmental impacts, and measures to enhance positive impacts.
- In addition to assessing the compliance to commitments with the Approved EMPR, the adequacy of the information was also assessed through evaluating activities and verifying such against the descriptions and risk assessments provided in the EMPR's, and whether location specific risks and the necessary specialist assessments had been considered.

4.5 EVALUATION CRITERIA USED DURING THE COMPLIANCE ASSESSMENT

Evaluation criteria used during the compliance assessment include the following:

- Are the measures and structures as indicated in the Approved EMPR and EAs in place?
- Are the measures adequate and structures maintained, and at what frequency are they maintained?
- Has the monitoring as indicated in the Approved EMPR and EA been conducted? (Assessed through data, and reports provided).

- Is the reported frequency of the monitoring in accordance with the Approved EMPR's and EA? (Assessed using reports provided)
- Determining whether any new measures are required to prevent or mitigate the existing environmental impacts and/or other potential impacts.

Evaluation of the appropriateness and adequacy of the Approved EMPR's and EA included the following:

- Compliance with relevant laws pertaining to the environment.
- Compliance of mining and associated activities with the Approved EMPR and EAs. (Is the mine conducting activities that are not indicated in the Approved EMPR's and the EAs?)

4.6 RATING OF FINDINGS

The compliance category was rated as indicated in the table below:

Compliance category	Findings
Condition/mitigation measure/commitment has been achieved with evidence provided in the form of a document.	Compliant
The operation failed to comply with, or satisfy the requirements of an applicable condition, commitment and/or mitigation measure. Non-compliances include instances where although the current condition or mitigation measure has been achieved, there have been new impacts and risks arising from the activity; whether the current measures are effective and whether there are any shortcomings which need to be address through changes in the systems or amendment of the EMPR.	Non-Compliant
The condition, commitment and/or mitigation measure is Not Applicable. A "Not Applicable" finding is also noted in events where such condition, commitment and/or mitigation measure is either obsolete, an alternative effective measure is utilised or the commitment and/or mitigation measure is not yet relevant but is still relevant for future activities;	Not Applicable
The condition, commitment and/or mitigation measure that does not require any specific action.	Noted

5 ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE

Although all reasonable attempts were made to verify comments made during interviews held with relevant Isibonelo Colliery personnel as well as the review of documentation, it is assumed that such comments and documents provided are a true and accurate reflection of the audit.

6 EMP_r RECOMMENDATION REPORT

Regulation 34(4) of the EIA Regulations, 2014 state the following

Where findings of the Environmental Audit Report indicate:

- insufficient mitigation of environmental impacts associated with the undertaking of activity;
- insufficient levels of compliance with the EAs or EMP_r's and where applicable the closure plan;

The holder of the authorisation must when submitting the environmental audit report to the competent authority in terms of sub regulation (1) of the EIA Regulations, submit recommendations to amend the EA, EMP_r or closure plan in order to rectify shortcomings identified in the environmental audit report and such recommendations must have been subjected to a public participation process as agreed to by the competent authority.

Based on the findings and the fact that Isibonelo Colliery has already undertaken an amendment process to address some of the non-compliances, no recommendation for amendment outside what has been submitted is proposed.

7 RESULTS OF THE ENVIRONMENTAL AUDIT

The results of the Environmental Audit are given in the Tables below. The tables below outline the EMP_r's and the EA's for each of the authorised activities at Isibonelo Colliery.

7.1 ISIBONELO COLLIERY CONSOLIDATED EMPR AUDIT (OT6/2/2/447, MP 30/5/1/2/3/2/1 (130) EM)

ISIBONELO COLLIERY: MANAGEMENT MEASURES FOR THE OPERATIONAL PHASE (DURATION: 2003-2027)					
ENVIRONMENTAL ASPECT	ENVIRONMENTAL IMPACT	MANAGEMENT PRINCIPLE	MITIGATION PRINCIPLE	FINDINGS	OBSERVATIONS/AUDIT EVIDENCE
Activity 1: Opencast Mining					
Removal of overburden	Change in geology	To place material optimally for rehabilitation and minimizing acid generation.	Excavated material are selectively stockpiled for surface rehabilitation (topsoil and spoils are separated).	Compliant	According to the Isibonelo Management's topsoil procedure, if a live placement area is not available for stripped topsoil, stockpiling may be resorted to. Different types of topsoil will be stockpiled separately. Topsoil will be placed at stockpiles according to the Rehabilitation Standard.
	Groundwater contamination				
	Loss of topsoil	To ensure stability of disturbed ground.			During the interview and site visit it was noted that the mine has been undertaking live placement of stripped topsoil over mined-out and backfilled areas. It was also noted during the site visit and through assessment of the mine plans that topsoil stockpiles were created for future top soiling of mined-out and backfilled areas.
	Air impact.		Any carbonaceous material is returned to the pit.	Compliant	The carbonaceous material is used for backfilling when undertaking concurrent rehabilitation. An updated rehabilitation plan was provided during the audit. The placement of carbonaceous material in the mined out opencast pits were also confirmed during the site visit.
			Stockpiles are placed on levelled spoil areas.	Compliant	According to the Isibonelo Colliery's Rehabilitation Procedure, the mine must place its stockpiles on levelled areas if the topsoil removed is more than the available levelled areas to reduce long haul distances. It was confirmed during the site visit that topsoil stockpiling is not undertaken, the mine was conducting live placement of topsoil. Available topsoil stockpiles will be used for future top soiling of mined out opencast areas. It was also confirmed during the site visit that all stockpiles are placed on leveled spoiled areas.
			Vegetation is not removed prior to stripping to provide additional organic nutrients to the soil and help preserve soil structure.	Compliant	According to the mine plans and observation made during the site visit, stripping is conducted ahead of active mining pits. The topsoil stripping is also conducted in accordance with the mine's Rehabilitation Procedure that states that an absolute minimum amount of vegetation and topsoil should be removed from the mining area at any one time.
			Soil replacement depths are determined by pre-mining land capability.	Compliant	The Isibonelo Colliery practices soil replacement on spoils according to a pre-existing plan and the depth of replacement is monitored and accurately measured.
			Soils are replaced in compliance with the Chamber of Mines Guidelines for arable and grazing land.	Compliant	The Isibonelo Colliery has compiled the Rehabilitation Procedure document in line with the Chamber of Mines Guidelines and it was indicated that soil replacement is conducted according to this procedure.
			Induced compaction is reduced by limiting access of vehicles onto rehabilitated land.	Compliant	No mine vehicles are allowed to move on rehabilitated areas. Ramps were constructed for machinery to avoid compaction on seeded areas. This was shown on the mine's updated rehabilitation plan and confirmed during the site visit. Nicolas Auto Enterprise Dashboard system is used to track the movement of mine vehicles, which assist in limiting the movement of vehicles on rehabilitated areas.
			Tracked or high flotation vehicles are used in preference to normal wheeled vehicles for levelling operations.	Compliant	Isibonelo Colliery uses dozer vehicles for placement of topsoil onto rehabilitated areas to minimize compaction. The above was confirmed through site observation during the site visit.

			Any compaction is alleviated by ripping soils prior to revegetation.	Compliant	The mine rips all rehabilitated lands that were compacted to ensure that it is broken up before revegetation as stated in the Isibonelo Rehabilitation Procedure.
			Seed bed preparation and fertilization is implemented to facilitate successful revegetation.	Compliant	The Rehabilitation Procedure under soil amelioration and soil placement is clear on how the seed bed will be prepared to comply with the commitment. A seeding plan as part of the mine's rehabilitation process was also shown during the audit. However, since the revegetation over the rehabilitated area were satisfactory, the mine has not undertaken any seed bed preparation and fertilization.
			Seed mix of indigenous grass is applied to seed beds.	Compliant	Seed mixing is undertaken as per the Isibonelo Colliery's Rehabilitation Procedure under planting of pastures, which indicates the standard seed mixture utilised. Seeded areas with good revegetation cover were visited during the site visit.
			Minimise drop height during operations.	Compliant	In order to minimize the drop height, Isibonelo Colliery uses a dozer for the placement of topsoil instead of the dragline during the rehabilitation of the mined-out areas. In addition to the above Isibonelo has an Air Quality Management Plan independently compiled as well as a Dust Monitoring and Management Procedure for possible recommendations should the dust emanated become a threat. The latest Dust Fallout Out results for the mine were compliant with the National Dust Fallout Standards for Residential Areas.
			Use of water sprays on active areas to reduce dust.	Compliant	According to the Air Quality Management Plan, Isibonelo Colliery predominantly undertakes mitigation on unpaved road surfaces, through the application of water on the haul roads, using water bowsters. The colliery currently operates four water bowsters with total volume of water used for dust suppression during the audit period amounting to 31 200 m ³ . The use of water bowsters for dust suppression were also verified through site observation during the site visit. The issued Water Use License for the mine (License nr: 06/B11D/FBCGIJ/9121), has granted the authorisation to re-use polluted storm water captured in the storm water control dams for dusts suppression.
			On-going monitoring of the rehabilitation process is undertaken.	Compliant	The mine's Rehabilitation Procedure states that monitoring of rehabilitation performance should be done during the growing season and after rain to identify erosion or problem areas. A Rehabilitation Plan has been developed by the Mine to assist in ensuring that rehabilitation is undertaken in line with the commitments. The mining area is flown over every week to generate a Digital Terrain Modelling (DTM) that is used to model the rehabilitated areas. The modelling is used to determine the compliance of the rehabilitation with the mine rehabilitation plan. In addition to the above, the mine has appointed Eco Information to undertake remote monitoring of the vegetation analysis and soil depths on the rehabilitated areas in order to determine the rehabilitation effectiveness.
			Active alien vegetation eradication is implemented.	Compliant	The Rehabilitation Procedure indicates that weeds must be monitored and alien species must be eradicated. Once a year a weed inventory must be updated to establish management and budget information. The mine appointed Shangoni Management Services (Pty) Ltd to compile a detailed Alien Invasive study and management plan across its 1935-hectare area. The Invasive Species Management Plan is based on the Monitoring, Control and Eradication Plan guideline. The alien invasive study and management plan determines the areas to be managed and how and when.
Ongoing Rehabilitation during the mining process	Change in topography and drainage	To maintain acceptable slopes to minimise erosion and maximize surface runoff.	Reshaping of spoils, placing of topsoil and the establishment of vegetation on the rehabilitated areas follows behind the box cuts and subsequent cuts.	Compliant	A Rehabilitation Plan has been developed by the Mine to assist in ensuring that rehabilitation is undertaken in line with the commitments. The mining area is flown over every week to generate a Digital Terrain Modelling (DTM) that is used to model the rehabilitated areas. The modelling is used to determine the compliance of the rehabilitation with the mine rehabilitation plan.

			Post-mining topography is governed with the Chamber of Mines Guidelines.	Compliant	The Isibonelo Colliery has compiled the Rehabilitation Procedure in line with the Chamber of Mines Guidelines to use the post-mining contour plan to determine the landform that needs to be covered with topsoil (flat area, slope % or wetland.) on the levelled spoil material. This plan is reviewed yearly after new DTM modelling has been done, taking completed areas and future plans into consideration.
			In general slopes will be kept similar to pre-mining slopes within the pits.	Compliant	Isibonelo Colliery takes into account the slope factor when conducting Rehabilitation Plans. Pre-mining and post-mining slopes of the area were observed on site and the mine personnel further indicated that currently slopes at the rehabilitated areas are kept similar to slopes prior to mining.
	Loss of Topsoil	Pre-strip all usable soil Stockpile wetland and arable/grazing soil separately.	During steady state mining the usable soil stripped ahead of mining is placed live directly on levelled spoils to avoid stockpiling.	Compliant	According to the Isibonelo's Rehabilitation Procedure, stripped soil should, whenever possible, be transported to the nearest available area of levelled spoil and must be placed in its final resting place. Compaction is prevented by restricting access of vehicles onto levelled topsoil areas. There were no additional stockpiles at the mine since usable soil stripped ahead of mining is placed live directly on levelled spoils.
		Fertilise rehabilitated soil for as required.	Soils are stripped a suitable distance (between 50 and 100m) ahead of mining to avoid loss and contamination with fly rock, coal and/or discard.	Compliant	The Rehabilitation Procedure of the mine indicates the soil should be stripped to a minimum of 2 planned cut widths ahead of mining at all times (this means 170 m clear of the dragline pad). This is to ensure that the soils are not lost by pad covering, and that the spoils are not contaminated by large quantities of rock following blasting.
		Minimise erosion by early vegetation.	Soil stripping and placement generally takes place during the winter months when it is driest and the soils are least likely to be subjected to compaction.	Noted	This condition of the EMPr was noted by the mine since the mine is now at its operational or steady state mining phase. It was also noted that soil stripping is conducted throughout the year. Isibonelo has therefore lodged an amendment of the EMPr and this commitment was added for omission or amendment. It must however be noted that the stripping of topsoil is also undertaken in line with the soil striping procedure that ensures the protection of the soil during rainy season. Notwithstanding the inspection being conducted during the winter month, no concerns were noted of stripping or stripped soil during the site visit.
		To restore land as best as is practicable to its pre-mining land capability.	Quantities of soil stripped are checked against available stripping volume.	Compliant	The mine has an updated topsoil balance showing the volumes of topsoil stockpiles available for rehabilitation onsite. The soil balance was provided by the mine during the audit interviews.
			All usable soils are stripped according to the soil stripping plan to depths between 400mm and 1200mm.	Compliant	The mine's Rehabilitation Procedure states that daily monitoring is necessary to ensure that stripping is done according to guidelines in the EMPR. The mine uses 1200 mm stripping depth, which is complaint to the EMPr commitment.
			Field evaluations of the efficacy of stripping and replacement are carried out.	Compliant	The effectiveness determination of stripping and replacement are carried out in the form of a Topsoil Balance. An updated Topsoil Balance and Land Capability Spreadsheet was provided for the audit. Weekly and monthly Mining and Rehabilitation Planning is also used to determine pre-mining stripping (per mining block) and live placement areas, which assist in the determination of effectiveness of the soil stripping and placement. Surveys of the mined and rehabilitated (backfilled, shaped, top soiled and revegetated) areas are conducted monthly.
			A running topsoil balance is kept of actual volumes of topsoil stripped, stockpiled and placed versus targeted volumes.	Compliant	The mine conducts the topsoil balance and an updated Topsoil Balance and Land Capability spreadsheet was provided for the audit.
	Re-establishment of natural vegetation.	To re-establish the Indigenous vegetation cover in	Vegetation is not cleared from the site prior to stripping to preserve the seed bank, provide additional organic nutrients to the soil and help preserve the soil structure,	Compliant	According to the Isibonelo Rehabilitation Procedure, an absolute minimum amount of vegetation and topsoil will be removed from the mining area at any one time.


	Re-establishment of sensitive landscapes.	the mining area during steady state mining.	except for red data plants that are relocated prior to stripping.		Further to the above, soil is stripped to a minimum of 2 planned cut widths ahead of mining at all times (this means 170 m clear of the dragline pad).
			Fertiliser is applied as per standard agricultural practice.	Compliant	<p>According to the Rehabilitation Procedure of Isibonelo Colliery, the standard fertilizer and liming recommendations for vegetation establishment to be practiced at the mine rehabilitated areas is one ton/hectare 2:3:2 (30%) +0.5%zn and one ton/hectare of superphosphates (10.5%), 300kg/hectare of land and five tons/hectare of dolomitic lime.</p> <p>However, since the revegetation over the rehabilitated area were satisfactory, the mine has not undertaken any fertilization.</p> <p>It must also be noted that rehabilitation inspections are undertaken and if the areas do not have the appropriate cover a third party would be contracted based on a system if there is less than 5 species within the grid fertilizers would be required.</p>
			A mixture of seeded varieties of indigenous pasture grasses is used to revegetate the area. This seed mix may be changed on the basis of experience gained during the rehabilitation process.	Compliant	Seed mixing is undertaken as per the Isibonelo Colliery's Rehabilitation Procedure under planting of pastures, which indicates the standard seed mixture utilised. No concerns regarding the vegetation reestablishment were noted during the site visit.
			Once the area has been revegetated, it will be monitored for declared weeds and invasive plants, which will be removed.	Compliant	<p>The Rehabilitation Procedure indicates that weeds must be monitored and alien species must be eradicated. Once a year a weed inventory must be updated to establish management and budget information.</p> <p>The mine appointed Shangoni Management Services (Pty) Ltd to compile a detailed Alien Invasive Study and Management Plan across its 1935-hectare area. The Invasive Species Management Plan is based on the Monitoring, Control and Eradication Plan guideline. The alien invasive study and management plan determines the areas to be addressed, how it is to be addressed and when it is to be addressed.</p>
			During the initial stages, grazing animals will be kept away from the area.	Compliant	The mining area has been fenced off to keep grazing animals away from rehabilitated areas. This was verified during the site visit.
			Veld fires will be controlled.	Compliant	The mine has established fire breaks around the mining area. A fire break emergency plan was provided during the audit.
			Disposal or dumping of spoils, soils or any waste outside demarcated areas are prohibited.	Compliant	<p>Movement of spoils, soils and waste is monitored, from all updated layout plans and no indications were noted that there could be disposing of mine materials outside demarcated areas.</p> <p>Through site observation, it was confirmed that no spoils, soils or any waste were disposed or dumped outside demarcated areas.</p>
			Low lying wetland areas will be top soiled with wetland soils and seeded with Anglo's standard improved pasture mix.	Compliant	Rehabilitation plan is to utilize ramps as water ways in order to slope the area to drain in one area towards the streams. The water ways will be layered with black soils (clay layer) to stop ingress. S3 ramp was utilized for the placement of wetland soils during the audit period. This was undertaken in line with mine closure tool kit (mine closure land capability plan). No seeding has been done as yet.
			The succession of plant species in the rehabilitated wetland: areas will be monitored for 5 years and then three years yearly thereafter.	Compliant	The mine has appointed a Rehabilitation Specialist who conducts the monitoring on a regular basis, as part of the mine's biodiversity assessment tool.
			If the rehabilitated areas do not develop hygrophilous grasses and sedges in the wetland areas after 5 years, the mine will attempt to enhance their establishment by mulching with seed bearing plant material from surrounding wetland areas.	Compliant	The rehabilitated wetland area (north of Central Pit) is monitored by the Rehabilitation Coordinator as well as the Environmental Coordinator on an on-going basis and includes the monitoring of vegetation. This forms part of the mine's biodiversity management strategy.

	Minimise disruption of animal habitat, behaviour or population.	To ensure faunal biodiversity is preserved.	Illegal hunting, poaching, snaring or trapping is prohibited within and outside the lease area.	Noted	The mine personnel indicated during the audit that there are awareness trainings conducted regarding illegal hunting, poaching, snaring or trapping. However no illegal hunting, poaching, snaring or trapping has been undertaken within and outside the lease area.
Surface Water Management	Minimise contamination of storm water.	Minimise generation of polluted water	The expected excess water will be pumped to the PC dams.	Compliant	The excess water from mining pits is pumped to the Vaskop dam at the mine.
	Minimise spill/release of Contaminated storm water release/spill.	Effective separation of clean and polluted water.	During flood conditions mine water is discharged to the Steenkoolspruit as per the controlled release conditions of the water use license.	Not Applicable	This condition of the EMPr is no longer applicable since the Water Use License that authorized the activity has expired. The mine personnel also confirmed that there is no discharging of mine water to the Steenkoolspruit and this condition forms are part of the amendment submitted to the DMRE to be removed. The mine also indicated that currently water is discharged to the Vaskop Dam under a new license that was granted in November 2019 (License nr: 06/B11D/FBCGIJ/9121).
		Maximise re-use of affected mine water.	Water from the PC dams are used for dust suppression on haul roads and in-pit operations.	Compliant	Mine water accumulating in the open pits is pumped to three dirty water dams namely Vaskop Dam, Ernie's Dam and Black Dam (all authorised). The water from the facilities is re-used for dust suppression. Volumes of water used for dust suppression are measured by the mine, which include water from road water sprayers, plant dust sprayers, bunker dust suppression. A spreadsheet of water readings was provided for this audit. Use of water carts for dust suppression were also confirmed during the site visit.
			The use of water for dust suppression is maximised to provide greater storage capacity in the PC dams.	Compliant	Isibonelo Colliery has also increased the water bowzers for dust suppression to maintain the capacity of the Vaskop Dam. Four water bowzers are used for suppression of dust.
			Storm water is managed by the construction of diversion berms to channel clean water away from the operational areas into the diversion channels.	Compliant	An updated Storm Water Management and Pipes Plan was provided during the audit, showing the canal and pipelines used for the conveyance of storm water within and around the mine.
			In the event of flooding of the mining pits, these will be dewatered by the use of the pumps which would discharge into the Steenkoolspruit, subject to approval from DWS.	Not Applicable	This condition of the EMPr is no longer applicable since the Water Use License that authorized the activity has expired. The mine personnel also confirmed that there is no discharging of mine water to the Steenkoolspruit.
			Excess water that cannot be pumped into the river will be pumped on recently rehabilitated areas where levelled spoils has some water retention capacity.	Not Applicable	This condition of the EMPr is no longer applicable since the Water Use License that authorized the activity has expired. The mine personnel also confirmed that there is no discharging of mine water to the Steenkoolspruit.
Groundwater management	Minimise groundwater contamination	The objective of Groundwater management will be to restrict the impact of polluted groundwater to the mining area and mitigate the loss of groundwater experienced as a result of mining activities.	Recharge potential through spoils is reduced by on-going rehabilitation.	Compliant	Rehabilitation is undertaken in line with the mine's rehabilitation plan. The rehabilitation (levelling, soiling and revegetation) to ensure that recharge to the backfilled areas is reduced. The mine has commenced with the backfilling of the ramps.
			It is envisaged that when groundwater levels rebound, up to 70% of the pollution generating spoils will be submerged below the water table. This will minimise oxidation or pyrite and slow the formation of pollutants.	Compliant	Isibonelo Colliery does groundwater level monitoring outside the mining area, however according to the updated groundwater study boreholes for monitoring of the groundwater levels rebound must be undertaken within the mine rehabilitated voids. Delta H has been appointed to update the study with new geochemical assessment. Borehole within the workings were drilled and sampled and will be used for the study update. The study will determine the rebound levels.
			Mine water make is pumped from PC dams.	Compliant	A water reticulation plan indicated the flow and distribution of mine water at Isibonelo.
			A monitoring system has been implemented to monitor the yield of boreholes in the surrounding area.	Compliant	Isibonelo Colliery determines the impact of the yield of the boreholes in the surrounding area by hydrological model. Therefore, if the pit would dewater the nearby aquifers, it would be picked up in the closest borehole water levels first before any yield test would be undertaken. Delta H has been appointed to update the yield model based on geology in the

					DWS report in July 2019 and currently is busy with the update based on recent borehole data and kenetic testing for acid generating.
			If a legitimate groundwater user loses the use of a resource as a result of mining, the mine will provide an alternative water source of equal yield and quality as the one impacted.	Compliant	There have not been any complaints from water users in the close proximity, this was confirmed from the mine's incident/complaints register.
			Groundwater monitoring is undertaken to establish the following: <ul style="list-style-type: none"> • The extent of the development of a cone depression around the mining area; • Influxes of groundwater into the mine workings; • Possible impact on the yields of external users' boreholes and springs; and • Groundwater quality deterioration; • Within the strip mine, • In the shallow aquifers in contact with all identified surface located pollution sources, • In external users' boreholes and springs. • Possible pollution of groundwater base flow into stream will also be monitored. 	Compliant	Isibonelo Colliery groundwater quality monitoring is conducted on quarterly basis, excess from groundwater influxes is managed and pumped to the surface water storage facilities for re-use at the mine. Groundwater boreholes within the strip mine are not in use. Isibonelo also indicated that there are no external borehole users in the vicinity. The mine is currently updating its Hydrogeological Report.
			Groundwater monitoring is carried out in accordance with Section 6.1 of this report.	Compliant	Groundwater Monitoring is undertaken in accordance with to the EMPr. Quarterly groundwater quality monitoring reports were provided.
			A formalised and documented groundwater monitoring system has been commissioned, according to the requirement outlined in the DWAF publication, and site-specific conditions.	Compliant	Groundwater monitoring at Isibonelo is undertaken in line with the Isibonelo Water Monitoring Procedure that meets the Department of Water Affairs and Forestry (DWAF) Water Monitoring System in the Best Practice Guidelines (BPG3).
Dragline and truck and shovel operations	Dust generation	To ensure that dust impacts do not exceed guideline levels at key receptor sites in the vicinity of the mine. To reduce the greenhouse gas emissions from the mining operations.	A chemical binder is applied to permanent haul roads to develop a crust.	Compliant	The mine uses water to conduct dust suppression on haul roads which is intended to serve the same purpose as the chemical binder. No chemical binder was used to develop a crust at the haul roads. According to the latest air quality monitoring results, dust emissions from the mine do not exceed guideline levels at key receptor sites in the vicinity of the mine. This condition has been included as part of the amendment of the EMPr that has already been submitted to the relevant authorities.
			This is coupled with regular watering and sweeping to eliminate dust mobilization from haul roads.	Compliant	The mine indicated that because of the amount of water present at the mine, water is being used for dust suppression.
			Idle stockpiles and berms are revegetated.	Compliant	It was verified during the site visit that idle stockpiles and berm were revegetated.
			Vegetation cover is maintained in active areas for as long as is practically possible.	Compliant	According to the Isibonelo Rehabilitation Procedure the mine must maintain vegetation cover on future mining areas active for as long as possible to prevent air pollution and erosion through wind and/or water run-off. Stripping is conducted approximately 2 strips ahead of active mining pits.
			Watering takes place (with water trucks) in areas where materials removal, placement or manipulation is occurring.	Compliant	According to the air quality management plan, Isibonelo Colliery predominantly undertakes mitigation on unpaved road surfaces, through the application of water on the haul roads,

					using water bowzers. Water for dust suppression is extracted from the Vaskop Dam. Water bowzers were noted during site visit.
			On-going dust fallout monitoring is undertaken using the current network to assess the effectiveness of dust control measures.	Compliant	The mine conducts an ongoing dust fallout monitoring in accordance with its Dust Monitoring and Management Procedure. An Air Quality Management Plan has been compiled by WSP dated March 2021.
			Strict speed control is implemented and the shortest haul routes will be used.	Compliant	Speed investigation at Isibonelo Colliery is conducted using the Nicholas Auto Enterprise (NAE) System on site. It functions as a speed control register where every driver of an LDV is tagged on daily bases and reported to the operation's Safety department. Latest summary report was provided during the audit. Written warnings are issued for over speeding valid for a period of one year. Speed limits signages on mine's access and haul roads were also noted during the site visit.
			An emission inventory will be developed.	Compliant	An emissions inventory is a database that lists, by source, the amount of air pollutants discharged into the atmosphere during a year or other time period. Isibonelo Colliery appointed WSP, an independent consulting company to develop their Air Quality Management Plan for the mine, which included the development of a comprehensive site-specific emissions inventory. According to the plan, <i>the largest source of particulate matter is materials handling, constituting 76% of particulate emissions at the colliery. Materials handling includes the loading and unloading of topsoil, overburden and coal to and from trucks, tips and stockpiles and the second largest source of particulate matter is vehicles travelling on unpaved roads, constituting 11% of particulate matter emissions.</i>
			Vehicles are not to be left idling unnecessarily when not in use.	Compliant	All mine employees are being trained and kept aware of the vehicle mine procedure. A 24hr daily utilization report for the NAE system was provided showing a summary of speeding report.
			To prevent spontaneous combustion and emissions of greenhouse gases mined out areas are rehabilitated as soon as possible to prevent old workings being open.	Compliant	Isibonelo Colliery undertakes rehabilitation of the mined out opencast pits in line with the rehabilitation procedure and topsoil management procedure. The mine has not experienced a spontaneous combustion during the auditing period.
	Noise generation	Minimise noise emanating from the mine.	Farm workers on Aangewys have been relocated, and barriers between the mine and surrounding farms are formed using soils and spoil berms.	Compliant	Farm workers were relocated and mine spoils are used as barriers. It was also noted that there are no immediate farmers in the vicinity of the mine.
			All blasting will be in accordance with prevailing legislation. Holes will be set to fire progressively to the south away from sensitive areas to the north.	Compliant	According to Isibonelo's procedure for Opencast Blasting procedure all persons involved in blasting operations should be familiar with the relevant provisions in the Minerals Act and Regulations.
			Blasting within 1000m of habitation to be postponed in cases of unfavourable wind conditions, low cloud cover and failing groundwater temperatures. All overburden and inter-burden blasting will be initiated using delays between every hole so that there is single hole firing. During operation, two-hole firing is used to accommodate the mining method as the distance from the sensitive receptors is increased.	Compliant	There is no habitation within 1000m from the blasting areas and blasting is not conducted during unfavorable wind conditions. It was proven during the audit interview that the mine undertakes two-hole firing and uses delays to minimize blasting impact. It must also be noted that there were no blasting related complaints during this audit report. Isibonelo Colliery has developed an opencast blasting procedure to be followed during blasting and the mine is ISO 14001 accredited which affirms that Isibonelo follows all their procedures, proof of certification was provided during the audit.
			No blasting on Sundays.	Not Applicable	Isibonelo Colliery undertakes mining activities on Sundays under a Sunday labor permission issued by the DMRE. The permission allows the mine to undertake mining operations and related activities over Sundays from a period of two years from 01 July 2019 to 30 th June 2021.

			Suitable purchase standards are applied to ensure proper plant enclosures and effective silencing equipment on vehicles and at the crusher.	Compliant	It was indicated that there are noise management measures implemented by an Occupational Hygienist onsite when it's necessary.
Blasting	Noise and vibration impacts	To ensure that key receptor sites do not experience ground vibrations of more than 7 mm/s and air blast of more than 125dB. To ensure that fly rock does not endanger motorists on the D618. To ensure that key receptor sites do not experience an increase in noise levels due to mine activities of more than 5dB.	Blasting is carried out in accordance with relevant legislation.	Compliant	According to Isibonelo's procedure for Opencast Blasting all persons involved in blasting operations should be familiar with the relevant provisions in the Minerals Act and Regulations.
			Measures are implemented to minimise noise and blast vibrations to the extent practical.	Compliant	The mine limits noise and blast vibrations as far as possible during its operations to ensure potential impacts are mitigated. According to Isibonelo Colliery's Noise and Vibration Monitoring Procedure under procedure specification the mine complies with this condition.
			Blasts are monitored in accordance with regulatory requirements.	Compliant	According to Isibonelo Colliery's Noise and Vibration Monitoring Procedure under procedure specification the mine complies with this condition.
Stockpiling of overburden	Visual impact	To reduce the visual impact of the mine from the R545 and the P1651.	All spoils are levelled as part of the rehabilitation Programme.	Compliant	It was noted during site visit that levelling of spoils is undertaken at the mine. This is conducted in line with the rehabilitation procedure for the mine.
			Steady state mining will be reached as soon as possible and the absolute minimum area of vegetation and topsoil will be removed from the mining area at any one time.	Compliant	According to the Isibonelo's Rehabilitation Procedure, stripped soil should, whenever possible, be transported to the nearest available area of levelled spoil and must be placed in its final resting place. Compaction is prevented by restricting access of vehicles onto levelled topsoil areas.
			Concurrent backfilling takes place.	Compliant	Rehabilitation of the opencast pits including the concurrent backfilling is undertaken in line with the mine's rehabilitation procedure.
Activity 2: Coal Processing and Transport					
Processing and transport of coal	Noise impacts	To endure that noise and air quality	Conveyor idlers are inspected and regularly maintained to ensure worn parts are replaced.	Compliant	It was observed during the site visit that the conveyor idlers are well maintained and there were no worn-out parts witnessed on site; moreover, there were no noise complaints during this audit period.

	Air quality impacts	impacts are kept to a minimum.			
			The conveyor has been placed in a tunnel constructed of rounded corrugated iron sheets (dog house sheeting) that can be removed for maintenance purposes. The structure of the tunnel stands free from that of the conveyor system.	Compliant	It was confirmed during the site visit that the conveyor has indeed been placed in a tunnel constructed of rounded corrugated iron sheets (dog house sheeting) that can be removed for maintenance purposes.
			The crushing plant is clad/dressed to reduce noise and dust.	Compliant	It was noted during the site visit that the plant was cladded to reduce noise and dust as well as to prevent crushed rocks from falling on employees.
Vehicle Movement around the site	Soil impacts	To prevent compaction or contamination of soils.	Vehicles are restricted to demarcated roads.	Compliant	According to the topsoil management plan, once an area has been levelled, no rubber-tired machines (except tractors) should be allowed on the area, except on a designated roadway. No mine vehicles are allowed to move on rehabilitated areas, available ramps were constructed for machinery to avoid compaction on seeded areas. This was shown on the mine's updated rehabilitation plan.
	Air quality impact	To ensure that dust emissions do not exceed guideline levels at key receptor sites.	A chemical binder is applied to permanent haul roads to develop a crust.	Compliant	The mine personnel indicated that the mine uses water to conduct dust suppression on haul roads which is intended to serve the same purpose as the chemical binder. No chemical binder was used to develop a crust at the haul roads. This condition has been included as part of the amendment of the EMP that has already been submitted to the relevant authorities.
			This is coupled with regular watering to eliminate dust mobilisation from haul roads.	Compliant	The mine indicated that because of the amount of water present at the mine, water is being used for dust suppression.
			High use roads in the infrastructure area are tarred or paved.	Compliant	It was noted during the site visit that high use roads at the mine access road, around the office area and workshop area are tarred.
Surface water management	Surface water impacts	To minimise the impact on catchment yield	During the design of the plant, the footprint of the contaminated areas was minimised so as to limit the impact on catchment yield.	Not Applicable	The plant was constructed at the approved location, no significant change has been made.
		To ensure that the downstream water quality objectives are both understood and complied with by the relevant personnel in terms of the plant's	The plant, workshops and coal handling facilities are isolated from the catchment, with water management measures designed to divert the 1:100-year flood event from the clean catchment above them. All contaminated water from these areas is directed to the pollution control dams where it is stored for evaporation or reuse.	Compliant	There's no concern identified at the plant, workshop and coal handling areas with water management measures in place to divert the 1:100-year event. Mine contaminated water is collected to three affected water dams namely Vaskop Dam, Ernie's Dam and Black Dam.

		potential impact on the environment.			
			Conveyor has a belt rotation system that ensures the dirty side faces upward always. The belt is cleaned at the transfer houses.	Compliant	Conveyor belt is cleaned at the transfer house and fitted with a rotational system. Waste is then disposed to the opencast pit.
			Haul road gradients are kept as gentle as possible to minimise spillages from vehicles due to change in gradient.	Compliant	It was noted during the site visit that the mine keeps gentle slopes of the haul roads as much as possible.
			Service roads are only used by service vehicles.	Compliant	Vehicles are tracked using the NAE and the roads are designed to only allow the LDV's. During the site visit, some of the service roads were visited and it was confirmed that no other mine machinery was used for such roads.
			Service road was placed between conveyor and stream to ensure any spills would wash over the road first and can be easily picked up.	Compliant	During the site visit, it was noted that the service roads do not extent into the streams and where streams are crossed, the conveyor belt were fully covered with an allowance in the structure that will collect any coal spillages from the conveyor belt.
			Clean water from above the infrastructure area is directed past the contaminated water areas, and back to the clean water catchment.	Compliant	Clean and affected water management infrastructure have been implemented to ensure the separation of clean and affected water. A plan showing the canal and pipelines used for the conveyance of storm water within and around the mine has been provided.
Activity 3: Waste Management					
Waste management	Surface water impacts	To prevent water pollution	Waste is separated into: <ul style="list-style-type: none">• General waste• Hazardous waste• Metals• Wood• Glass• Paper• Plastic• Rubber• Medical• Toxic In order to allow for reuse and/or disposal in an appropriate manner.	Compliant	Isibonelo has a Waste Management Disposal Procedure that aims to promote safe separation and disposal of waste from the mine. It was indicated that waste is separated on waste skips in accordance with the procedure adhering to the EMPr. This was also observed onsite.
			Where appropriate, an approved contractor is responsible for the removal and disposal of waste to a permitted landfill site.	Compliant	A suitable contractor (Phambili Services (Pty) Ltd) has been appointed by Isibonelo Colliery to ensure waste is safely removed and disposed to a permitted landfill site. A waste manifest and safe disposal certificate was provided during the audit which shows that the waste is disposed at the Holfontein Waste Disposal Site.
			All waste removal documents, waste manifests and certificates of safe disposal should be kept for audit purposes for the life of the mine.	Compliant	Waste manifest and safe disposal certificate were made available during the audit which shows that the waste is disposed of at the Holfontein Waste Disposal Site.
			No littering is allowed.	Compliant	
			Burning or refuse is not allowed	Compliant	

			Waste is not allowed to be buried on site.	Compliant	The Waste Management Procedure provides ways of handling and disposing waste on site. Awareness training programmes and induction are conducted and undertaken by all mine employees to ensure compliances with the commitments made in the EMPr.
Sewage treatment	Surface water impact	To ensure that surface water contamination is prevented	Sewage plants will be operated in accordance with the provisions of the Regulations of the National Water Act. (Act No. 36 of 1998).	Compliant	<p>Isibonelo Colliery has a Class D Sewage Treatment Plant authorized by the Department of Water Affairs and Forestry. The mine has appointed Regen Waters for the operation of the plant.</p> <p>The regulations published in terms of GNR2834 of the Water Act 54 of 1956 requires the owner of a water care work to have a person of this class employed on that work and if not a consultant with the required qualifications as prescribed in schedule III in respect of that particular class to visit the work weekly. The mine has an operator from Regen Waters placed onsite on a part time base. A certificate of Mr. Sibusiso Emmanuel Ndlangamandla was provided during the audit.</p> <p>Isibonelo Colliery has produced evidence of their attempted communication with the Department of Water and Sanitation during the audit where a number of emails were sent in a bid to relax this requirement. However, no response was received from the department.</p>
Activity4: Social Engagement					
Procurement of services	Enhance local and economy employment.	Maximise use of local services wherever possible.	Source all semi-skilled and unskilled labor locally to enhance local economic benefits.	Compliant	The Social and Labour Plan Annual Progress Report provided indicates that employment is undertaken according to the Anglo-American Policies. A table showing a list of educational levels of employees is in the report indicating compliance with this condition of the EMPr. The report further indicates that the number of migrant labourers in Anglo American Coal's workforce remains at 6% and as part of uplifting the people who surround their coal mining operations, Isibonelo Colliery's permanent workforce of 346 employees all, except three employees, are residents of Mpumalanga.
			Source goods and services locally where possible to enhance local economic benefits.	Compliant	The Social and Labour Plan Annual Progress Report indicates that employment is undertaken according to the Anglo-American Policies. The report indicates that as a commitment to uplifting the lives of the people who live close to the mine and wherever possible, third-party services are sourced from our local communities.
Complaints From neighboring and communities	Enhance communication with mine.	Ensure grievance process is accessible to communities.	Implement and maintain grievance recording and action process.	Compliant	Isibonelo Colliery has a Communication and Consultation Procedure to provide information to stakeholders and to ensure necessary reporting is adhered to and that external complaints, problems or suggestions are followed.
	Build community Relationship.	Monitor and ensure feedback to community.	Ensure feedback through regular planned events.		
ISIBONELO COLLIERY: MANAGEMENT MEASURES FOR DECOMMISSIONING AND CLOSURE (DURATION: 3-5 YEARS)					
ENVIRONMENTAL ASPECT	ENVIRONMENTAL IMPACT	MANAGEMENT PRINCIPLE	MITIGATION PRINCIPLE	FINDINGS	OBSERVATIONS/AUDIT EVIDENCE
Activity 5: Removal and Rehabilitation of Plant and Infrastructure, Offices, Workshops etc.					
Infrastructure removal	Safety and visual impact	To prevent disused infrastructure from becoming a safety hazard.	The crushing plant and mine structures will be dismantled and removed. Any buildings not required for post-mining purposes, will be demolished together with all the foundations and rubble will be buried in an area are approved by the relevant authorities.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
Removal of water management	Surface water impact	To ensure that the contaminated water facilities are available	Just before closure, when disturbed land has been rehabilitated and erosion is controlled by a vegetation cover, disused surface water management facilities will	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.

facilities		for use until pollution sources have been adequately rehabilitated.	be decommissioned. PC dams will remain for post-closure of excess water. The remaining water will be treated to acceptable qualities in terms of RWQO of the area and discharge in the river.		
Demolition	Noise impact	To reduces the noise impact on neighbouring farms	Demolition work will be restricted to daylight hours.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
Disposal of Waste	Soil impact	To prevent long term impact on soil and water	Infrastructure that cannot be sold, including demolition waste, will be disposed of at an approved and appropriately permitted landfill site and necessary waste manifests will be kept for auditing purposes.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
	Surface water impact		Where necessary, the levels of residual contamination will be investigated, and contaminated material removed or remediated in-situ such that there is no residual risk, or such that the residual risk can be managed. This applied to dirty water dams and coal handling facilities and related infrastructure.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
	Groundwater impact		All infrastructure and stockpiles will be rehabilitated according to relevant mine safety standards.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
Re-vegetation of rehabilitated areas	Soil impact	To establish suitable seed bed	Soil should be ripped and ploughed as required before seeding.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
		To ensure adequate soils nutrient levels for vegetation establishment.	The fertiliser requirements will be reevaluated at the time of rehabilitation. An appropriately qualified person will carry out soil sampling to establish time and fertiliser requirements prior to the start of the rehabilitation process.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
	Flora Impact Land capability impact	To ensure that indigenous vegetation re-establishes on site.	The revegetated areas will be maintained until closure is granted.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
			The land management plan developed during the operational phase will continue to be implemented until a closure certificate is obtained.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
			Protecting areas by fencing until a good vegetation cover has been established.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
Activity 6: Rehabilitation of Opencast Areas					
Roads and conveyors	Soils impact	To ensure that all disturbed land is restored to a state that is suitable for its post closure use.	All roads not required for access in the post mining scenario will be ripped, topsoil replaced and seeded with grass. This will also apply to the service road and conveyor route.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
Pollution Control Dams	Surface and groundwater impact	To prevent any long-term impact on the water quality in the catchment.	The water quality in the dams will be monitored to assess the impact of residual contamination on any direct inflow into the dam.	Compliant	Surface water monitoring is conducted on monthly basis by Aquatico Scientific (Pty) Ltd. The latest results provided proved that water quality at the mine dams is being monitored.
			Seepage qualities will be monitored to assess whether there are any impacts associated with seepage through the dam basin or the dam wall.	Compliant	No seepage water is currently monitored. The boreholes used for this purpose were destroyed, however Isibonelo will identify any form of seepage from its dams (Vaskop and Black) which are monitored monthly.

	Soil impact	To ensure that contaminated soil is correctly disposed of	The spoils will be rehabilitated to be free draining. The final high-wall will be shaped to 1:3 and the final spoils slope into the final void will be graded to 1:3. No spoil slope will exceed 1:5. All contaminated soil will either be removed to the bottom of the final void or will be remediated in situ. In areas of ponding due to subsidence the land will be reshaped and rehabilitated to enable free drainage to occur.	Compliant	Current rehabilitation is conducted to ensure that mined out opencast pits are compliant with this commitment. The mine rehabilitation plan has shown compliance with the commitment.
Replacement of soils	Topography impact Surface water impact	To create a landscape that is free draining	During rehabilitation, the areas where grass has not yet established will be monitored to ensure there is not excessive erosion prior to the grass establishing, and where necessary additional erosion protection such as the use of dump rock or repair of gullies will be undertaken until such time that the rehabilitated surfaces can be shown to be self-sustainable.	Compliant	The mine's Rehabilitation Procedure states that daily monitoring is necessary to ensure that stripping is done according to guidelines in the EMPR. All rehabilitated and seeded areas are currently monitored by the rehabilitation officer and the mine's environmental coordinator. Reports (weekly and monthly) are compiled based on the monitoring undertaken. A wetland specialist has also been appointed to monitor the mine's wetland rehabilitation.
			Annual surface surveys will be undertaken over rehabilitated areas to establish the degree of subsidence and the success of the re-establishment of vegetation on these areas.	Compliant	Surveys are undertaken by the mine to determine the after-mining topography of the rehabilitated areas. This survey data is used to develop a rehabilitation plan for the mine that determines the surface elevation are in line with the planned determining surface elevations. In addition to the above, the mine has appointed Eco Information to undertake remote monitoring of the vegetation analysis and soil depths on the rehabilitated areas in order to determine the rehabilitation effectiveness.
			Contouring of land will be done to prevent standing water. The land will free-drain to the Steenkoolspruit.	Compliant	The Isibonelo Colliery practice soil replacement on rehabilitated spoils according to a pre-existing plan and that depth of replacement is monitored and accurately measured.
	Land capability and soils impact	To restore the area to grazing capability	Soils will be replaced to the pre-mining stripping depths over all areas where infrastructure is demolished.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
Re-vegetation of rehabilitated areas	Soil impact	To establish suitable seed bed	Soils should be ripped and ploughed as required before seeding.	Compliant	The Isibonelo Colliery is currently in an operational phase; however, rehabilitation is conducted concurrently with mining. The mine's Rehabilitation Procedure states that all rehabilitated lands must be thoroughly ripped to ensure that the compaction is broken up. This means that cultivation must be done using suitable equipment when the soil moisture conditions are such that maximum shattering of compacted layers will occur. Shattering is maximized when soils are dry, but the degree of compaction of some soils is such that it may be necessary to cultivate them when some moisture is present in the lower horizons. Ripping must penetrate through the soil and into the spoil. This would depend on the available equipment. Disturbance of the soil/spoil interface is essential. Where greater depths of soil have been replaced (in arable areas for instance) ripping should be done only after all soil has been applied. Where areas are fully rehabilitated evidence of soils being ripped and ploughed as required before seeding were noted.
		To ensure adequate soils nutrient levels for vegetation establishment	The fertilizer requirements will be revegetated at the time of rehabilitation. An appropriately qualified person will carry out soil sampling to establish time and fertiliser requirements prior to the start of the rehabilitation process.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
	Flora impact	To ensure that indigenous	The revegetated areas will be maintained until closure is granted.	Compliant	The mine has appointed Eco Information to undertake remote monitoring of the vegetation analysis and soil depths on the rehabilitated areas in order to determine the rehabilitation effectiveness.

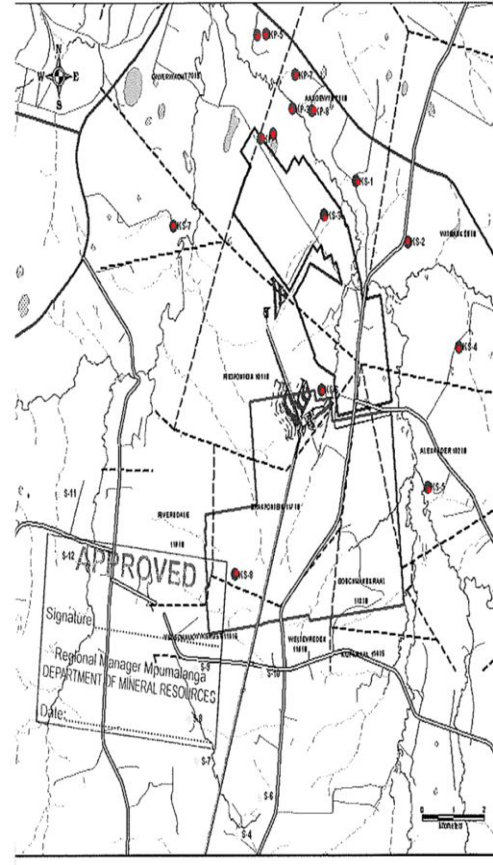
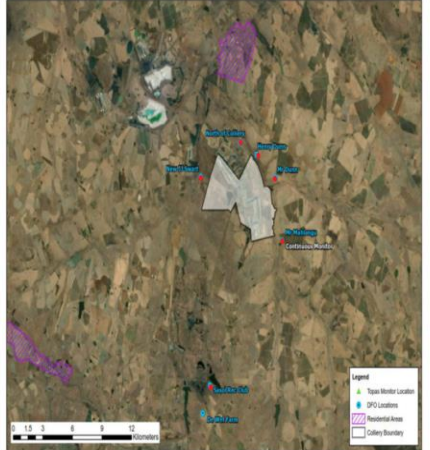
	Land capability impact	vegetation re-establishes on site	The land management plan developed during the operational phase will continue to be implemented until a closure certificate is obtained.	Compliant	A report compiled by Golder Associates for Isibonelo Colliery was provided indicating the potential post mining land capabilities.
			Protecting areas by fencing until a good vegetation cover has been established.	Compliant	The mining area has been fenced off.
Management of rehabilitated areas	Flora and fauna impact	To minimise the disturbance of habitats To prevent the unnecessary killing of fauna	Staff involved in rehabilitation will be trained appropriately using the environmental awareness programme.	Compliant	The mine conducts an induction with all their employees including employees (contactors) involved in mine rehabilitation.
			Any form of hunting, poaching, snaring or trapping will be prohibited within the mine area.	Compliant	Isibonelo Colliery's awareness programme, which form part of the mine's induction, has include the issues regarding prohibition of hunting, poaching, snaring or trapping will be prohibited within the mine area.
Activity 7: Water Management					
Monitoring	Surface water impact	To monitor the downstream impact of the mine during decommissioning and post-closure	Monitoring during the decommissioning will be based on the operational phase monitoring, adapted to suit the final works to be implemented during this phase. However, in terms of surface water this will be primarily downstream of the area as for the operational phase.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
Decant	Surface water impact	To prevent polluted water that has accumulated in the pits over time from decanting into the river systems of the area through proactive management.	Pits will be allowed to flood to produce anaerobic conditions, prevent oxygen ingress and reduce the opportunity for acidification.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
			The pits will be rehabilitated, top soiled and vegetated to reduce moisture and oxygen infiltration into the spoils. This reduces the amount of clean water that could be affected by entering the spoils.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
			Wetland will be re-established in pits and will consist of open water bodies fringed by wetland soils. The wetlands will form part of a closed system which is designed to keep precipitation and evaporation in balance. This balance is designed to prevent any impact by pit water on the quality or quantity of the local rivers. Extraordinary conditions, such as excessive rainfall greater than the 1:100-year event may disturb this balance.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
			It is expected that the water level within the mine workings will recover over a period of time. Eventually, if no management measures were implemented, water would decant at a predicted rate of around 8Ml/day. Water from the workings will be collected, and pumped to a water treatment facility. A full EIA will be undertaken for the water treatment plant if the design parameters have been defined, and	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.

			this will include the necessary permits and license applications.		
			Note that the mine is committed to responsible environmental management, which includes the containment and treatment (where necessary) of decant to ensure that there is not downstream impact on water quality associated with future decant from the mine.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
Groundwater	Groundwater impact	To provide a sustainable alternative water supply to external users whose groundwater resources may have been lost. To minimise the potential impact of polluted groundwater seeping from the rehabilitated strip mine.	The monitoring activities described for the operational phase will continue for a period of at least 2 years after decommissioning, until an application to alter/discontinue monitoring can be submitted, and is approved by the authorities. However, the emphasis for monitoring during this phase will be on proving compliance with/alignment of, the closure objectives. The monitoring systems will be adapted to cater for the post decommissioning realities, e.g., some of the operational phase monitoring points may cease to exist, while new monitoring localities may be required to monitor specific aspects, e.g., mine flooding status.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
			Replace groundwater user resources if necessary.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
			Treat polluted water post closure.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
Activity 8: Mine Closure					
Retrenchment of staff	Socio-economic impacts (SE1D)	To ensure that mine staff are in a position to gain new employment upon closure of Kriel Colliery.	Employees will be informed of possible retrenchments.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
			The colliery will follow LRA as well as the guidelines provided by the Department of Labour in ensuring fair opportunities to train, re-deploy employees and to establish alternative measures short of retrenchments.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
			Other affected parties (sending areas, municipalities etc.) will be informed of the possible retrenchments at the operation.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
			Assessment and counselling services will be provided for affected employees.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
			Comprehensive self-employment training programmes will be provided.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
			Comprehensive training (non-mining skills) and re-employment programmes will be provided.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
			Regeneration of local economies and creation of jobs for local economies will be carried out.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
			These measures will commence 2 years prior to mine closure as job-shedding may commence at that time.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
ISIBONELO COLLIERY: MANAGEMENT MEASURES FOR POST CLOSURE (DURATION BEYOND 5 YEARS FROM DECOMMISSIONING)					

ENVIRONMENTAL ASPECT	ENVIRONMENTAL IMPACT	MANAGEMENT PRINCIPLE	MITIGATION PRINCIPLE	FINDINGS	OBSERVATIONS/AUDIT EVIDENCE
Activity 9: Residual Impacts					
Decant from the mine	Surface water deterioration	Prevent surface water deterioration	The flows in the Steenkoolspruit will not be impeded.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable. However clean runoff from upstream of the mine including the plant and workshop areas is diverted around the area and the dirty water dam by means of a series of canals and berms, which is eventually diverted back to the Steenkoolspruit. Once rehabilitated all runoff from the rehabilitated areas will be allowed to enter the Steenkoolspruit
			The mine decant will be contained within the spoils by active dewatering and on-going water treatment.	Not Applicable	Water enters the opencast mine workings through direct precipitation, infiltration across the contributing catchment areas, un-diverted surface runoff and groundwater ingress. This water is removed to ensure safe and efficient mining, which result in the subsequent development of cones of dewatering. Since water is removed from the workings groundwater flow will be towards the workings hence reducing the potential for decant.
			To prevent even the remote possibility of seepage via the adjacent Kriel mine, the elevation of water within the Isibonelo strip mining area will be kept below the Steenkoolspruit invert level downstream of the mining area.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable. Groundwater levels in the workings will be measured to ensure that the commitment is compliant with.
			Water treatment and an inter-mine agreement is being investigated to address long term post closure impacts.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
ISIBONELO COLLIERY: MONITORING AND MANAGEMENT OF IMPACTS					
ENVIRONMENTAL ASPECT	ENVIRONMENTAL IMPACT	MANAGEMENT PRINCIPLE	MITIGATION PRINCIPLE	FINDINGS	OBSERVATIONS/AUDIT EVIDENCE
Activity 10: Monitoring submissions					
Monitoring	Environmental impacts	Reporting environmental impacts of	Three monthly submissions to relevant authorities of: Surface water monitoring results. Groundwater monitoring results.	Compliant	Surface and groundwater monitoring reports are submitted to the Department of Water and Sanitation on quarterly basis. Proof of submission was provided during the audit.
			Annual submissions to relevant authorities: • Air quality monitoring for fallout dust • Noise monitoring • Updated water balance • Potential changes in vegetation and fauna •Revision of the rehabilitation financial provision calculation, with an auditor's report on the amount available in the Trust.	Compliant	Isibonelo Colliery undertakes its annual submissions to relevant authorities as required by the EMPr. Proof of submission was made available during the audit.
			Three yearly submissions to relevant authorities of: Monitoring and performance assessment of the EMP in accordance with Regulation 55 of the MPRDA, and the results submitted to the DME.	Compliant	The mine conducts the Performance Assessment of the EMPr in accordance, latest audit was conducted by Geovicon Environmental (Pty) Ltd in 2020 and proof of submission dated 12 December 2020 was provided during the audit.

			Compliance monitoring		
Activity 11: Surface water monitoring					
Surface water monitoring	Surface water quality deterioration	Monitor surface water quality deterioration	Physical parameters to be monitored within surface water localities on a monthly basis at Isibonelo Colliery: <ul style="list-style-type: none">• Electrical conductivity (mS/m)• pH (pH units)	Compliant	The physical parameters mentioned are monitored within surface water monitoring points. This was confirmed on the latest Annual Water Quality Report by Aquatico Services (Pty) Ltd provided for the audit.
			Chemical parameters to be monitored within surface localities on a monthly basis at Isibonelo Colliery. <ul style="list-style-type: none">• Total Dissolved Solids (TDS),• Sulphates (SO4),• Nitrate (N),• Phosphate (P),• Chloride (Cl),• Total Alkalinity (CaCO3),• Fluoride (F),• Calcium (Ca),• Magnesium (Mg),• Sodium (Na),• Potassium (K),• Iron (Fe),• Manganese (Mn),• Aluminum (Al),• Vanadium (V),• Chromium (Cr)• Hexavalent Chromium (Cr), and• Nickel (Ni).	Compliant	All chemical variables are monitored within surface monitoring points on monthly basis. This was confirmed on the latest water quality results provided for the audit.
Activity 12: Groundwater Monitoring					
Groundwater monitoring	Groundwater quality deterioration	Monitor groundwater quality deterioration	Groundwater to be monitored as per the EMPr.	Compliant	The annual groundwater quality monitoring report compiled by Aquatico Services (Pty) Ltd (December 2020) provided for this audit showed that groundwater monitoring in undertaken as stipulated in the EMPr.
			Physical parameters to be monitored within groundwater localities on a quarterly basis at Isibonelo Colliery): <ul style="list-style-type: none">• Electrical conductivity• pH	Compliant	The physical parameters mentioned are monitored within groundwater monitoring points on quarterly basis. This was confirmed on the latest water quality report compiled by Aquatico Services (Pty) Ltd provided for the audit.

			<p>Physical parameters to be monitored within groundwater localities on a quarterly basis at Isibonelo Colliery):</p> <ul style="list-style-type: none"> • Total Dissolved Solids (TDS), • Sulphates (SO₄), • Nitrate (N), • Phosphate (P), • Chloride (Cl), • Total Alkalinity (CaCO₃), • Fluoride (F), • Calcium (Ca), • Magnesium (Mg), • Sodium (Na), • Potassium (K), • Iron (Fe), • Manganese (Mn), • Aluminum (Al), • Vanadium (V), • Chromium (Cr), • Hexavalent Chromium (Cr), • Nickel (Ni), • Copper (Cu), • Zinc (Zn), • Lead (Pb), • Cadmium (Cd) and • Molybdenum (Mo) 	Compliant	All chemical variables are monitored within groundwater monitoring points on quarterly basis. This was confirmed on the latest Quarterly Report compiled by Aquatico Services (Pty) Ltd provided for the audit.
			<p>Water level monitoring:</p> <ul style="list-style-type: none"> • Elevation (mamsl) – monthly, quarterly and once off annual. • Static water level (mbgl) - annual 	Compliant	The mine indicated that groundwater level monitoring is undertaken monthly, the readings were included in the mine's annual groundwater report for review.
Activity 13: Dust fallout monitoring					
Dust fallout monitoring	Dust generation	Monitoring dust fallout	Dust fallout monitoring takes place at the monitoring points shown in Figure 6-2. This happens on a monthly basis.	Non-Compliant	The dust fallout monitoring points shown in the latest dust monitoring report are reduced in number compared to the points shown in figure 6-2 of the approved EMPr report. It is also noted that monitoring localities as contained within Figure 6-2 are those of the adjacent Kriel and Syferfontein mines. However, it must be noted that Isibonelo Colliery has lodged and submitted an amendment of the EMPr in order to align this commitment with the current

					<p>dust fallout monitoring programme</p> <p>Approved dust fall out monitoring points</p>   <p>Dust monitoring points in the latest monitoring report</p>
Activity 14: Noise and vibration monitoring					
Noise and vibration monitoring	Unacceptable noise and vibrations from mining activities	Monitor noise and vibrations	Noise and vibration monitors are placed at strategic points around the opencast operations. These are managed by an independent noise and vibration specialist. Monitoring reports are sent to the mine on a monthly basis.	Compliant	According to Isibonelo Colliery's Noise and Vibration Monitoring Procedure under procedure specification the mine complies with this condition.
Activity 15: Environmental management inspections and audits					
Environmental performance	Environmental impacts	Internal environmental inspections	Internal environmental inspections are done once a week by the mine's Environmental personnel. An internal peer audit is done at least once a year by Anglo American Thermal Coal Environmental Services. This involves environmental personnel from other mine coming to audit the mine on the EMS and other environmental parameters.	Compliant	The Mine personnel indicated that environmental inspections are conducted on weekly basis. In areas of concerns the mine undertakes further investigation and compiles an action plan. It was also indicated that Environmental Performance Audits, Water Use License, Environmental Legal Audits are also conducted annually by the Anglo-American Thermal Coal Environmental Services. Proof of submissions to authorities were made available to confirm the compliance with the condition.

7.2 ISIBONELO COLLIERY BULK FUEL STORAGE EXPANSION PROJECT EMPR AUDIT, (30/5/1/2/3/2/1 (130) EM)

ENVIRONMENTAL ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURES	TIMEFRAME	FINDINGS	OBSERVATIONS/AUDIT EVIDENCE
1. Administrative Requirements (including monitoring and record keeping)				
Environmental Awareness, Roles and Responsibilities for Environmental Management	The overall responsibility for the environmental management and cost associated with the implementation of the EMP lies with Isibonelo Colliery.	All project phases	Noted	Management at Isibonelo Colliery understands that the environmental management and cost associated with the implementation of the EMP lies with Isibonelo Colliery. To this extent an environmental management system has been developed and is implemented to ensure compliance with commitments and conditions in the approved EMPR's and issued environmental authorisations.
	Ensure that all permanent and temporary employees and contractors adhere to the EMP at all times.		Compliant	Through the training, competency and awareness procedure, Isibonelo Colliery undertakes induction for all employees, contractors and visitors. During induction the attendees are made aware of the importance of the environmental management and compliance with the legal requirements to be met by the mine, which include the approved EMPR for the fuel storage tanks.
	Appoint a member of the contractor site personnel directly involved in the construction activities as the designated environmental officer (DEO).		Not Applicable	This EMPR commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	<u>Designated Environmental Officer (DEO)</u> The appointed DEO will be responsible for ensuring: The continual implementation of the EMP and weekly monitoring of activities to ensure compliance thereto; Environmental awareness among members of the workforce;	Construction phase	Not Applicable	This EMPR commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	That all contractor(s) and members of the workforce are aware of the requirements of the EMP;		Not Applicable	This EMPR commitment is Not Applicable as the bulk fuel storage facility is in its operational phase.
	Implementation of preventative and corrective actions in accordance with the requirements of the EMP and outcomes of environmental audits and incidents reported within the environmental incidents register;		Not Applicable	This EMPR commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Close out observations of non-compliance reported during the internal audits and incidents reported within the environmental incidents register on approval and implementation of suitable rectification / mitigation measures;		Not Applicable	This EMPR commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Reporting of environmental incidents in the environmental incidents register, in accordance with the requirements of the EMP, relevant environmental legislation and / or IC's incident procedures; and		Not Applicable	This EMPR commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Document records of the EMP's implementation as per the ISO9001 quality management guidelines as far as possible.		Not Applicable	This EMPR commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Appoint an environmental control officer (ECO) to verify compliance with the EMP through monthly site inspections and documentation review. This person can be a member of ICs environmental management department.		Not Applicable	This EMPR commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Provide evidence to the ECO that the EMP is being implemented and adhered to i.e. an EMP file which documents compliance to the EMP, contains records/ documentation of such compliance		Not Applicable	This EMPR commitment is not applicable as the bulk fuel storage facility is in its operational phase.

	and captures on site incidents. This must be regularly updated by the DEO and ECO respectively.			
Environmental Training and Induction	In terms of Section 2(h) and (j) of the NEMA and Section 2 of the MPRDA, ensure that all personnel involved in the project are aware of and familiar with the EMP, the key environmental issues associated with the BFSE project and consequences of non-compliance to the EMP.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	The EMP forms part of the formal site induction for all contractors, subcontractors and employees, preferably in their native language if required. The induction training will, as a minimum, include the following: The importance of conformance with all environmental policies;		Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	The environmental impacts, actual or potential, associated with the activities of the BFSE project;		Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	The environmental benefits of improved personal performance;		Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Employee and contractor roles and responsibilities in achieving conformance with the company's existing environmental policy and procedures;		Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	The mitigation measures required to be implemented when carrying out work activities; and		Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	The potential consequences of defying specified procedures.		Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Ensure that all contractors, sub-contractors and employees (site personnel) acknowledge their understanding of the EMP and environmental responsibilities by signing an induction attendance record.	Construction and operational phase	Compliant	Isibonelo Colliery indicated that all contractors, sub-contractors, employees and visitors are provided with induction training, which includes environmental management within the mining operation including the bulk storage facility.
	Conduct a site induction and regular toolbox talks for all site personnel (as per IC's site induction procedure).	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
Environmental Awareness	Implement an environmental awareness programme for all on site personnel describing the key environmental issues and potential impacts thereof.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
Duty of Care	To take reasonable measures to prevent pollution or degradation of the environment 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, minimise and rectify such pollution or degradation of the environment.	All project phases	Compliant	Prior to the commencement of the bulk fuel storage facility, Anglo Operations (Pty) Limited undertook environmental investigations, which led to the compilation and submission of a Basic Assessment Report and Environmental Management Programme that was approved by the relevant competent authority. During the construction and the current operational phase of the facility, Isibonelo Colliery has put in place a system that will ensure the protection of the environment from the mining operation and associated activities such as the bulk fuel storage facility. These include measures such as the environmental management system, water conservation, water pollution prevention, air quality management, waste management, biodiversity management, cultural and heritage site management.
2. Site establishment and management				
Site establishment commitments	Make available on site layout plans verifying the position of the contractor's camp, site access, stockpiles, waste disposal areas and other development infrastructure.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.

	Ensure that the site selected for the establishment of the construction area results in minimal impacts on the topography and the surrounding environment.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Keep the area to be disturbed by construction activities to a minimum, only large enough to carry out the necessary activities.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Establish only one contractor's camp which should be defined, fenced off and only permitted authorised personnel access to the contractor's camp.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Ensure that access to and from the site follows the existing road infrastructure where possible. These roads should also be maintained throughout the construction and operational phases. Deviations from the road are not permissible.	Construction phase	Compliant	Access to the bulk fuel storage facility is via the existing mine access road. It was noted during the site visit that the road is regularly maintained through grading and compacting. The mine's roads were demarcated with measures as earthen berms and employees are made aware through the mine's environmental awareness program that deviation from the roads is not allowed.
	If required, place temporary ablution facilities at a specific point near the construction area, with a recommended maximum ratio of 20 workers to one ablution facility.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Place the temporary ablution in such a way that they do not cause water or other forms of pollution and adequately maintained. Records of ablution facility maintenance should be retained on site. The contents of chemical toilets should be disposed of at an approved disposal site. No discharge into the environment is permitted.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Keep the construction area in an orderly state at all times. Littering is prohibited.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	No fires are permitted on site and instruction informing site personnel of such must be included in the site induction. Signs indicating this commitment must also be placed around the contractor's laydown area.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Firefighting equipment and associated signage must be placed on site. Firefighting and prevention training must be completed by member(s) of the site personnel as required.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Firefighting equipment must be securely placed and inspected monthly.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Effectively control the liberation of dust into the surrounding environment by the use of water spraying and / or other dust-allaying agents. Speed control must be implemented to avoid dangerous conditions, excessive dust or excessive deterioration of the roads.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Vehicles / heavy machinery must be regularly inspected to ensure good / safe working condition. No maintenance is permitted on site. All vehicle /equipment maintenance must be completed at Isibonelo Colliery's main workshop or at an offsite facility for such purposes as per Isibonelo Colliery's maintenance procedure where applicable.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Ensure the existing storm water management measures incorporate the proposed fuel storage tanks and are compliant with the necessary legislation (e.g., NWA GNR 704).	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Undertake fuel and chemical management for storage, handling and spillages in accordance with Section 4: Fuel and Chemical Management .	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Manage surface and groundwater impacts as per Section 9: Surface and Ground Water Management .	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.

	Manage spillages as per Section 5: Spill and Incidents Management.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Photographs should be taken of the project area at selected fixed points; before and during the construction	Construction phase	Not Applicable	No photographs were taken by the mine during the construction phase of the site. The mine however indicated that it has records of satellite images for the bulk fuel storage facility during its construction. Therefore, compliance could not be determined.
	Photographs should be taken of the project area at selected fixed points; during operation as well as at closure and rehabilitation.	Construction	Not Applicable	The mine is taking photographs of the site during its operation. Copies of the photographs are kept at the mine environmental offices.
Closure	On completion of all operational activities, complete rehabilitation as per Section 15 Rehabilitation.	Closure phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
3. Waste Management				
General waste management	General waste produced on-site includes: General waste (domestic and / or office waste); and	According to the mine's waste management procedure, domestic waste is considered general waste and include plastics, discarded food waste, cans, cardboard and packaging, polystyrene, building rubble, etc. The waste management procedure prescribes that general waste is to be stored in a GREEN (or green stripe) container (drum/ skip) with the exception of small office, which may use waste baskets (various forms). Regarding the bulk fuel storage facility, the mine indicated that due to the nature of the facility (no offices), no domestic waste is generated at the site. Employees working at the facility uses the nearby offices and hence waste generated by the employees or any person working at the facility is managed at the used offices in line with the mine's waste management procedure.		
	Construction waste (rubble, unused material etc.).	This condition is outside of the audit period and hence considered Not Applicable.		
	Train and inform all on-site personnel regarding waste minimisation, management and disposal.	All project phases	Compliant	Isibonelo Colliery conducts induction for all their employees, contractors and sub-contractors. During the induction, the attendees are informed of waste management hierarchy which details how waste is minimised, managed and disposed of. Isibonelo Colliery also conducts toolbox talks and environmental monthly topics, which are used to make employees, contractors and sub-contractors aware of the mine's waste management measures at the mine. Proof of training on waste and disposal management for employees at the bulk storage facility were produced by the mine. A few issues (hydrocarbon spills, leakages, littering and improper handling of fuels) were however noted during the site visit that raised a concern with regard to the effectiveness of the training and environmental awareness conducted by the mine. A few issues (hydrocarbon spills, littering and improper handling of fuels) were however noted during the site visit that raised a concern with regard to the effectiveness of the training and environmental awareness.
	Development and / or implementation of a waste management plan to minimise waste generation during building activities e.g. Isibonelo Colliery's waste management procedures (Refer to Report no. JW176/09/B568 of the EMS).	All project phases	Compliant	Isibonelo Colliery, which the bulk fuel storage facility forms part of, has developed and implemented a Waste Management procedure. It was confirmed through site observation that the mine has put in place measures to ensure implementation of the procedures.
	Littering, burying and burning of waste are prohibited on the construction site.	All project phases	Not Applicable	This condition is outside of the audit period and hence considered Not Applicable. The construction of the facility is complete. It must however be noted that the mine's waste management procedure outlines ways of separating, storing and disposing waste at Isibonelo Colliery. By undertaking that, littering should be easily avoided.

				Environmental Awareness and induction are also conducted for every employee, contractor and visitors on waste management.
	An adequate number of general waste receptacles must be arranged around the construction site to minimise littering. These receptacles will be removed from the sites on a regular basis for disposal at a registered or licensed disposal facility so as to prevent any windblown waste and / or visual disturbance.	All project phases	Compliant	Waste skips were noted during the site visit. Waste is collected and captured as an incident at the Isibonelo Colliery and requires clean up. However, of concern was that littering was noted around the nearby offices.
	Records of appropriate disposal (e.g. waybills and safety disposal certificates) must be furnished upon receipt.	All project phases	Compliant	Isibonelo Colliery appointed Phambili Services (Pty) Ltd, a registered waste collector, for the collection and disposal of their waste. Waste manifests, waste removal documents and certificates of safe disposal were made available by the mine and are kept on site. However, littering was noted around the nearby offices.
	Bins should be clearly marked for the different waste streams, lined for efficient control and safe disposal, as well as covered.	All project phases	Compliant	According to the waste management procedure, the following storage methods are used for the different types of waste: General waste-Green (or green stripe) container (drum/ skip) Hazardous waste (oily, combustible/ chemical) - Red (or red stripe) containers or directly into the Red skips provided. Fluorescent Tubes-Fluorescent tube/ lamp collection boxes. Scrap metals- White containers/ skips. Wood Material- Blue container (drum/ skip). Regarding the bulk fuel storage facility, the mine indicated that due to the nature of the facility (no offices), no domestic waste is generated at the site. Employees and any other person working at the facility uses the nearby offices and hence waste from the employees is managed at the offices in line with the waste management procedure. The mine indicated that waste management at the offices is undertaken in line with the mine's waste management procedure, which is in line with the commitment in the approved EMP. However, of concern was the littering that was noted around the nearby offices.
	No general waste is to be disposed of at the spoil area.	All project phases	Compliant	It was noted during the site visit that no waste within these areas and does not form part of waste management demarcated areas for waste.
	Hazardous waste is not to be mixed or combined with general waste designated for disposal at the municipal landfill site.	All project phases	Compliant	Isibonelo Colliery's waste management procedure outlines the separation of all waste generated at Isibonelo Colliery. In so doing, this prevents the mixing of general and hazardous waste. Induction, environmental awareness and toolbox talks benefits the mine from ensuring that mixing of waste is forbidden. It was noted during the site visit that waste is separated at the mine's offices.
	Materials from the removal of existing structures must be recovered, recycled and re-used where possible.	All project phases	Not Applicable	This condition is outside of the audit period and hence considered Not Applicable. To date, no infrastructure has been removed. It must however be noted that any recyclable materials are collected by the contractor for recycling with waste manifest available for review.

Hazardous waste management	Hazardous waste generated on-site may include: Oil, petrol, diesel, paints, solvents and other lubricants; Containers that contain chemicals, lubricating oils, greases or bitumen; and Equipment, steel, other material (rags), soils and water contaminated by hazardous substances (oil, fuel, grease or chemicals).	All project phases	Compliant	The mine's Waste management procedure for Isibonelo Colliery, has confirmed that most of the listed waste are considered as hazardous waste. It was however noted that the petrol and diesel was not provided in the list, however chemicals were indicated, which is assumed to include petrol and diesels. The list also includes soils and material contaminated by the above waste, which in the case of the bulk fuel storage facility, will include the soil or material contacted by any chemical or oils from the facility.
	Hazardous waste must be disposed of using techniques appropriate to the situation as per Isibonelo Colliery's waste management procedure or agreement with the waste disposal contractor. Alternatives e.g. remediation techniques must be investigated prior to waste disposal.	All project phases	Compliant	According to the Waste management procedure for Isibonelo Colliery, hazardous waste is disposed or collected in RED (or red stripe) containers or directly into the red skips provided at the mine. The procedure further indicate that hazardous waste may only be disposed of at approved licensed hazardous waste disposal facilities by registered waste-collecting contractors. Phambili Services (Pty) Ltd has been appointed by Isibonelo Colliery for the disposal of all hazardous waste from the mine, which will include any hazardous waste from the bulk fuel storage facility. Safe disposal certificates were produced by the mine for their waste disposal. Holfontein landfill is used for the disposal of hazardous waste. The mine also utilizes a Hydrocarbon Converter and Green Lock which neutralizes oils and other hydrocarbons by encapsulating hydrocarbon chains in a silica matrix resulting in harmless products for safe disposal.
	Hazardous waste bins must be clearly marked, color coded, stored in a contained area (or have a drip tray) and covered (either stored under a roof or the container must be covered with a lid).	All project phases	Compliant	Hazardous waste bins were noted during the visit located on cement lined surfaces with closable lids available at the bulk fuel storage area.
	No hazardous waste is to be disposed of within the spoil stockpile areas.	All project phases	Compliant	Waste skips were noted during the site visit. Waste is collected and captured as an incident at the Isibonelo Colliery and requires clean up. However, littering was noted around the nearby offices.
	A hazardous waste safety disposal certificate must be obtained from the waste removal company as evidence of correct disposal.	All project phases	Compliant	Isibonelo Colliery appointed Phambili Services (Pty) Ltd to collect and dispose waste from the mine, which include any hazardous waste from the bulk fuel storage facility. The mine produced waste disposal certificates from Holfontein landfill as proof of safe disposal of waste at a registered or licensed disposal facility.
	Hazardous waste to be transported to a central point for collection by the waste disposal company should be managed accordingly. The on-site personnel must be cognisant of the following: Transport of hazardous materials must be done in accordance with applicable legislative controls;	All project phases	Compliant	Due to unpractical distances between the different sections of the mine, several temporary waste collection points are used for the collection of hazardous waste at the mine. These include the hard park area. The waste collecting-contractor collects waste from all these sites for safe disposal at the registered hazardous waste disposal site.
	The requirements for a waste management license as per the National Environmental Management Waste Act (No. 59 of 2008) for temporary storage of waste (including waste transfer facilities) must be adhered to;		Compliant	As a requirement from this EMPr, no hazardous waste will be stored on-site in excess of 35m³. According to GN 921 of the NEMWA, a waste management licence must be obtained for the temporary storage of waste in excess of 80m³. Hence the temporary storage of waste at Isibonelo Colliery does not require a Waste Management Licence. However, Isibonelo Colliery adhere to the handling, storage and transportation of chemical procedure (section 5.4 of this procedure) developed for the temporary storage of waste.
	Relevant SANS Codes of Practice should be adhered to; and		Compliant	Isibonelo Colliery indicated that the Bulk Fuel Storage facility complies with the SANS 10234:2008 Globally Harmonized System of classification and labelling of chemicals (GHS) which includes the following: ➤ MSDS

				<ul style="list-style-type: none"> ➤ The name, address and business telephone number of the manufacture or importer ➤ The identity and proportion disclosed for the chemical ingredient ➤ Hazard pictogram consistent with the correct classification of the chemical ➤ Hazard statement signal word and precautionary statement that are consistent with the correct classification(s) of the chemical ➤ Information about hazards, the first aid and emergency procedures for the chemical ➤ The expiry date of the chemical <p>Evidence was provided in a form of a screen shot of the database. All MSDS at the mine are available from stores personnel.</p>
	Hazardous waste should not be stored on-site in excess of 35m ³ ;		Compliant	As a requirement from this EMPr, no hazardous waste will be stored on-site in excess of 35m ³ . According to GN 921 of the NEMWA, a waste management licence must be obtained for the temporary storage of waste in excess of 80m ³ . Hence the temporary storage of waste at Isibonelo Colliery does not require a Waste Management Licence. However, Isibonelo Colliery adhere to the handling, storage and transportation of chemical procedure (section 5.4 of this procedure) developed for the temporary storage of waste.
	Where applicable the most stringent code of practice must be complied with.		Compliant	Isibonelo Colliery indicated that the Bulk Fuel Storage facility complies with the SANS 10234:2008 Globally Harmonized System of classification and labelling of chemicals (GHS) which includes the following: <ul style="list-style-type: none"> ➤ MSDS ➤ The name, address and business telephone number of the manufacture or importer ➤ The identity and proportion disclosed for the chemical ingredient ➤ Hazard pictogram consistent with the correct classification of the chemical ➤ Hazard statement signal word and precautionary statement that are consistent with the correct classification(s) of the chemical ➤ Information about hazards, the first aid and emergency procedures for the chemical ➤ The expiry date of the chemical <p>Evidence was provided in a form of a screen shot of the database. All MSDS at the mine are available from storage personnel.</p>
	Should general waste be mixed with hazardous waste, it will be considered hazardous waste and must be disposed as appropriate.	All project phases	Noted	Management at Isibonelo Colliery understands that general waste must not be mixed with hazardous waste. To this extent all employees, contractors and sub-contractors are made aware of this commitment through the mine's induction, environmental awareness and toolbox talks. <p>Isibonelo Colliery's waste management procedure outlines the separation of all waste generated at Isibonelo Colliery. In so doing, this prevents the mixing of general and hazardous waste.</p>
	<p>The recycling of used oils (i.e., contaminated and degraded as a result of its usage) should be investigated as a preference to disposal at local disposal facilities. Recycling can be implemented through contact with the Rose Foundation, which manages the environmentally acceptable collection, storage and recycling of used lubricating oil in South Africa. Alternatively, national oil recycling association of South Africa (NORA-SA) can be contacted directly to establish storage and collection protocol. Contact Details:</p> <p>Rose Foundation: (021) 448 7492; or NORA-SA: 0860 NORASA (667 272)</p>	All project phases	Compliant	Isibonelo Colliery uses Bomamba Trading (Pty) Ltd for the recycling of used oils, which is a registered member with Rose Foundation. <p>Note also that the mine considers oil contaminated other material/substance as hazardous waste, which is removed by Phambili Services (Pty) Ltd for safe disposal.</p>

	A spill or incidents should be managed according Section 5: Spill and Incident Management .	All project phases	Compliant	<p>All spills or incidents at Isibonelo Colliery are managed in accordance to the mine's Handling, Storage and Transportation of Chemical Procedure (Doc No. AATC002390).</p> <p>All spills and incidents are reported on the Enablon system and assigned to the appropriate personnel for further actioning and close out.</p>
4. Fuel and Chemical management				
Storage Facility Establishment	Use the smallest area needed for temporary fuel and chemical storage, and requiring the least disturbance on existing facilities, flora, fauna, water sources and topsoil. Handle topsoil as described in Section 6: Stockpile Management .	Construction phase	Not Applicable	<p>This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.</p> <p>It was noted that since the bulk fuel storage facility area was already disturbed before construction, no topsoil stripping was conducted. Soils removed from the commencement of the mine's construction will be used for the rehabilitation of the area.</p>
	Indicate the location of the temporary fuel and chemical storage area on the layout plans determined by the contractor.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Securely fence and lock the temporary storage area(s) to accommodate all hazardous substances such as fuel, oils and chemicals. The temporary storage area floor must be an impermeable surface and suitably bunded so as to retain 110% of all the container volumes.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	The permanent storage area floor of the Bulk Fuel Storage tanks to be installed, must be an impermeable surface and suitably bunded so as to retain 110% of all the container volumes.	Operational phase	Compliant	<p>According to the mine's Handling, storage and transportation of chemical procedure (clause 5.2.1), hazardous material will be stored in an area which has an impervious floor, and is enclosed by a bund wall or trench. The bund wall must have the capacity to contain at the minimum 110% of the volume of the largest container stored within, but where several containers are stored within one bund, a reasonable additional volume should be provided. The place must be well ventilated.</p> <p>During the site visit it was confirmed that the bulk fuel storage facility was designed and constructed to comply with the commitment.</p>
	Label all liquids stored on site for ease of identification.	Construction and operational phase	Compliant	<p>Handling, storage and transportation of chemical procedure (5.2.5)- Hazardous chemicals are not allowed to be stored in an unlabeled plastic household container.</p> <p>It was noted during a site visit that all liquids stored on site were labelled. MSDS of all chemicals are at the demarcated areas.</p>
	Display "no smoking" and "no naked flame" signs in and around the construction area, especially near the hazardous material store.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Display "no smoking" and "no naked flame" signs in and around the Bulk Fuel Storage Tanks.	Operational phase	Compliant	Signs of "no smoking" and "no naked flame" were displayed at the bulk fuel storage facility. This was confirmed during a site visit.
Management of storage facilities	Maintain oil traps or interceptors on a regular basis and maintain records.	Construction and operational phase	Compliant	The mine indicated that an oil separator has been installed at the bulk fuel storage facility, with maintenance thereto undertaken on a regular basis. Maintenance works are recorded in work orders and such records are maintained on the Ellipse system.
	Material safety data sheets (MSDS) for on-site chemicals, hydrocarbon materials and / or waste and hazardous substances must be readily available. MSDS must include mitigation measures to ameliorate potential environmental impacts which may result from a spill, incorporating health and safety mitigation measures.	Construction and operational phase	Compliant	Material safety data sheets for on-site chemicals, hydrocarbon materials and hazardous substances are readily available. The material safety sheets included mitigation measures to ameliorate potential environmental impacts which may result from a spill, incorporating health and safety mitigation measures.

	Strategically place (above ground) fire extinguishers on site and near the temporary hazardous material store. Train key personnel on basic firefighting skills.	Construction and operational phase	Compliant	Firefighting equipment (fire-extinguishers) are provided at the bulk fuel storage area, this was confirmed during the site visit. Isibonelo Colliery has a dedicated fire team trained on firefighting.
	Use suitable secondary containment in the form of drip trays when using fuels, oils or other chemicals outside of a bunded area.	Construction and operational phase	Compliant	Dip trays are provided at the bulk fuel storage area, this was confirmed during the site visit.
	Undertake regular inspections of the temporary fuel and chemical storage facilities.	Construction phase	Not Applicable	This EMPr commitment is Not Applicable as the bulk fuel storage facility is in its operational phase.
	Undertake regular inspections of the Bulk Fuel Storage tanks and associated bunds.	Operational phase	Compliant	According to the handling, storage and transportation of chemical procedure (clause 5.4.3), all bunded areas and sumps will be regularly inspected for contamination and water. Isibonelo Colliery indicated that it undertakes six monthly and annual inspections done by Diesel Engineer at the Bulk Fuel Storage tanks and associated bunds. Inspection is done once a week, but only deviations would be captured as an environmental incident level 1 from Environmental, this would normally be small spills or such. Larger issues are picked up by the monthly, 6 monthly and annual inspections and then formal cost proposals would be requested.
	In the event of rain dispose of the contaminated water contained within the bund as hazardous waste as per the waste management procedure. Alternatives such as the use of an oily water separator and further water treatment processes can be considered on a case by case basis.	Construction and operational phase	Compliant	The mine indicated that the bund is fitted with a bund wall valve that is connected to an oil trap. No event where contaminated water contained within the bund was released was experienced by the mine during the audit period.
5. Spill and Incidents Management				
Incident / spill management	If a spillage of a hydrocarbon, chemical or hazardous substance occurs, immediately report all incidents to the responsible DEO. The spill must be cleaned as soon as practically possible using absorbent material and disposed of as hazardous waste.	Construction and operational phase	Compliant	Isibonelo Colliery developed an EMS Incident Management Procedure (Doc. No. AATC 026040). Section 5.1 of the procedure explains the steps to be taken if an incident occurred. Spillages of hydrocarbons, chemical and hazardous substances are managed and cleaned in accordance to the Isibonelo handling, storage and transportation of chemical procedure (Doc. No. AATC 002390). Isibonelo Colliery indicated that all spills and incidents are reported on the Enablon system and assigned to the appropriate personnel for further actioning and close out.
	A sufficient spill kit(s) must be readily available on site at all times during construction. An additional spill kit should be brought onto site for the operational phase.	Construction and operational phase	Compliant	Spill kits are made available at the bulk fuel storage area. This was confirmed during site visit.
	Complete an incidents report (as per the Isibonelo Colliery's EMS procedures) should a spillage or leakage of a chemical, hydrocarbon or hazardous substance occur.	Construction and operational phase	Compliant	Section 5.3.1 of Isibonelo EMS Incident Management Procedure (Doc. No. AATC026040) describes the details of capturing an incident. The mine indicated that incident investigation takes place within Enablon system.
	Update the emergency preparedness and response procedure to include the project site and ensure that Isibonelo Colliery's EMS procedure is readily available should an incident or spillage occur.	Construction and operational phase	Compliant	Isibonelo Colliery has implemented the Isibonelo Emergency Preparedness Procedure (Doc. No. AACT 026045). According to the procedure, of which a copy was made available during the review, the current procedure will be reviewed in June 2021 and should an update be required such will be conducted. Despite the procedure not giving a specific reference to the bulk fuel storage area or any other section of the mine, the procedure provides for actions to be undertaken in all emergency situations that may occur throughout the mining area.

	Notify the relevant authorities of a major spillage (Mpumalanga DEDET, Mpumalanga DWA and the Mpumalanga DMR) and of the associated actions undertaken to contain the spillage.	Construction and operational phase	Noted	Isibonelo Colliery indicated that no major spillage was reported at the bulk fuel storage facility over the audit period.
6. Stockpile management				
Topography commitments	Stockpile the topsoil removed from the construction area in a designated area as selected by Isibonelo Colliery. The stockpile should be located away from seepage zones, flood lines, water courses and other ecological sensitive areas.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Shape stockpiles to fit the natural topography and utilise erosion prevention methods as far as practically possible. Design slopes not to exceed a vertical: horizontal ratio as defined Isibonelo Colliery's approved EMPR.	Construction and operational phase	Not Applicable	The bulk fuel storage facility was constructed on an already disturbed area hence no soil stripping was undertaken. All topsoil removed from the site was placed in the mine's topsoil stockpiles.
	Should these stockpiles become a source of windblown dust, dust prevention mitigation measures such as water spraying or re-vegetation with indigenous plant species should be implemented.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Place hazardous material stockpiles on hard standing surfaces, bunded and covered.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
Rehabilitation	On completion of all operations, rehabilitate the stockpile area as per Section 15: Rehabilitation .	Construction and operational phase	Not Applicable	No topsoil stripping and stockpiling was conducted during the audit period, hence the commitment is not applicable.
7. Soil, Land Use and Land Capability				
Soil contamination	Ensure that the equipment and vehicle storage area is hard standing in the form of compacted gravel.	Construction phase	Not applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	A drip tray must be utilised for equipment and / or vehicle stored over a long period of time as well as vehicles or equipment which are leaking hydrocarbons until such a time that they are repaired.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Store used fuels, oil, hydraulic fluids, paints, solvents, and grease in drums or other suitable containers and on a hard standing surface. Containers should be labelled, sealed and, when empty, removed from the site to an appropriate registered disposal site or recycling facility. Under no circumstances will these substances be disposed of on site or into the surrounding environment.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Demarcate a designated area for the mixing and storing of concrete. This area should be hard standing and contain any potential runoff. Prohibit mixing or storing of concrete outside the designated areas.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Remove soils that have been contaminated during the construction and operational phases as soon as practical and dispose of in an appropriate manner.	Construction and operational phase	Compliant	In terms of the approved EMPr and the mine's waste management procedure, contaminated soils are classified as hazardous waste. All hazardous waste from the mine including the bulk storage facility is collected by Phambili Services.
	Should a spillage or leakage of a hydrocarbon, chemical or hazardous substance occur, clean-up the spill / leakage as per Section 5: Spill and Incident Management .	Construction and operational phase	Compliant	Isibonelo Colliery developed an EMS Incident Management Procedure (Doc. No. AATC 026040). Section 5.1 of the procedure explains the steps to be taken if an incident occurred. Spillages of hydrocarbons, chemical and hazardous substances are managed and cleaned in accordance to the Isibonelo handling, storage and transportation of chemical procedure (Doc. No. AATC 002390). All spills and incidents are reported on the Enablon system and assigned to the appropriate personnel for further auctioning and close out.

	Prohibit repair and washing of vehicles or equipment on site. All washing and repair of vehicles and equipment is to be undertaken as per the Isibonelo Colliery's vehicle maintenance and inspection procedures at the designated workshop (e.g. vehicle maintenance yard).	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
Loss of soil	Control the liberation of dust into the surrounding environment by the use of water spraying and / or other dust-allaying agents. Strictly control the speed of vehicles to avoid dangerous conditions, excessive dust or excessive deterioration of the roads utilised.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Adequately manage stockpile areas and include in Isibonelo Colliery's storm water management system so as to prevent soil erosion.	Construction and operational phase	Compliant	Since the site had already been disturbed, no topsoil stripping and stockpiling was conducted. Topsoil stockpile during the commencement of the mine will be used for the rehabilitation of the site. The mine has developed a topsoil management procedure that is used for the management of topsoil at the mine and indicated that stockpile areas are adequately managed.
	Prevent erosion and loss of soil by minimising the areas exposed to surface water runoff. Where necessary, implement erosion stabilizing actions e.g., gabions or re-vegetation, to prevent further deterioration.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Fill, compact and restore to as natural a state as possible any erosion channels which will develop during the construction period.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
Rehabilitation	On completion of operations, rehabilitate the project area as per Section 15: Rehabilitation.	Closure phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
8. Fauna and Flora				
Vegetation Removal	Ensure that no rare or endangered fauna or flora are removed or disturbed during the construction phase of the project. Should a rare or endangered species be identified, it is to be removed and relocated following receipt of the correct permit and / or license from the relevant government department. Documentation and photographic evidence of this should be kept on site for record purposes.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Keep records of vegetation clearing and excavation on site.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
Vegetation management	Prohibit the use of topsoil that is potentially contaminated with seeds of exotic plants for rehabilitation. The Treat the topsoil appropriately to remove the threat of subsequent plant infestation.	Construction and operational phase	Not Applicable	None of the topsoil were used by the mine at the bulk fuel storage facility. The mine through the rehabilitation procedure ensures that the topsoil are seeded to limit contamination with exotic plants, hence avoid the need to treat the topsoil during rehabilitation.
	Develop and / or implement Isibonelo Colliery's weed / alien invasive plant management plan.	Construction and operational phase	Compliant	The Rehabilitation Procedure indicates that weeds must be monitored and alien species must be eradicated. Once a year a weed inventory must be updated to establish management and budget information. The mine appointed Shangoni Management Services (Pty) Ltd to compile a detailed Alien Invasive study and management plan across its 1935-hectare area. The Invasive Species Management Plan is based on the monitoring, control and eradication plan guideline. The alien invasive study and management plan determines the areas to be managed and how and when.

	Implement Isibonelo Colliery's Biodiversity Action Plan.	Construction and operational phase	Compliant	Isibonelo Colliery uses a Biodiversity Action Plan compiled in 2004, which details the action plan to be undertaken by the mine. The mine appointed Fauna and Flora International (FFI) to conduct a biodiversity peer review report in October 2010. The report provided a summary of key results, observations and recommendations to be implemented on the Biodiversity Action Plan. The mine also indicates Shangoni Management Services (Pty) Ltd was appointed to compile a detailed Alien Invasive study and management plan across its 1935-hectare area. The Invasive Species Management Plan is based on the monitoring, control and eradication plan guideline. The alien invasive study and management plan determines the areas to be managed and how and when.
	Implement Isibonelo Colliery's Rehabilitation Plan where practical.	Construction and operational phase	Not Applicable	Isibonelo Colliery is undertaking its rehabilitation in line with the mine's Rehabilitation procedure (Doc. No. AATC 002367). No rehabilitation has been necessary at the bulk fuel storage facility since the facility is still operational.
	Handle herbicides and pesticides that may be required as per the weed management control plan with care and keep locked away with strict access control measures in place. The volumes and types of these chemicals must be documented and kept updated. Only a person licensed to use such chemicals is permitted to do so on site.	Construction and operational phase	Not Applicable	This EMPr commitment is not applicable to Isibonelo Colliery as an external service provider is appointed for the management of alien and invasive species control.
Fauna Management	Report any mammals, birds, reptiles or amphibians encountered on site to the environmental offices immediately.	Construction and operational phase	Compliant	Fauna management and education forms part of the environmental induction training which makes provision for the reporting of fauna.
	If required, implement fauna relocation recommendations stipulated by the department. Retain records of removal and relocation.	Construction and operational phase	Compliant	According to the mine personnel and since the area was disturbed before its establishment, no relocation of fauna was undertaken.
	Prohibit the hunting or killing of any fauna and education thereof should form part of the environmental management training e.g. site induction and the environmental awareness programme.	Construction and operational phase	Compliant	Fauna management and education forms part of the environmental induction training, which is used to prohibit hunting or killing of fauna.
9. Surface and Ground Water Management				
Surface and Ground Water management	Undertake construction activities from a designated contractor lay-down area, which must be clearly demarcated on the site plans.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Construct berms to divert clean water around any dirty area such as materials storages facilities, cement mixing areas and ablution facilities.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Ensure adequate water drainage at the contractor's camp to prevent pooling of water.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
	Ensure the existing storm water management measures incorporate the proposed BFSE project and are compliant with the necessary legislation (e.g., NWA).	Construction and operational phase	Compliant	The bulk fuel storage area is located within the affected water system, which is collected into the dirty water dam for reuse, which ensures that pollutants such as contaminated water, cement, fuels or oils are not discharged into the surrounding environment and / or a water resource. Water from the containment bund (when valve is opened) drains through an oil separator. All oils and hydrocarbons are removed via the waste contractor (eMalahleni Oils) with the affected water contained within the affected water system for re-use.
	Upgrade Isibonelo Colliery's existing emergency response plan (if necessary) to include activities associated with the BFSE project.	Construction and Operational phase	Compliant	Isibonelo Colliery has implemented the Isibonelo Emergency Preparedness Procedure (Doc. No. AACT 026045).

				Despite the procedure not giving a specific reference to the bulk fuel storage area or any other section of the mine, the procedure provides for actions to be undertaken in all emergency situations that may occur throughout the mining area.
	Prohibit discharge of pollutants such as contaminated water, cement, fuels or oils into the surrounding environment and / or a water resource.	Construction and Operational phase	Compliant	<p>The bulk fuel storage area is located within the affected water system, which is collected into the dirty water dam for reuse, which ensures that pollutants such as contaminated water, cement, fuels or oils are not discharged into the surrounding environment and / or a water resource.</p> <p>Water from the containment bund (when valve is opened) drains through an oil separator. All oils and hydrocarbons are removed via the waste contractor (eMalahleni Oils) with the affected water contained within the affected water system for re-use.</p>
	Undertake regular inspections of the construction area and associated infrastructure (especially hazardous chemical storage areas) to prevent leakages and spillages.	Construction phase	Not Applicable	This EMPr commitment is Not Applicable as the bulk fuel storage facility is in its operational phase.
	Undertake regular inspections and maintenance of the Bulk Fuel Storage tanks to prevent leakages and spillages.	Operational phase	Compliant	Isibonelo Colliery indicated that it undertakes six monthly and annual inspections done by Diesel Engineer at the Bulk Fuel Storage tanks and associated bunds. Inspection is done once a week, but only deviations would be captured as an environmental incident level 1 from Environmental, this would normally be small spills or such. Larger issues are picked up by the monthly, 6 monthly and annual inspections and then formal cost proposals would be requested.
	Should an oil-water separator (or similar system) be utilised on site, test all water for total petroleum hydrocarbons prior to discharge into the storm water system. Capture and dispose of or recycle contaminated water as appropriate.	Construction and operational phase	Compliant	Water from the containment bund (when valve is opened) drains through an oil separator. All oils and hydrocarbons are collected and removed via the waste contractor (eMalahleni Oils) with the supernatant draining towards Ernie's dam, before being pumped to Vaskop Dam for containment and reuse. Test for petroleum hydrocarbons is conducted at the workshop and Vaskop dam according to the quarterly water quality assessment report prepared by Aquatic Scientific (Pty) Limited.
	Manage spills and leaks as per Section 5: Spill and Incident Management .	All project phases	Compliant	<p>All spills or incidents at Isibonelo Colliery are managed in accordance with the mine's Handling, Storage and Transportation of Chemical Procedure (Doc No. AATC002390).</p> <p>All spills and incidents are reported on the Enablon system and assigned to the appropriate personnel for further actioning and close out.</p>
Rehabilitation	On completion of all operations, rehabilitate the project area as per Section 15: Rehabilitation .	Closure phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.
10. Air Quality				
Air quality commitments	Implement dust suppression measures such as water spraying, where and / or when necessary.	All project phases	Compliant	Mine water from Vaskop Dam is used for dust suppression purposes. Water bowsers are used for the spraying of water along the roads including roads within the vicinity of the bulk fuel storage facility.
	Minimise dust entrainment from vehicular movement by road wetting and by implementing speed limits.	All project phases	Compliant	<p>Mine water from Vaskop Dam is used for dust suppression purposes. Water bowsers are used for the spraying of water along the roads including roads within the vicinity of the bulk fuel storage facility.</p> <p>Speed limit signage is used at the mine to control speed.</p> <p>The Neclaus Auto Enterprise System is also used by the mine to monitor speeds of mine vehicles. The system monitoring is driver coded and can hence monitor each employee. Speed exceedances are recorded and reported to mine management.</p>
	Construction vehicles bearing open loads of potentially wind-borne materials must be covered or wet down in order to minimise dust entrainment.	All project phases	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in its operational phase.

	Ensure that all equipment and vehicles are serviced regularly. Vehicle and machinery exhaust systems should be maintained to ensure integrity and reliability.	All project phases	Compliant	The mine indicated that all mine vehicles are on a scheduled maintenance programme, with records of maintenance kept.
	Prohibit burning of waste (such as plastic bags, cement bags and litter) or vegetation on site.	All project phases	Compliant	The mine indicated that burning of waste is prohibited and individuals and contractors would be fined and HR action taken as this poses a serious risk to our operations infrastructure.
	Implementation of a complaints register on site according to Isibonelo Colliery's EMS procedure.	All project phases	Compliant	Isibonelo Colliery has a complaints system, with all complaints recorded onto ENABLON for corrective action. No complaints relating to the bulk fuel storage facility.
	All the diesel tank installations at the Isibonelo Colliery are to be fitted with vapour recovery units.	Operational phase	Non-Compliant	The mine indicated that the diesel storage installations are fitted with breathers on diesel tanks. This is to elevate pressure within the diesel tanks as a safety measure to prevent diesel becoming pressurized to the point of combustion. Amendment of this commitment has been included in the application for an amendment that is in preparation to be submitted to the DMRE. The application is still being considered by the DMRE and decision is forthcoming.
11. Noise				
Noise commitments	Limit construction working hours as per the OHSA and the Mine Health and Safety Act (MHSA).	All project phases	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase. It however be noted that the contractor met the Isibonelo Colliery Health and Safety Standards as aligned with the Mine Health and Safety Act, e.g., relating to construction hours. PPE is a standard requirement on the mine.
	Fit construction vehicles and equipment generating excessive noise with noise abatement measures where appropriate and undergo regular maintenance to ensure optimum efficiency during operation.	All project phases	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
	Provide construction workers with the appropriate personal protective equipment (PPE) in noisy areas as per the OHSA. Maintain records of the PPE supplied to employees for record keeping purposes.	All project phases	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase. It however be noted that the contractor met the Isibonelo Colliery Health and Safety Standards as aligned with the Mine Health and Safety Act, e.g., relating to construction hours. PPE is a standard requirement on the mine.
	Implementation of a complaints register on site according to Isibonelo Colliery's EMS procedure.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
	Training and induction requirements must be undertaken as outlined in Section 1: Administration Requirements .	Construction and operational phase	Compliant	Through the training, competency and awareness procedure, Isibonelo Colliery undertakes induction for all employees, contractors and visitors. During induction the attendees are made aware of the importance of the environmental management and compliance with the legal requirements to be met by the mine, which include the approved EMPr for the fuel storage tanks.
12. Sites of Archaeological and Cultural Significance				
Establishment and Construction	If a grave, artefact, or any site of archaeological importance is uncovered on site, stop work in the vicinity immediately. Contact the SAHRA (Jenna Lavin/Colette Scheermeyer 021 462 4502), who will appoint an archaeological consultant. In the case of a grave, exhumation and reburial may be required according to the National Heritage Act	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
	Take reasonable precautions to prevent any person from removing or damaging any such article and immediately, upon discovery thereof, inform the DEO of the discovery.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.

	If the newly discovered heritage resources prove to be of archaeological or paleontological significance, a Phase 2 rescue operation may be necessary to be determined by the responsible SAHRA officer).	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
	Resume work only once clearance is given in writing by an archaeological consultant.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
13. Health and Safety				
Safety of Site Personnel	Appoint a health and safety officer (HSO) who will continuously monitor safety conditions during construction activities. Implement the Mine Health and Safety Act on site.	Construction and Operational phase	Compliant	Isibonelo Colliery has an appointed Health and Safety Officer on the mine who is responsible for ensuring that the operation at the bulk fuel storage facility is compliant with the requirements from the Mine Health and Safety Act.
	Ensure that all employees are supplied with the correct PPE and it is used (worn) and signs indicating PPE requirements must be placed on site as appropriate.	Construction and Operational phase	Compliant	Employees working at the bulk fuel storage facility are supplied with the correct PPE and instructed to use them. All employees are trained and informed on PPE during induction. Signs indicating PPE requirements placed on site as well as signage board indicating noise protection for employees working on generators at the bulk fuel storage areas was noted onsite. The mine personnel further indicated that all personnel entering the mining must wear be on PPE at all times.
	Train all on site personnel handling chemical or hazardous substances in the use of such substances and the environmental, health and safety consequences of incidents.	Construction and Operational phase	Compliant	Induction training includes hazardous chemical training. Store's personnel are further trained on the handling of diesel.
	Train employees in health and safety policies, emergency preparedness, and HIV and AIDS i.e. Anglo Coal Social Labor Plan.	Construction and operational phase	Compliant	Health and safety, emergency preparedness and HIV and AIDS are covered during induction training process. Training records are maintained by the mine at their training office.
	Provide in-service training to employees where applicable.	Operational phase	Compliant	Isibonelo Colliery employees undergo annual refresher training and mandatory annual induction. Training records are maintained at the training department.
	Conduct toolbox talks on a daily basis pertaining to health and safety risks onsite.	Operational phase	Compliant	Toolbox talks are undertaken on a daily and weekly basis. Monthly topics are also distributed via email and the placement of poster on notice boards. Examples of monthly topics were provided for review.
	Restrict public access to material storage areas containing raw and prefabricated building materials outside of the contractor's camp.	Construction and Operational phase	Compliant	Strict access control is enforced by Isibonelo Colliery, with no person obtaining access without undergoing the necessary induction training and access control measures.
	Provide suitable signage in local languages that are clearly visible warning against public access.	Construction and Operational phase	Compliant	Access control measures available at the mine entrance. Signs and poster have been placed along the roads and entrance warning against public access to the mine premises, which the bulk fuel storage facility from part of.
	Appoint members of the on-site personnel to prevent public access where / if necessary.	Construction and Operational phase	Compliant	
14. Socio Economic Impacts				
Socio-economic commitments	As far as possible, appoint local laborers for skilled and semi-skilled positions.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
	Implement principles of equality, Broad Based Black Economic Empowerment (BBBEE), gender equality and non-discrimination.	Construction phase	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
	Maintain complaints register at the site security office whereby members of the public, the authorities, the construction team etc. are able to comment on issues.	Construction and Operational phase	Compliant	A complaints register is available at Isibonelo Colliery reception.
15. Rehabilitation				
Establishment and Construction	Remove project associated infrastructure as per Isibonelo Colliery's closure and rehabilitation plans.	Closure and rehabilitation	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.

	Inspect soils underlying the facility for contamination by an independent contractor prior to backfilling and shaping. Contaminated soils is to be contained and removed from site in an appropriate manner (remediated).	Closure rehabilitation	and	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
	Ensure the protection and rehabilitation of soil and land use resource within the project area (refer to IIMS/OP 1.036 of the EMS).	Closure rehabilitation	and	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
	Prohibit the use of topsoil that contains the seeds of alien vegetation for rehabilitation, unless a program to germinate indigenous seeds and eradicate alien seedlings is implemented.	Closure rehabilitation	and	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
	Rip all compacted areas to the minimum depths specified in IC's rehabilitation plan so as to best facilitate organic contaminant breakdown and vegetation establishment. The soil should undergo analysis, and if required, fertilizer is to be placed on the area as per IC's EMPR.	Closure rehabilitation	and	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
	Select a grass mix for rehabilitation of disturbed open areas. The selected grass mix should consist of a mix of quick-covering, matt forming pioneer grass species (e.g., <i>Gynodon dactylon</i> , <i>Chloris gayana</i>) and tufted grasses (e.g. <i>Eragrostis curvula</i>) to ensure prompt and adequate coverage of the exposed soil whilst also achieving long-term stability. Alternatively, the current seed mix currently being utilised by IC may be used.	Closure rehabilitation	and	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
	Control the presence of alien invasive species in all rehabilitated areas. IC may be required to update / amend the existing weed / alien invasive plant management plan (refer to IIMS/OP 1.036 of the EMS).	Closure rehabilitation	and	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
	Level and shape the rehabilitated project area to ensure efficient drainage of the site. Under no circumstances is general or hazardous waste to be disposed of at the site.	Closure rehabilitation	and	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.
	Compile a procedure for on-going monitoring to assess the progress of rehabilitation.	Closure rehabilitation	and	Not Applicable	This EMPr commitment is not applicable as the bulk fuel storage facility is in the operational phase.

7.3 BULK FUEL STORAGE EXEMPTION, (17.2.4.EV 37)

CONDITION NO.	CONDITION	FINDINGS	OBSERVATIONS/AUDIT EVIDENCE
1. General Conditions			
1.1	This exemption refers only to the project as specified above and described in the Record of Decision. Separate application/s must be lodged for any other development and/or activity at or near the proposed site, which is covered by Section 21 and 22 of the Act and Government Notice R 1182 and RI 183 of 05 September 1997.	Noted	The condition is well understood by Isibonelo Colliery Management.
1.2	Exemption is only granted in terms of Section 28A of the Act and does not exempt the holder from compliance with any other relevant legislation.	Noted	The condition is well understood by Isibonelo Colliery Management.
1.3	No development may take place on the area of concern without the necessary permits/approvals and/or service agreements from other relevant authorities.	Compliant	The construction of bulk fuel storage was undertaken as approved. No other development other than the approved have been noted on site.
1.4	Copies of the relevant permits, approvals and/or service agreements must be in possession of this Department before any construction work commences.	Not Applicable	The bulk fuel storage facility is in the operational phase.
1.5	This Department may change, add to and/or amend any of the conditions in this exemption if, in the opinion of the Department, it is environmentally justified.	Not Applicable	Based on the supplied information no changes to the project were made by the competent authority.
2. Establishment of the Development			
2.1	This exemption is repealed if the proposed installation of the underground diesel tank has not taken place within two (2) year from the date of this exemption.	Compliant	Based on a 19 November 2004 risk assessment, provided by the mine, which assessment was conducted for the facility, it can be confirmed that the bulk fuel storage facility installation took place within two-year period of approval letter.
2.2	Fourteen (14) days written notice must be given to this Department before any construction activities commence.	Not applicable	No proof was provided to confirm if 14 days written notice was given to the department prior to the commencement of construction. However, the bulk fuel storage facility is in the operational phase.

3. Construction and Operation			
3.1	If any changes need to be made to the site and/or associated infrastructure, this Department must be informed at least thirty (30) days in advance, to be able to decide whether the changes will need authorisation or not.	Noted	The bulk fuel storage area was expanded, for which a separate environmental authorisation application was lodged and approved (approved 04/07/2012) with reference number: 17/2/3N-184. No changes in respect of the present audit period.
3.2	All the recommendations proposed in the EMP and accompanying scoping documents must be strictly adhered to as part of this authorisation.	Compliant	The bulk fuel storage facility is complying with the EMP. The mine must amend this condition as there were no accompanying scoping documents submitted.
3.3	The re-fueling area around the pumps must be concreted and monitoring equipment installed to detect any possible leaks.	Compliant	All vehicles at the mine are run on diesel and tanks have been emptied for some time. In addition, the petrol tank at the office area has a monitoring borehole to monitor leaks as OBH2.
4. Waste			
4.1	All waste, including packaging materials, domestic and other non-hazardous waste, generated during the construction phase shall be disposed of in a registered landfill site.	Not Applicable	This exemption condition is not applicable as the bulk fuel storage facility is in its operational phase.
5. Water Pollution			
5.1	It is the responsibility of the applicant and the relevant contractor on site to prevent any pollution of surface as well as ground water.	Compliant	The bulk fuel storage facility has been constructed and is operated to have a concrete floor connected to a sump. The facility is also serviced by an oil separator. The above measures have been put in place to manage any risk of water pollution from the facility. Any leaks and/or spillages identified from the facility are reported to the responsible personnel and reported on Enablon as an incident for corrective actioning.
6. Risk Management			
6.1	As indicated by the relevant authority.	Noted	
7. Reporting			
7.1	Records relating to the compliance and non-compliance with the conditions of this exemption must be kept in good order. Such records must be made available to this Department within seven (7) working days of the date of the written request by the Department for such records.	Compliant	Records relating to compliance and non-compliance are kept in good order.
7.2	Non-compliance with, or any deviation from the conditions as set out in the Record of Decision, is regarded as an offence and, after reasonable provision has been made for remedial action, will be dealt with in terms of Sections 29, 30 and 31A of the Act.	Noted	The condition is well understood by Isibonelo Colliery Management.
7.3	Any complaints regarding the said activity must be brought to the attention of the Department within 24 hours after receiving the complaint. A complaints register must be kept up to date for inspection by members of this Department.	Noted	No complaints have yet been received with regards to the activity.

7.4 BULK FUEL STORAGE EXPANSION ENVIRONMENTAL AUTHORISATION, (17/2/3N-184)

REFERENCE NUMBER	CONDITIONS OF AUTHORISATION	FINDINGS	OBSERVATIONS/AUDIT EVIDENCE
1. General Conditions			
3.1	Authorisation of the activity is subject to the conditions contained in this authorisation, which form part of the environmental authorisation and are binding on the holder of the authorisation.	Noted	The condition is well understood by Isibonelo Colliery Management.
3.2	The holder of the authorisation must ensure compliance with these conditions by any person acting on his or her behalf, including but not limited to, an agent, sub-contractor, employee or person rendering a service to the holder of the authorisation.	Compliant	The Environmental Co-ordinator of Isibonelo Colliery is appointed to ensure compliance to the conditions of the authorisation. Compliance to the conditions of the environmental authorization by the any agent, sub-contractor, employee or person rendering a service at the facility are ensured through monthly EMS inspections, internal audits and annual external audits. Should any concerns (including non-compliance) be identified, such are recorded on the Enablon system as incidents for corrective auctioning.
3.2.1	The activity which is authorised may only be carried out at the property indicated above.	Noted	The activity is carried out within the stipulated property.
3.3	Any changes to, or deviations from, the project description set out in this authorisation must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further authorisation in terms of the regulations.	Noted	Based on the supplied information no changes to the project were made by the competent authority.
3.4	In the event that the impacts exceed the significance as predicted in the environmental impact report, authorisation may be suspended after proper procedures have been followed.	Noted	Based on the desktop assessment and interview with the mine personnel, it is our opinion that the impacts do not exceed the significance as predicted in the environmental impact report. The condition is noted and well understood by Isibonelo Colliery Management.
3.5	In the event of any dispute concerning the significance of a particular impact, the opinion of the Department in respect of its significance will prevail.	Noted	The condition is well understood by Isibonelo Colliery Management.
3.6	The Department may change or amend any of the conditions of this authorisation if, in the opinion of the Department, it is environmentally justified.	Noted	The condition is well understood by Isibonelo Colliery Management.
3.7	This activity must commence within a period of three (3) years from the date of issue. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.	Compliant	Construction commenced on 12 August 2013 as per the letter “Notice of commencement of the expansion of the Bulk Fuel Capacity at Isibonelo Colliery”.
3.8	The holder of this authorisation is responsible for compliance with the provisions for Duty of Care and Remediation of Environmental Damage contained in Section 28 of the National Environmental Management Act, 1998 (Act 107 of 1998).	Noted	The condition is well understood by Isibonelo Colliery Management. The mine has taken measures to ensure compliance with relevant environmental legislation.
3.9	This authorisation does not negate the holder of the authorization, responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.	Noted	The condition is well understood by Isibonelo Colliery Management.
3.10 Appeal of authorisation			
3.10.1	The holder of the authorisation must notify every registered interested and affected party, in writing and within twelve (12) days of the date of this decision, of the outcome of the application.	Not Applicable	This condition is not applicable for this auditing period as the mine is currently at operational phase.
3.10.2	The notification referred to above, must	Compliant	Written notices was given to the interested and affected parties and included all relevant information to satisfy the requirements of this condition.
a)	Specify the date on which the authorisation was issued;		
b)	Inform the interested and affected party of the appeal procedure provided for in Chapter 7 of the Regulations; and		
c)	Advise the interested and affected party to the manner in which the decision can be accessed;		
d)	Be published in the newspaper contemplated in Regulation 54(2) (c) and which newspaper was used for the placing of advertisements as part of the public participation process.		
Management and monitoring of the activity			

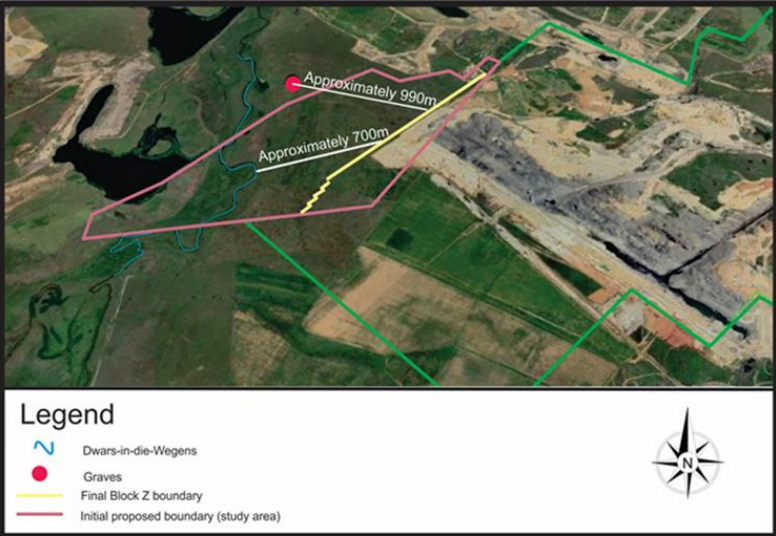
3.10.3	The Environmental Management Programme (EMPr) dated 17 April 2013 and submitted as part of the environmental impact report is hereby approved and must be implemented and adhered to throughout the life-cycle of the activity.	Compliant	EMPr is implemented and adhered to by Isibonelo colliery.
3.10.3	The applicant must appoint an independent Environmental Control Officer (ECO) that will have the responsibility of monitoring and reporting on compliance with the conditions of this environmental authorisation as well as monitoring and reporting on the implementation of the approved EMPr.	Not Applicable	The Environmental Co-ordinator for the mine was appointed to take the role of the ECO for the project and was responsible to monitor and report on compliance to the conditions of the EA. It must however be noted that the condition indicated that the ECO must be independent, which was not the case with this appointment. This condition is however no longer applicable as the bulk fuel storage facility was already constructed and is in its operational phase. It must be added as well that the mine, despite appointing its own environmental officer, have complied with the purpose and intention of the condition in that a suitably qualified person was appointed to ensure compliance with the condition of the environmental authorization and the approved EMPr.
3.10.3.1	The ECO must be appointed before the commencement of construction and the Department must be notified of such an appointment for communication purposes.	Compliant	A letter dated 07 August 2013 for attention MS Martha Seshweni of the then MDEDET, was produced by Isibonelo Colliery, where the department was informed of the fact that the project will be commencing on the 12 th August 2013. The Environmental Co-ordinator was appointed before the writing of the letter, which was before commencement of the project.
3.10.3.2	The ECO must oversee and monitor the success of all rehabilitation activities.		
3.10.3.3	During the construction phase, the ECO must submit monthly compliance reports to the Department in writing and copy the applicant with such reports. Where applicable, the ECO may negotiate the required frequency for the submission of reports with the Department, which must be agreed to in writing by the Department. The reports must include a description of all activities on site, problems identified, transgressions noted and remedial action implemented. All reports must reflect the Department's reference number of the project on the cover page.	Not Applicable	This condition is not applicable for this auditing period as the mine is currently at operational phase. Isibonelo Colliery is in the process of applying for amendment of this administrative condition.
3.10.3.4	The ECO must maintain the following on site: A site diary	Not Applicable	This condition is not applicable for this auditing period as the mine is currently at operational phase Isibonelo Colliery is in the process of applying for amendment of this administrative condition.
	Copies of all reports submitted to the Department	Not Applicable	This condition is not applicable for this auditing period as the mine is currently at operational phase Isibonelo Colliery is in the process of applying for amendment of this administrative condition.
	A complaints' register of all environmental complaints regarding the proposed project and the remedies applied to such complaints	Compliant	A complaints register is available at Isibonelo Colliery reception. No complaints have yet been received with regards to this activity.
3.10.3.5	The ECO must remain employed until all rehabilitation measures as well as site clean-up are completed and the site is handed over to the applicant by the contractor for operation.	Compliant	The Environmental Co-ordinator for the mine was appointed to take the role of the ECO for the project and was responsible to monitor and report on compliance to the conditions of the EA. Despite the ECO not being independent, the purpose of the condition has been achieved. This condition is also no longer applicable as the bulk fuel storage facility was already handed over to the mine.
3.11	The holder of the authorisation must submit an environmental audit report to the Department upon completion of the construction and rehabilitation activities. The environmental audit report must be compiled by an independent environmental auditor and must indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the conditions of this authorisation as well as the requirements of the EMPr.	Not Applicable	No documentary proof was provided to confirm that a post construction audit report was submitted to the department. However, this condition is not applicable for this auditing period as the mine is currently at operational phase.
3.12	The Department retains the right to monitor and/ or inspect the proposed development during both construction and operational phases.	Noted	The condition is well understood by Isibonelo Colliery Management.
Commissioning and operation of the activity			
3.13	Fourteen (14) days written notice must be given to the Department that the activity will commence. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence, and must include the name and contact details of the appointed ECO.	Compliant	As per the letter dated 07 August 2013 for attention Ms. Martha Seshweni of the then MDEDET, Isibonelo Colliery notified the department that the project will commence on 12 August 2013. This is, therefore not 14 days written notice.


3.14	The ECO must ensure that all contractors and employees (site personnel) acknowledge their understanding of the EMP and Environmental responsibilities.	Compliant	Through the training, competency and awareness procedure, Isibonelo Colliery undertakes induction for all employees, contractors and visitors. During induction the attendees are made aware of the importance of the environmental management and compliance with the legal requirements to be met by the mine, which include the approved EMP for the fuel storage tanks. The mine environmental coordinator is responsible for presenting the above during induction. Despite the environmental authorization indicated that the ECO must be independent and Isibonelo Colliery using their own environmental officer, the intention of the condition has been fulfilled.
3.15	The road must also be maintained throughout the construction and operational phase.	Compliant	As construction activities are no longer applicable, it could not be determined whether the roads were maintained during construction phase. However, the mine access road that is used for accessing the bulk fuel storage facility is maintained by grading and compaction.
3.16	No fires are permitted on site and the instruction informing site personnel of such, must be included in the site induction.	Compliant	During induction the attendees, which employees working at the bulk fuel storage facility, are made aware that fires are not permitted on site.
3.17	Firefighting equipment and associated signage must be placed on site.	Compliant	The bulk fuel storage facility is equipped with firefighting equipment and signage is associated with firefighting is inoculate at the facility. This will be confirmed during the site visit at the mine.
3.18	Vehicles and heavy machinery must be regularly inspected to ensure their good/ safe working condition.	Compliant	Any machinery and vehicles working at the mine are serviced at the mine's workshop. The workshop keeps all vehicle maintenance records.
3.19	An adequate number of general waste receptacles must be placed around the construction site to minimise littering.	Not Applicable	This condition is no longer applicable as the bulk fuel storage facility was already constructed and is in its operational phase.
3.20	Hazardous waste must be disposed of using techniques appropriate to the situation as per Isibonelo Colliery's waste management procedure or agreement with the waste disposal contractor.	Compliant	The techniques used on site are in accordance with the mine's waste management procedure. Phambili Services (Pty) Ltd has been appointed by Isibonelo Colliery for the disposal of all hazardous waste from the mine, which will include any hazardous waste from the bulk fuel storage facility. Safe disposal certificates were produced by the mine for their waste disposal. Holfontein landfill is used for the disposal of hazardous waste.
3.21	Hazardous waste bins must be clearly marked; color-coded and have a drip tray and be covered.	Compliant	The hazardous waste bins were located on cement lined surfaces with closable lids are available at the bulk fuel storage area.
3.22	Material safety data sheet (MSDS) for on-site chemicals, hydrocarbon materials and waste and hazardous substance must be readily available.	Compliant	Material safety data sheet (MSDS) for on-site chemicals, hydrocarbon materials and waste and hazardous substance is readily available.
3.23	The requirement for a waste management license as per the National Environmental Management Waste Act, 2008 (Act No. 59 of 2008) for temporary storage of waste including waste facilities must be adhered to.	Compliant	Isibonelo Colliery is not in possession of a Waste Management License, under the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (as amended), as the activities currently undertaken at Isibonelo Colliery do not require a licence but compliance with the National Norms and Standards, if the threshold are met.
3.24	The storage area floor must be an impermeable surface and suitably bunded so as to retain 110% of all the container volumes.	Compliant	The bulk fuel storage tanks are placed within a purpose designed, bunded and cement lined facility. The bunded lined facility has been constructed to retain 110% of the total volume of the tank.
3.25	The spill must be cleaned as soon as practically possible using absorbent material.	Compliant	The mine indicated that should a spill be identified, the activity is ceased, absorbent material placed on the split material, and then cleaned up and disposed of as hazardous waste. Spill kits were noted onsite.
3.26	The condition of the tanks, their piping and the monitoring wells must be inspected on a regular basis.	Compliant	Isibonelo Colliery undertakes six monthly and annual inspections done by Diesel Engineer at the Bulk Fuel Storage tanks and associated bunds. Inspection is done once a week, but only deviations would be captured as an environmental incident level 1 from Environmental, this would normally be small spills or such. Larger issues are picked up by the monthly, 6 monthly and annual inspections and then formal cost proposals would be requested.
3.27	A spill contingency or Emergency response plan must be drawn up and must include the action that need to be taken in the event of spillages.	Compliant	Isibonelo Colliery has implemented a Surface Chemical Spill Emergency Procedure (Doc. No. AATC 015411).
3.28	The storm water drainage networks must be designed and constructed in such a manner that storm water must be drain to the storm water attenuation dams before discharging into the municipal storm water system.	Compliant	Storm water runoff from the bulk fuel storage area is directed to an oil separator. The oil is then collected by the external contractor and the affected water drains towards Ernies Dam, before being pumped to Viskop Dam for containment and reuse.

3.29	All disturbed areas must be fully rehabilitated and protected from erosion. Rehabilitation measures must be aimed at the prevention of soil erosion and the re-establishment of vegetation.	Not Applicable	Since the site was established on an area that is already disturbed (used by the mine), no site rehabilitation after its construction was required.
3.30	Any complaints received from the public during the construction and operational phases of the activity must be attended to as soon as possible and addressed to the satisfaction of all concerned.	Compliant	A complaints register is available at Isibonelo Colliery reception. No complaints have yet been received with regards to this activity.
General			
3.31	A copy of this authorisation must be kept at the property where the activity will be undertaken. The authorisation must be produced to any authorised official of the Department may request to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.	Compliant	Since the facility does not have its own offices, the mine indicated that a copy of the authorization is kept the mine workshop offices. No request by the department to see the authorization was made during the audit period.
3.32	Where any of the applicant's contact details change, including the name of the responsible person, the physical or postal address and/ or telephonic details, the applicant must notify the Department as soon as the new details become known to the applicant.	Not applicable	No change of the mine's contact details during this audit period.
3.33	Non-compliance with a condition of this authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the regulations.	Noted	
3.34	National government, provincial government, local authorities or committees appointed in terms of the conditions of this authorisation or any other public authority shall not be held responsible for any damages or losses suffered by the applicant or his successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of noncompliance by the applicant with the conditions of authorisation as set out in this document or any other subsequent document emanating from these conditions of authorisation.	Noted	

7.5 ISIBONELO COLLIERY BLOCK Z EMPR (MP 30/5/1/2/3/2/1 (130) EM)

ISIBONELO COLLIERY BLOCK Z EMPR (MP 30/5/1/2/3/2/1 (130) EM)				
CONSTRUCTION				
ENVIRONMENTAL ASPECT	MANAGEMENT PRINCIPLE	MITIGATION MEASURES	FINDING	OBSERVATIONS/AUDIT EVIDENCE (2020)
CLIMATE				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
AIR QUALITY				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
GEOLOGY				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
TOPOGRAPHY				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
SOIL, LAND USE AND LAND CAPABILITY				
Use of heavy machinery/vehicles during the excavation of topsoil during pit development. Excavation and stockpiling of soils during pit development.	Loss of soil utilization potential for LoM.	Remove and store all utilizable soil; preferably separately to ensure sequential rehabilitation is facilitated.	Not applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.
		Prevent erosion of stockpiles by implementing water spraying, covering with vegetation or similar practices e.g., hessian sheets or porous wall/enclosures.	Not-applicable	The Isibonelo Colliery has compiled the Rehabilitation Procedure document in line with the Chamber of Mines Guidelines and it was indicated that soil replacement is conducted according to this procedure. Live placement of soils and the roll over strategy is undertaken hence the only stockpiles on site are historical stockpiles which will be used to backfill the final voids and these are vegetated to prevent erosion. However, there are no stockpiles in the Block Z area.
		Reduce the potential for compaction by restricting vehicle movement to permitted areas and limiting stockpiling by encouraging the practice of live placement.	Not applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.
		Prevent contamination by ensuring vehicles are well maintained,	Not applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.
		spill management procedures are implemented and,		
		Potential contaminants handling and storage procedures are adequately implemented.		
Excavation and stockpiling of soils during pit development.	Loss of vegetative cover and topsoil protection leading to erosion. Permanent loss of	Minimise the footprint areas to reduce the area of impact.	Compliant	From the review of the Block Z layout plan provided, the block layout has been reduced in order to minimize the footprint.

	resource downslope and impact of sedimentary load on streams and river systems due to erosion and sedimentation respectively (Refer to Hydrology impacts).			
		Use high floatation tyres on construction vehicles and restrict the movement thereof to minimise compaction.	Not-applicable	The construction activities are completed at Block Z; therefore, this condition cannot be assessed for the construction phase; however, it was observed during the operational phase that standard tires on all machines used. Large machine tyres are inflated with nitrogen to minimize any compaction and to operate more efficiently, standard bakkie tyres used on light duty vehicles.
		Remove and store all utilizable soil; preferably separately to ensure sequential rehabilitation is facilitated. Prevent erosion of stockpiles by implementing water spraying, covering with vegetation or similar practices e.g., hessian sheets or porous wall/enclosures.	Not applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.
		Use of Vetiver grass as erosion prevention ahead of clearing where erosion is a considered risk.	Not applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, erosion is not considered a risk as the area is left as is, covered in vegetation, until the next cut of topsoil is stripped as required.
Use of heavy machinery/vehicles during the excavation of topsoil during pit development.	Loss of soil resource and utilization potential due to contamination by reagents and hydrocarbon	Prevent contamination by ensuring vehicles are well maintained, spill management procedures are implemented and potential contaminants handling and storage procedures are adequately implemented. Ensure that vehicle/machinery services are completed off site within a contained area, preferably hard standing.	Not-applicable	Even though the construction activities are completed and this condition not applicable, records proving that machinery and vehicles are well serviced and maintained was provided.
Use of heavy machinery/vehicles during the excavation of topsoil during pit development.	Loss of resource and its utilization potential due to compaction over unprotected ground/soil.	Minimise the impact footprint, restrict vehicle movement to minimum area required, remove useable soil to recommended depth ahead of the opencast pit, stockpile and manage useable soils.	Not applicable	Even though the construction activities are completed and this condition not applicable, it was evident on site that haul road are utilized for vehicles. Moreover, the mine has stringent traffic control measures including speed limit signs and traffic rules. The measures also include using the NAE System which tracks all the vehicles and machinery to ensure that these vehicles/machinery do not operate in restricted areas.

		Implement concurrent rehabilitation and the practice of live placement as soon as possible once the coal has been removed from a strip or opencast pit.	Compliant	It was confirmed during the site visit that the mine undertakes live placement of soils and practices the roll over strategy thus there are no dormant open voids where coal has been removed. All rehabilitation is undertaken in line with the mine's rehabilitation procedures.
Excavation and stockpiling of soils during pit development.	Loss of soil and land capability due to reduction in nutrient status – denitrification and leaching due to stripping and stockpiling of footprint areas.	Strip soils with vegetative cover in tacked and stockpile utilizable soils separately from subsoils.	Not applicable	Even though the construction activities are completed at Block Z and no stockpiling is occurring, spoils observed on site have been stripped with in tacked vegetation and these spoils are separated according to their kinds. It must be noted that there are no stockpiles located directly in Block Z thus this condition is not applicable. 
		Restrict stockpiles and berms to less than 1.5 m high for utilizable soil and manage ingress of dirty water and erosion of the said stockpiles as per the mitigation measures listed herein.	Not applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. Furthermore, there are no stockpiles in the Block Z area.
HYDROGEOLOGY				
No anticipated impacts during the Construction Phase. As such, no mitigation measures are required.				
HYDROLOGY				
Excavation of topsoil and levelling during pit establishment.	Deteriorating water quality, through erosion of exposed soil surfaces.	Apply Surface Water Management Plan with respect to berms around stockpiles and exposed soils to retain eroded soil.	Not applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. Moreover, there are no stockpiles in the Block Z area.
BIODIVERSITY				
Site clearing and preparation activities. Topsoil removal, transport and stockpiling and transport.	Habitat loss. Destruction and loss of wetland (seeps) and plinthic soils.	Avoid encroaching into the Dwars-in-die-Wegspruit River buffer and associated pans.	Not-applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.
		Properly manage and monitor any remaining natural habitat to promote ecosystem functioning.	Not-applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.
		The sediment attenuation facility, proposed by WSP (2014), should be used to re-create wetland habitat for terrestrial fauna and flora, in addition to promoting the infiltration of water to the underlying soils and, therefore, partially mitigate base flow contribution	Compliant	Since the Block Z mining area has been reduced, it was determined that the mining will be much further from the nearby stream (Dwars-in-die Weg Spruit) hence storm water diversion facilities in the form of berms and trenches would be able to protect the stream and its wetland areas from the mining area. Through site observation no significant sedimentation was noted being released to the nearby stream.




		impacts to the Dwars-in-die-Wegspruit.		The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.
		Construction and earthmoving should preferably occur during winter to minimise impacts on the widest range of faunal species	Not applicable	
		Fences should be erected for restricting access to pits; however, none should be erected in the Dwars-in-die-Wegspruit floodplain.	Compliant	
Topsoil removal, transport and stockpiling and transport. Utilization of vehicles and equipment on site.	Decline in water quality and Resultant Deterioration in Ecosystem Functionality due to increased sedimentation, and potential contamination from spills and/or leaks of hydrocarbons.	<p>Regularly check vehicles, machinery and equipment operating on site to prevent leakages or spills.</p> <p>No untreated water should enter the receiving environment.</p> <p>Water released into the receiving environment must comply with the RWQO (DWA, 2010) or if these have not been set then the TWQR (DWAf, 1996).</p> <p>If clean water is pumped into the Dwars-in-die-Wegspruit it should be released slowly.</p> <p>Continue monthly surface water monitoring and bio monitoring as required, as well as include vegetation monitoring along the flood plain within the Leersia pans specifically with regards to sedimentation and vegetation structural changes.</p>	Not applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.
Site clearing and preparation activities. Topsoil removal, transport and stockpiling and transport. Utilization of vehicles and equipment on site.	Direct mortality/displacement of species.	<p>Thoroughly investigate proposed pit footprint area prior to clearing and excavation activities. Conservation Important plant species (e.g. hypoxis) should be relocated to rehabilitated areas within the mine (preferably the artificial wetland project near the Steenkoolspruit [northern side]) or to "bulb beds" for safe storage and re-use during rehabilitation when and where necessary.</p> <p>Faunal species identified during the plant collection/removal should also be moved with the intention to relocate these to a safe, similar habitat in the near vicinity.</p> <p>Ensure animal access to active mining areas is limited e.g. erection of fencing or similar barrier.</p> <p>Obtain permits for the destruction/translocation of protected floral and faunal species.</p>	Not-applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.

		Promote awareness of the presence of faunal and floral species, especially CI species on site.		
Site clearing and preparation activities. Topsoil removal, transport and stockpiling and transport.	Alien Species Invasion and Resultant impacts on biodiversity due to clearing and stockpiling of topsoils.	An Alien and Invasive Management Plan should be developed for the Proposed Project area; alternatively, the existing Management Plan should be updated to include the Proposed Project area and should preferably include assessment of alien flora/fauna species in the area, density or population distribution, prevention and management, as well as removal/destruction thereof	Not-applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.
		Prevent the introduction/ingress of alien invasive flora and/or fauna species into the Proposed Project area, especially the floodplain. This should preferably be undertaken by an appropriately trained member of staff.		
		A stand of Poplars exists in the north western corner of the study area. If this is to remain (a permit should be obtained) and provide cover for species such as Duiker, Bush pig and Jackal (detected on motion camera in this area), then the outer areas must be monitored for any spread (seedling growth) and must be manually removed.		
		The intentional introduction of an alien plant species should not be considered for any screening effects or for stabilizing the sedimentation attenuation facilities rehabilitation etc. Indigenous alternatives should be considered suitable for the purposes for which the introduction is required.		
Utilization of vehicles and equipment/heavy machinery on site. Lighting used during night shift operations.	Sensory Disturbance of fauna due to light pollution, increased noise and vibration as a result of human and mining activities.	Minimise noise and external lighting, and where possible minimise night time activities. Long-wavelength light (red and yellow lights) should be used. Additional light should be angled downward and hooded.	Not-applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.
		Environmentally friendly dust inhibitors should be used and the frequency and intensity should be varied seasonally.	Not-applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.
		Wet and/or cover trucks transporting coal or soil.	Not-applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.

		Implement traffic control measures e.g., speed bumps and speed limits.	Not-applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.
		Plant indigenous hedging around high impact areas to minimise noise and light impacts on surrounding areas.	Not-applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.
HERITAGE, CULTURAL AND ARCHAEOLOGICAL				
Employees, machinery and equipment movement to and from, as well as around, the Proposed Project area during pit establishment.	Disturbance of the identified significant site(s) caused by construction workers and vehicles entering the known sensitive graveyard area.	The grave site should be registered with the SAHRA.	Not Applicable	Due to block reduction the grave site falls significantly outside of the mining the area and the site is completely avoided. The figure below shows the initial block plan has subsequently been pulled back. It must be noted that the mine take cognizance of these conditions and will be applied upon grave or any archaeological site discovery.
		Fence the graves and erect unauthorised entry signage to protect them from damage.		
	Unauthorised removal of known graves during the pit establishment activities.	Devise a management plan for the sustainable preservation of the graves (or update existing plan).		
		A buffer zone of at least 20 m should be maintained around the graves. The buffer zone should be increased to 100m from the nearest grave during pit establishment associated blasting activities.		
	Uncovering and disturbance of sites of significance on Proposed Project site during pit establishment and topsoil removal and/or levelling.	Caution should be taken by mining personnel upon commencement of the site construction activities to ensure that no heritage feature is disturbed or demolished.		
		Care should be taken if any midden or grave is discovered during the pit establishment activities. A qualified archaeologist should be appointed to investigate the occurrence.		
		Upon discovery of unknown archaeological sites, the HIA is to be updated to include further mitigation measures. Furthermore, the heritage management plan should be updated to include the discovery.		
		Where graves cannot be avoided by mining establishment activities, an archaeologist should be appointed to oversee the exhumation and relocation process.		
	The correct legal permitting should be obtained prior to relocation activities. Stakeholder engagement may be required.			
PALAEONTOLOGY				
None of the assessed impacts were rated as significant or high and were therefore not include herein				
BLASTING AND VIBRATION				
No anticipated impacts during the construction Phase. As such, no mitigation measures are required				
NOISE				
Topsoil is stripped and stored in open stockpiles using heavy machinery and vehicles.	Increase in audible noise resulting in nuisance/annoyance to sensitive receptors.	Ensure that all construction vehicles adhere to the Isibonelo Colliery speed limit and are properly maintained to limit excessive noise.	Not-applicable	The construction activities are completed at Block Z; therefore, this condition is no longer applicable. However, a similar condition is assessed in the operational phase section below.
		Construction noise to be kept to a minimum by ensuring proper worker		

		conduct; there is no excessive revving of vehicles; no unnecessary hooting; and proper use of equipment.		
		Regular construction equipment maintenance should be carried out and documented.		
		Construction machinery and methods of operation should be selected on the basis of the quietest available within the constraints of reasonable cost.		
		Specific operations that result in high levels of noise are to be undertaken during day-time.		
		Stockpiling of topsoil or similar barrier development between the Isibonelo Colliery/Proposed Project and sensitive receptors, specifically Mr Greyling and the Informal Settlement, should be implemented to reduce noise transmission.		
		Noise monitoring should be completed on a frequent basis to assess compliance with SANS 10103.		
VISUAL ASPECTS				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
SOCIO-ECONOMIC				
The Proposed Project does not go ahead and the LoM is reduced from 2026 to 2016.	The premature loss of employment from the Isibonelo Colliery and downstream economic and livelihood impacts.	Implement the SLP throughout operation to ensure skill development and mentorship, and re-deployment of existing staff to other collieries where available.	Compliant	A Social Labour Plan has been developed for Isibonelo Colliery. The Social and Labour Plan Annual Progress Report that was provided indicates the implementation of the mine's Social Labour Plan.
OPERATIONAL				
ENVIRONMENTAL ASPECT	MANAGEMENT PRINCIPLE	MITIGATION MEASURES	FINDING	OBSERVATIONS/AUDIT EVIDENCE (2020)
CLIMATE				
Emissions released from vehicles equipment during coal and interburden removal and interburden transportation and handling (truck).	Increased greenhouse gases in the atmosphere could impact climate change.	Preference should be given to vehicles/equipment/machinery which are fuel efficient.	Compliant	Vehicles, equipment and machinery are serviced and maintained according to a strict maintenance program. Proof of inspection was provided which proves that the vehicles, equipment and machinery are inspected every week by an engineer. The mine also proved that they have saved or rather reduced the amount of fuel used extensively during this audit period.
		Limit the topsoil removal to the minimum required.	Compliant	The soil balance and survey report were provided. Assessment of the soil balance and the survey report has shown that no unnecessary stripping of soil is removed. The Rehabilitation Procedure of the mine indicates the soil should be stripped to a minimum of 2 planned cut widths ahead of mining at all times (n.b. this means 170 m clear of the dragline pad). This will ensure that removal of topsoil is conducted to the minimal.
		Transport of materials should use the shortest route to limit use of vehicles.	Compliant	Shortest routes are used within the mine for the transportation of materials as well as short routes for the imported coal despite these routes being long distances. Some of the routes were shown to the auditors during the site visit.
		Promote efficient driving and machinery use such as maintaining speed limits, prevent unnecessary revving.	Compliant	All vehicles and plant have been equipped with a driver monitoring system Nicholas Auto Enterprise (NAE) and has proven to be excellent in reducing incidents on the mine. A report from the system was provided with the records of driver/operators and speeding data and drivers/operators who disobey these rules face disciplinary measures.

		Ensure vehicles are regular maintained and good working order so as to use fuel efficiently.	Compliant	Vehicles, equipment and machinery well serviced and maintained according to a strict maintenance program. Proof of inspection was provided which proves that the vehicles, equipment, and machinery are inspected every week by an engineer. The mine also proved that they have saved or rather reduced the amount of fuel used extensively during this audit period.
Removal of coal (as a natural non-renewable source).	Increased greenhouse gases in the atmosphere could result in climate change.	Promote effective removal and handling techniques to limit coal wastage or discard.	Compliant	Proof of survey, mine plan and soil balance were provided for this audit period which indicated that no wastage of coal stripped is occurring at the mine as this will not be economically viable.
AIR QUALITY				
Emissions arising from handling and transportation of materials.	Potential health impacts of fugitive dust emissions from materials handling operations.	Spraying of materials during handling and transportation to reduce emissions.	Not Applicable	The air quality management programme proved to be viable and no dust exceedance have been observed during this audit period except for one incident that was resolved within 2 hours. The mine also proved that it improved from having 92 dust incidents in 2019 to having 1 in 2021; therefore, this condition is not applicable. It must be noted that dust suppression is undertaken where necessary.
Dust entrainment due to vehicle use on unpaved roads.	Potential health impacts of fugitive dust emissions from vehicle entrainment on unpaved roads.	Wet suppression should be applied to unpaved roads.	Compliant	
		Additional, chemical suppression could be implemented to further reduce entrainment.		
GEOLOGY				
Mechanical excavation and removal of overburden/interburden and coal.	Removal of the coal seam results in the establishment of a void in the earth. Furthermore, the removal of coal will be permanent and will be a loss of a natural resource.	Only coal contained in the approved EMPR is to be removed from the approved coal seams.	Compliant	The mine plan provided during the audit has proven that the mine is planning to remove the approved amount of coal in the EMPr. Based on the above, no removal of unapproved seams has been undertaken.

Blasting and drilling to remove overburden/interburden and coal.	Blasting vibrations may alter surrounding geological structure by fracturing the rock.	Draw up a detailed blasting design according to best practices and ensure that this is implemented.	Compliant	Evidence provided indicates that extensive and detailed blasting plans are devised prior to actual blasting.
		Ensure the Isibonelo Colliery blasting procedure is adhered to and that the relevant legislation is adhered to.	Compliant	Evidence provided indicates that extensive and detailed blasting plans are devised prior to actual blasting.
Sequential backfilling of opencast pits using the overburden/interburden but absent coal.	The rock stratigraphy may be altered as overburden/interburden is layered in the pit during backfilling, especially the coal seam is absent.	Excavated rock material is stockpiled separately to spoil and topsoil. These materials should be used for backfilling of the pit sequentially to manage the local geological integrity.	Not-applicable	It must be noted that there are no stockpiles on Block Z; therefore, this condition is not applicable. However, it was confirmed during the site visit that material is stored separately adjacent to the pit by the dragline and backfilled to open voids using the roll over strategy & live placement of soil. No stockpiling is undertaken.
Sequential backfilling of opencast pits using the overburden/interburden but absent coal with concurrent mining adjacent to these areas.	Removal of the coal seam will permanently alter the geology of the area.	Only coal contained in the approved EMPR and Mine works programme is to be removed from the approach coal seams.	Compliant	The mine plan provided during the audit has proven that the mine is planning to remove the approved amount of coal in the EMPr. Based on the above, no removal of unapproved seams has been undertaken.
		All carbonaceous material (excluding coal for SSF) is to be returned to the pit during the rehabilitation activities to prevent oxidation.	Compliant	Isibonelo has adopted a rollover mining strategy and all carbonaceous materials are used for backfilling. Coal is transported via a conveyor belt to Sasol's banker. Rehabilitation of the opencast pits including the concurrent backfilling is undertaken in line with the mine's rehabilitation procedure. Mining and rehabilitation of the opencast pits were also confirmed during the site visit.
	Subsidence may occur should materials shift resulting areas of instability. This may also impact groundwater flow through the strata	Subsidence surveys should be completed regularly and identified areas should be rehabilitated and maintained.	Compliant	The mining area is flown (survey) on a weekly basis and a DTM is generated from the survey data. The DTM is used to determine any subsidence. Where there are no go zones the Strata Control Officer would declare them. Proof of DTM was provided for review and no subsidence areas were identified in Block Z during this audit period.
		Areas identified as high risk in terms of subsidence should be regularly monitored and mapped as no-go areas.	Compliant	The DTM from the survey data after the weekly flying (surveying) of the mine is used to determine areas identified as high risk in terms of subsidence. Proof of DTM was provided for review and no subsidence areas were identified in Block Z during this audit period.
TOPOGRAPHY				
Establishment of the opencast pit.	On-going removal of soil and overburden leading to an alteration of the existing topography.	The mined out areas should be in filled as soon as practically possible.	Compliant	Rehabilitation of the opencast pits including the concurrent backfilling is undertaken in line with the mine's rehabilitation procedure. It was confirmed during site visit that levelling of spoils is undertaken at the mine.
		The depth of the pit should be restricted to optimize coal removal and not extend beyond such depths	Compliant	The mine personnel indicated that the Geology Department conducts the grade control flash and mine of the floor is noted as uneconomical. Furthermore, survey reports, mine plans and soil balance reports were provided to prove that no unnecessary stripping of material beyond the mined coal is undertaken.
	Removed soils and overburden that are stockpiled may impact the existing topography.	Stockpile height should be restricted and managed to ensure it is not exceeded. The location of the stockpiled materials should consider the local topography and be placed as such so that the impact is minimized.	Not-applicable	The only stockpiles observed on site are historical soil stockpiles which resemble the surrounding topography, a weekly DTM is flown over the area to monitor the change in topography and drainage. It must be noted that there are no stockpiles located on Block Z; therefore, this condition is not applicable.
		Stockpiled materials should be shaped to match the existing topography of the surrounding area.	Not-applicable	The only stockpiles observed on site are historical soil stockpiles which resemble the surrounding topography, a weekly DTM is flown over the area to monitor the change in topography and drainage. It must be noted that there are no stockpiles located on Block Z; therefore, this condition is not applicable.


		Regular inspection of the stockpiles should be undertaken and height exceedances should be reported and closed-out accordingly.	Not-applicable	The only stockpiles observed on site are historical soil stockpiles which resemble the surrounding topography, a weekly DTM is flown over the area to monitor the change in topography and drainage. It must be noted that there are no stockpiles located on Block Z; therefore, this condition is not applicable.
Infilling of the opencast pit.	Rehabilitated areas may alter the local topography and drainage lines.	Backfilling and levelling should consider the surrounding topography, the post-mining land-use, existing drainage lines and site activities.	Compliant	The Survey, Soil Balance and Rehabilitation Plan takes into consideration of the following aspects: post-mining land-use, existing drainage lines and site activities. Moreover, area is flown on a weekly basis and a DTM generated that determines the topographical patterns of the rehabilitated areas that is used to ensure that the rehabilitated area conforms with the surrounding topography.
		Areas of potential subsidence should be identified, mapped and regularly surveyed to prevent subsidence occurring.	Compliant	The mining area is flown (survey) on a weekly basis and a DTM is generated from the survey data. The DTM is used to determine any subsidence. Where there are no go zones the Strata Control Officer would declare them. Proof of DTM was provided for review and no subsidence areas were identified in Block Z during this audit period.
		Subsidence surveys should be completed regularly. Areas of subsidence identified should be managed to prevent recurrence.	Compliant	The mining area is flown (survey) on a weekly basis and a DTM is generated from the survey data. The DTM is used to determine any subsidence. Where there are no go zones the Strata Control Officer would declare them. Proof of DTM was provided for review and no subsidence areas were identified in Block Z during this audit period.
Infilling of opencast pit and final void(s).	The final void(s) will be backfilled, levelled and rehabilitated. This will have a positive impact on the topography in the area.	Backfilling and levelling should consider the surrounding topography, the post-mining land-use, existing drainage lines and site activities.	Compliant	The survey, soil balance and rehabilitation plan take into consideration of the following aspects: post-mining land-use, existing drainage lines and site activities. Moreover, area is flown on a weekly basis and a DTM generated that determines the topographical patterns of the rehabilitated areas that is used to ensure that the rehabilitated area conforms with the surrounding topography.
		Subsidence surveys should be conducted during and post-closure.	Not -applicable	The mine is still under operational; therefore, this condition is not yet applicable. It must be noted that subsidence surveys are being conducted even in the operational phase.
		Subsidence identified should be rehabilitated and managed to prevent reoccurrence or new occurrences in surrounding areas.	Compliant	Weekly DTM are generated from survey of the areas flown over mining operation. This would indicate any areas of subsidence. Where there are no go zones the Strata Control Officer would declare them. Proof of DTM was provided for review and no subsidence areas were identified in Block Z during this audit period.
SOIL, LAND USE AND LAND CAPABILITY				
Use of heavy machinery/vehicles during the excavation of topsoil during pit development. Excavation and stockpiling of soils during pit development.	Continued loss of soil resource and utilization potential in areas of operation e.g. contamination from blasting or vehicles, or where temporary infrastructure is located i.e. sterilization of the soils beneath such infrastructure including stockpiles.	Restrict area of impact to as small an area as practical and manage stockpiles for erosion by wind and water.	Compliant	From the review of the Block Z layout plan provided, the block layout has been reduced in order to minimize the footprint. Furthermore, there are no stockpile areas located on Block Z.
		Minimise the impact footprint, restrict vehicle movement to minimum area required, remove useable soil to recommended depth ahead of the opencast pit, stockpile and manage useable soils to prevent erosion.	Compliant	From the review of the Block Z layout plan provided, the block layout has been reduced in order to minimize the footprint. The mine uses NAE System to track vehicles thus limiting the number of vehicles in restricted areas since there are penalties for driving in restricted areas. Mine plan, soil balance and survey reports showed that soils are removed in consideration of usability following the mine plans. It must also be noted that there are no stockpiles in Block Z; however, the historical stockpiles at the mine are vegetated to prevent soil erosion.
		Ensure the soils and overburden are stockpiled separately, and sequential placement during backfilling is completed to mimic premining conditions.	Not-applicable	The mine's Rehabilitation Procedure states that daily monitoring is necessary to ensure that stripping is done according to guidelines in the EMPR. The mine is not stockpiling but conducts live placement of soils and roll over strategy for backfilling, the only stockpiles in the mine are historical soil stockpiles and they are not located on Block Z.




	Loss of soil utilization potential due to operation of infrastructure, storm water controls (pumps etc.) i.e. soil sterilization. Loss of nutrient stores and organic carbon from unprotected stockpiles and insitu (placed soil) sites due to leaching as a result of extensive exposure periods.	Live placement of soils should be preferred to soil stockpiling. If soil is stockpiled it should be managed to prevent erosions through revegetation or similar cover, protected from dirty water contamination through storm water (dirty water) management.	Not applicable	The Isibonelo Colliery has compiled the Rehabilitation Procedure document in line with the Chamber of Mines Guidelines and it was indicated that soil replacement is conducted according to this procedure. Live placement of soils and the roll over strategy is undertaken i, the only stockpiles on site are historical stockpiles which will be used to backfill the final voids and these are vegetated to prevent erosion. However, there are no stockpiles in the Block Z area.
		Rehabilitated sites should be vegetation and maintained to prevent erosion and prevent nutrient loss through exposure to the elements for extended periods.	Not-Applicable	Mining in the Block Z area commenced recently. Thus, there are no rehabilitated sites on Block Z yet.
HYDROGEOLOGY				
Groundwater quantity.	20-80 m3/day groundwater influx to opencast pit may result in contamination.	Continuous rehabilitation of spoils should be undertaken to minimise ingress of increased water make.	Not-Applicable	Mining in Block Z has recently commenced thus no rehabilitated areas as yet. Therefore, this commitment is not applicable.
		All excess water make should be used as part of the Operation Phase water balance or pumped to the Vaskop PCD.	Compliant	Dirty water is managed towards the lowest point in the pit from where it is pumped to Vaskop. All clean water is diverted around workings.
		The IWWMP (updated by the Isibonelo Colliery in consideration of the water management mitigation measures for the Proposed Project) should be implemented.	Compliant	An IWWMP Dated 28 April 2021 was provided for this audit period for review. An action plan was indicated in the report, which include planned implementation of the actions recommended in the IWWMP.
Groundwater quantity.	No external impact as the cone of depression will cause groundwater flow towards the pit. However, deterioration in water quality will be experienced within the pit due to exposure to potential contaminants therein.	Deterioration of water resources in-pit should be prevented by minimizing water make in-pit during the Operation Phase.	Compliant	Dirty water is managed towards the lowest point in the pit from where it is pumped to Vaskop. All clean water is diverted around workings. During the site visit it was noted that minimum water was kept within the pit.
		All excess water or rainwater should be used as part of the Operation Phase water balance or pumped to the Isibonelo Colliery's PCDs.	Compliant	Mine water from mining pit is being pumped to the Vaskop Dam as per the updated IWWMP. Water pipelines systems used for the pumping of water to the Vaskop Dam was also visited during the site visit.
		The long-term water management strategy detailed in the IWWMP should be implemented.	Compliant	An IWWMP Dated 28 April 2021 was provided for this audit period for review and the mitigation measures are implemented this is proven by the mine being ISO 14001 Accredited.
HYDROLOGY				
Excavation of topsoil, overburden/interburden and coal during pit advancement	Potentially decreased runoff as a result of the removal of soil surface (opencast). Decrease in base flow as a result of the loss of the plinthic soil layer during excavation.	Runoff and base flow contribution will be captured by the opencast pit and should be managed as part of the mine dirty water system i.e. captured and pumped to the Vaskop PCD and re-used onsite for dust suppression.	Compliant	Dirty water is managed towards to lowest point in the pit from where it is pumped to Vaskop. A spreadsheet was provided for review which indicated the amount of water used for dust suppression thus proving that water from the Vaskop dam is used for dust suppression.
		Discrete stripping and stockpiling according to Surface Water Management plan should be undertaken to ensure separation of the different soil layers. These soils should be placed back sequentially to restore base flow contribution during rehabilitation.	Compliant	A comprehensive water management plan has long been established at Isibonelo Colliery and surface water flow design of Block Z has been considered as part of this plan. The Isibonelo Colliery has also compiled the Rehabilitation Procedure and soil replacement is conducted according to this procedure. Live placement of soils and the roll over strategy is undertaken hence the only stockpiles on site are historical stockpiles which will be used to backfill the final voids and these are vegetated to prevent erosion. However, there are no stockpiles in the Block Z area.
Excavation of topsoil, overburden/interburden and coal by machinery and blasting, during pit advancement.	Deteriorating water quality, through erosion of exposed soil surfaces, potential spillages and/or leaks of	Sediment attenuation facility should be implemented to operate as a sediment trap, thus reducing the impact on water quality in the surrounding water course.	Compliant	Since the Block Z mining area has been reduced, it was determined that the mining will be much further from the nearby stream (Dwars-in-die Weg Spruit) hence storm water diversion facilities in the form of berms and trenches would be able to protect the stream and its wetland areas from the mining area. Through site observation no


	contaminants (fertilizers, hydrocarbons).			significant sedimentation was noted being released to the nearby stream.
BIODIVERSITY				
Topsoil removal, transport and stockpiling and transport. Transport and stockpiling of overburden/interburden.	Habitat loss. Destruction and loss of wetland (seeps) and plinthic soils.	Avoid encroaching into the Dwars-in-die-Wegspruit River buffer and associated pans.	Compliant	From the review of the layout plan for the Block Z section, mining boundary and activities have been reduced to minimize the footprint. Block Z is now more than 500 metres away from the Dwars-in-die-Wegspruit.
		Properly manage and monitor any remaining natural habitat to promote ecosystem functioning.	Compliant	From the review of the layout plan for the Block Z section, activities have been reduced to minimize the footprint. Additionally, mine planning is conducted weekly thus ensuring that no unnecessary disturbance of the area is undertaken outside the approved mining area. Isibonelo also shows keenness in promoting ecosystem functioning by conducting research on E-DNA with Naturemetrics. This will be used to determine if mining as an impact in the biodiversity of the instream water systems around the mine. Environmental monitoring is also undertaken around the mine to determine if remaining habitat immediately adjacent the mine is affected by the mining operation.
		A thorough rehabilitation programme involving post-closure monitoring should be implemented - there is potential to re-create more diverse terrestrial habitat post-closure.	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
		Rehabilitation (including long-term monitoring) should involve extensive landscaping, topsoil re-introduction and seeding with indigenous, locally occurring species (including geophytic species).	Not Applicable	The Isibonelo Colliery is currently in an operational phase, therefore this condition of the EMPr is Not Applicable.
		The sediment attenuation facility, proposed by WSP (2014), should be used to re-create wetland habitat for terrestrial fauna and flora, in addition to promoting the infiltration of water to the underlying soils and, therefore, partially mitigate base flow contribution impacts to the Dwars-in-die-Wegspruit.	Compliant	Since the Block Z mining area has been reduced, it was determined that the mining will be much further from the nearby stream (Dwars-in-die Weg Spruit) hence storm water diversion facilities in the form of berms and trenches would be able to protect the stream and its wetland areas from the mining area. Through site observation, no significant sedimentation was noted being released to the nearby stream.
		Due to the removal of mined material, it is expected that a void will remain after rehabilitating the final mine step. It has been assumed that the void will be 67% of last annual mine step. Further investigations should be completed to determine if this void can be designed to create additional shallow wetland habitat.	Not Applicable	No final void is anticipated to remain in Block Z.
		Construction and earthmoving should preferably occur during winter to minimise impacts on the widest range of faunal species.	Noted	This condition of the EMPr is noted by the mine since it's now at operational state mining phase.
Excavating open cast pits and removal of plinthic soils.	Decline in water inputs/reduction in base flows	The proposed paddocks must be designed in such a way that capacity is maintained and sediment can be removed if required, yet a wetland habitat is maintained.	Not Applicable	The Block Z area has been reduced and now it's located more than 500 metres away from the watercourse. Moreover, a comprehensive water management plan has long been established and has proved to be viable since Isibonelo is ISO 14001 Accredited.

Implementation of water containment and diversion facilities. Pumping of ground and/or surface water from the pit to containment facilities.		Monitor the flow of the Dwars-in-die-Wegspruit from pre commencement of construction until post-closure.	Compliant	Bio monitoring is undertaken at the Dwars-in-die-Wegspruit. During the bio-monitoring the flow of water within the Dwars-in-die Weg Spruit was assessed. It was determined that the flow of water within the stream is influenced by the water transfer scheme. No flow volumes were however provided during the audit. It is recommended that the ensure that a flow in the stream be undertaken for future auditing purposes.
		Conduct annual monitoring of the PES and Ecosystem services of the water resources in the Proposed Project area.	Compliant	A report titled, Aquatic and Wetland Monitoring Low Flow 2020 & High flow 2021 compiled by The Biodiversity Company dated February 2021 was provided during the audit. This report determined the PES of the instream water system of the Steenkool Spruit. Assessment of the report has however revealed that the assessment did not include the determination of the PES for the Dwars-in-die-Wegspruit. The report however indicated that the stream must be added into the assessment.
Topsoil and overburden/interburden removal, transport and stockpiling and transport. Utilization of vehicles and equipment on site.	Decline in water quality and Resultant Deterioration in Ecosystem Functionality as a result of sedimentation and potential contamination of water.	Regularly check vehicles, machinery and equipment operating on site to prevent leakages or spills.	Compliant	Vehicles, equipment and machinery are well serviced and maintained according to a strict maintenance program. Proof of inspection was provided which proves that the vehicles, equipment, and machinery are inspected every week by an engineer.
		No untreated water should enter the receiving environment.	Compliant	According to the mine water balance, Isibonelo is not discharging any water to the environment. Moreover, the surface water monitoring results proved that there's are no adverse impacts on the surrounding watercourses and groundwater. No sign of untreated water discharges to the stream was noted during the site visit.
		Water released into the receiving environment must comply with the RWQO (DWA, 2010) or if these have not been set then the TWQR (DWA, 1996).	Compliant	Except for the clean storm water diverted around the dirty water areas of the mine, no water is released to the environment.
		If clean water is pumped into the Dwars-in-die-Wegspruit it should be released slowly.	Not-applicable	The mine is not pumping water to the Dwars-in-die-Wegspruit or any other watercourse surrounding Isibonelo Colliery, clean water is diverted around the mine and dirty water from the mine is released to the Vaskop PCD.
		Continue monthly surface water monitoring and bio monitoring as required, as well as include vegetation monitoring along the flood plain within the Leersia pans specifically with regards to sedimentation and vegetation structural changes.	Not Applicable	The Block Z area has been reduced and now it's located more than 500 metres away from the watercourse. A comprehensive water management plan has long been established and has proved to be viable since Isibonelo is ISO 14001 Accredited. Additionally, a report titled, Aquatic and Wetland Monitoring Low Flow 2020 & High flow 2021 compiled by The Biodiversity Company dated February 2021 was provided during the audit.
		The sedimentation attenuation facilities should be implemented as these will manage the suspended solids and collect runoff, as well as prevent dirty water runoff from leaving the general mining area.	Compliant	There are no sedimentation attenuation facilities at Block Z specifically since a comprehensive water management plan has long been established and water quality monitoring results has proven the storm water management to be viable.
Site clearing and preparation activities. Topsoil removal, transport and stockpiling and transport. Utilization of vehicles and equipment on site.	Direct mortality/displacement of species.	Thoroughly investigate proposed pit footprint area prior to clearing and excavation activities.	Compliant	This requirement was assessed before the Construction Phase of Block Z hence the reduction of the footprint area. It must also be noted that an environmental impact assessment was conducted which included the environmental investigation of the current pit area prior to its commencement.

		Conservation Important plant species (e.g., hypoxis) should be relocated to rehabilitated areas within the mine (preferably the artificial wetland project near the Steenkoolspruit [northern side]) or to “bulb beds” for safe storage and re-use during rehabilitation when and where necessary.	Not-applicable	Important plant species are placed in a nursery at the mine and will then be re-used during the rehabilitation phase. It must be noted that these plant species were not originally located on Block Z. Therefore, this condition is not applicable for Block Z.
		Faunal species identified during the plant collection/removal should also be moved with the intention to relocate these to a safe, similar habitat in the near vicinity and; ensure animal access to active mining areas is limited e.g., erection of fencing or similar barrier.	Compliant	No faunal species were relocated however, a fence is in place around the mining boundary to ensure that animals have limited access to active mining areas.
		Obtain permits for the destruction/translocation of protected floral and faunal species.	Not-applicable	No protected floral and/or faunal species were relocated/destroyed from Block Z.
		Promote awareness of the presence of faunal and floral species, especially CI species on site.	Compliant	Awareness regarding Biodiversity is raised during induction and toolbox talks, proof was provided and it indicated that the last biodiversity talk was on May 2021 The talks are not specifically for Block Z but for the mine as a whole.
<p>Topsoil and overburden/interburden removal, transport and stockpiling. Backfilling, levelling and re-vegetation of previously mined areas. Monitoring and maintenance of topsoiled and revegetated areas.</p> <p>Vehicle movement on and off site during transportation of coal, overburden/interburden and/or topsoil.</p>	<p>Alien Species Invasion and Resultant impacts on biodiversity due to clearing and stockpiling of topsoils, overburden/interburden, as well as concurrent backfilling, levelling and rehabilitation.</p>	An Alien and Invasive Management Plan should be developed for the Proposed Project area; alternatively, the existing Management Plan should be updated to include the Proposed Project area and should preferably include assessment of alien flora/fauna species in the area, density or population distribution, prevention and management, as well as removal/destruction thereof.	Compliant	The Alien and Invasive management plan was updated in August 2020 (proof was provided) and all alien flora were identified and a strategy to eradicate them was recommended and is being implemented by the mine.
		Prevent the introduction/ingress of alien invasive flora and/or fauna species into the Proposed Project area, especially the floodplain. This should preferably be undertaken by an appropriately trained member of staff.	Compliant	The Alien and Invasive management plan was updated in August 2020 (proof was provided) and all alien flora were identified and a strategy to eradicate them was recommended and is being implemented by the mine.
		Rehabilitation materials that may arise from origins off-site (e.g., borrow pit, other collieries or provided by contractors) should be sourced from reliable suppliers that can confirm the absence of alien plant specimens in their materials as far as practical.	Not Applicable	No rehabilitation material is outsourced, the material used for rehabilitation is the mined-out overburden material. It must be noted that no rehabilitation activities are undertaken in Block Z since mining has recently commenced.
		A stand of Poplars exists in the north western corner of the study area. If this is to remain (a permit should be obtained) and provide cover for species such as Duiker, Bushpig and Jackal (detected on motion camera in this area), then the outer areas must be monitored for any spread (seedling growth) and must be manually removed.	Not- Applicable	The Block Z layout plan provided indicated that it has been reduced significantly than anticipated; therefore, the poplars in the north western corner fall outside the Block Z boundary. Isibonelo; however, has developed an alien and invasive management plan as well as an eradication strategy; therefore, if there are any alien species including Poplars within Block Z they will be eradicated.

Utilization of vehicles and equipment/heavy machinery on site. Lighting used during night shift operations. Blasting practiced during excavation activities.	Sensory Disturbance of fauna Due to light pollution, increased noise and vibration as a result of human and mining activities.			
		The intentional introduction of an alien plant species should not be considered for any screening effects or for stabilizing the sedimentation attenuation facilities rehabilitation etc. Indigenous alternatives should be considered suitable for the purposes for which the introduction is required.	Not-applicable	The mine is not planning to introduce alien plant species in Block Z; therefore, this condition is not applicable.
		Minimise noise and external lighting, and where possible minimise night time activities. Long-wavelength light (red and yellow lights) should be used. Additional light should be angled downward and hooded.	Compliant	Minimizing of noise and external lighting in undertaken as part of existing mining. A photograph showing the appropriate lights on the Dragline, Loader and Truck to minimize light pollution and are hooded was provided.
		Environmentally friendly dust inhibitors should be used and the frequency and intensity should be varied seasonally.	Compliant	Water is used for dust suppression at the mine, which is an environmentally friendly dust inhibitor. Based on the latest air quality monitoring programme, the dust suppression undertaken at the mine is effective in the reduction of ambient dust emissions. See below the picture of one of the water bowsers at the mine. 
		Wet and/or cover trucks transporting coal or soil.	Not-applicable	The mine personnel indicated that wet or covering of trucks transporting is not undertaken at the mine because the coal is already wet from the ground and no soil is being transported around the mine. It must also be noted that the mine is not transporting soil or coal for long distances, coal is conveyed via conveyor belt to Sasol's banker.
		Implement traffic control measures e.g. speed bumps and speed limits.	Compliant	Speed limits are in place for all areas with signage at areas. All vehicles and plant have been equipped with a driver monitoring system Nicholas Auto Enterprise (NAE) and has proven to be excellent in reducing incidents on the mine. A report from the system was provided with the records of driver/operators and speeding data and drivers/operators who disobey these rules face disciplinary measures.

Blasting practiced during excavation activities.	Death, loss and/or disturbance to flora and fauna. Contamination of soils, surface and/or ground water.			
		Plant indigenous hedging around high impact areas to minimise noise and light impacts on surrounding areas.	Not-Applicable	Vehicles, equipment and machinery are either new or used for some time at the colliery and maintained according to a strict maintenance program. Noise levels are maintained as per design specifications of such machines. Furthermore, no noise or light complaints have been received. This proves that mitigation measures regarding noise and light are viable. Therefore, this condition is not applicable since there are no high impact areas.
		Prior to blasting, thoroughly investigate the affected area.	Compliant	Evidence provided indicates that extensive and detailed blasting plans are devised prior to actual blasting.
		Conservation Important plant species (e.g., hypoxis) should be relocated to rehabilitated areas within the mine (preferably the artificial wetland project near the Steenkoolspruit [northern side]) or to “bulb beds” for safe storage and re-use during rehabilitation when and where necessary.	Not-applicable	Important plant species are placed in a nursery at the mine and will then be re-used during the rehabilitation phase. It must be noted that these plant species were not originally located on Block Z. Therefore, this condition is not applicable for Block Z.
		Faunal should also be moved with the intention to relocate these to a safe, similar habitat in the near vicinity, and ensure animal access to active mining areas is limited e.g., erection of fencing or similar barrier.	Compliant	No faunal species were relocated however, a fence is in place around the mining boundary to ensure that animals have limited access to active mining areas. See picture below for the fences erected at the mine.  

		Large charges should be subdivided into a series of smaller charges and time delayed to reduce the overall detonation to a series of smaller detonations.	Compliant	According to the mine's drill and blast design procedure, a drill and blast design must be developed and approved before any blasting can be undertaken. In light of the above, it is clear that the mine will be able to comply with this condition should large charges be used during blasting. A blast design for one of the blocks at the mine was provided by the mine.
		For multiple charges, time-delay should be used to reduce the overall detonation to a series of single explosions separated by a minimum of 25 millisecond delay between charge detonations.	Compliant	According to the mine's drill and blast design procedure, a drill and blast design must be developed and approved before any blasting can be undertaken. In light of the above, it is clear that the mine will be able to comply with this condition should large charges be used during blasting. A blast design for one of the blocks at the mine was provided by the mine.
		The on-land set-back distance from the blast site to the watercourse is based on the weight of the charge to be detonated at one instant in time and the type of fish and fish habitat in the area of the blast.	Noted	According to the mine's drill and blast design procedure, a drill and blast design must be developed and approved before any blasting can be undertaken. The designs will consider this commitment.
		Ammonium nitrate-based explosives should not be used near water due to the production of toxic by-products such as ammonia.	Not applicable	Blasting at Block Z occurred more than a kilometer away from the Dwars-in-die-Wegspruit which is the nearest watercourse during this audit period. However, the mine takes cognizance of this condition.
HERITAGE, CULTURAL AND ARCHAEOLOGICAL				
Mechanical excavation Of overburden/interburden and coal, as well as personnel onsite. Ground vibration and air blast resulting from blasting and drilling.	Disturbance of the identified and potential unidentified sites of significance may arise should personnel workers and vehicles moving beyond the Proposed Project boundary. Uncovering and disturbance of sites of significance on Proposed Project site during pit advancement. Ground vibration and air blast may disturb the identified and/or unidentified sites of significance in and around the Proposed Project area. Unauthorised removal of sites of significance during the opencast pit advancement.	The grave site should be registered with the SAHRA.	Not-applicable	Due to block reduction the grave site falls significantly outside of mining area deep within the flood plain area. Below map is with original block plan that has subsequently been pulled back, even so, the area is avoided completely. There is no gravesite identified in Block Z, Graves on site (seen near the South Block) will be addressed under the main EMP. Therefore, this condition is not applicable. 
		Fence the graves and erect unauthorised entry signage to protect them from damage.	Not Applicable	Due to block reduction the grave site falls significantly outside of mining area. The graves on site (seen near the South Block) are fenced but they will be addressed under the main EMP. Therefore, this condition is not applicable.
		Devise a management plan for the sustainable preservation of the graves (or update existing plan).	Not-applicable	Due to block reduction the grave site falls significantly outside of mining area deep within the flood plain area. There is no gravesite identified in Block Z, Graves on site (seen near the South Block) will be addressed under the main EMP. Therefore, this condition is not applicable.

		A buffer zone of at least 20 m should be maintained around the graves. The buffer zone should be increased to 100m from the nearest grave during pit establishment associated blasting activities.	Not Applicable	Due to block reduction the grave site falls significantly outside of mining area approximately 900m from Block Z. Therefore, this condition is not applicable.
		Caution should be taken by mining personnel upon commencement of the site construction activities to ensure that no heritage feature is disturbed or demolished.	Not applicable	The mine is under operational phase; therefore, this condition is no longer applicable.
		Upon discovery of unknown archaeological sites, the HIA is to be updated to include further mitigation measures. Furthermore, the heritage management plan should be updated to include the discovery. A qualified archaeologist should be appointed to investigate the occurrence.	Not applicable	No archaeological sites were discovered at Block Z during this audit period.
		Where graves cannot be avoided by mining establishment activities, an archaeologist should be appointed to oversee the exhumation and relocation process.	Not-applicable	Due to block reduction the grave site falls significantly outside of mining area approximately 900m from Block Z. Furthermore, no archaeological sites were discovered at Block Z during this audit period. Therefore, this condition is not applicable.
		The correct legal permitting should be obtained prior to relocation activities. Stakeholder engagement may be required.	Not applicable	No archaeological sites were discovered at Block Z during this audit period. Therefore, this condition is not applicable.
		The blasting management measures proposed herein should be adhered to, so as to ensure blasting limitations are within accepted norms/limits.	Not-applicable	No archaeological sites were discovered at Block Z during this audit period. Therefore, this condition is not applicable.
PALAEONTOLOGY				
Excavation through machinery and blasting and subsequent removal overburden/interburden and coal.	The destruction, damage or loss of provenance due to undocumented movement of fossils is irreversible and permanent.	Regular inspection of the pit face should be completed in order to identify potential fossils located therein. Inspections should be completed by either adequately trained line personnel and at less frequent intervals (monthly) by a qualified external specialist. Should fossil materials be identified, these should be assessed and either removed by a qualified specialist for further study or protected <i>in situ</i> .	Non-Compliant	Regular inspections by a qualified external specialist have not been undertaken to date. It is impractical and unsafe for person to inspect a highwall (pit face). However, all archaeological and heritage studies have been completed before approval of the EMPr. The mine also has a chance find procedure in place to address any potential chance finding of graves during mining activities. It must be noted that an EMPr amendment application will be lodged with the Department to revoke this condition.
BLASTING AND VIBRATION				
Blasting event during overburden, interburden and/or coal removal.	Possible damage to graves due to ground vibration.	Reduce charge mass per delay, maintain safe distance.	Compliant	It was confirmed that thorough investigations prior to blasting are undertaken. According to the mine's drill and blast design procedure, a drill and blast design must be developed and approved before any blasting can be undertaken. In light of the above, it is clear that the mine will be able to comply with this commitment. A blast design for one of the blocks at the mine was provided by the mine.
	Possible damage to graves due to fly rock.	Preferred stemming controls should be implemented to reduce fly rock to within accepted norms.	Compliant	Evidence provided indicates that extensive and detailed blasting plans are devised prior to actual blasting.

				According to the mine's drill and blast design procedure, a drill and blast design must be developed and approved before any blasting can be undertaken. In light of the above, it is clear that the mine will be able to comply with this commitment. A blast design for one of the blocks at the mine was provided by the mine.						
NOISE										
Coal is exposed by removing the overburden using draglines and truck and shovel operations.	Increase in audible noise resulting in nuisance/annoyance to sensitive receptors.	Regular and effective plant/equipment maintenance should be carried out and documented. All machinery (draglines etc.) should be checked to be in good working order and not generating excess noise/vibration.	Compliant	Vehicles, equipment and machinery are well serviced and maintained according to a strict maintenance program. Proof of inspection was provided which proves that the vehicles, equipment, and machinery are inspected every week by an engineer. Noise levels are maintained as per design specifications of such machines. Furthermore, during the site visit no nuisance noise activities were observed. The plant manager also monitors noise from the plant and from all the equipments and machinery used. The limit is 134db; however, the plant manager ensures that noise levels do not exceed 98db at the plant.						
		Plant, equipment and vehicles should not be operated in the event that excessive noise is produced at start up as a result of maintenance being required.								
		The distance from noise sensitive premises needs to be considered when siting of noisy operations. Noisier operations need to be limited to normal work day hours.								
		Care should be taken to ensure materials are loaded (both by machinery and by workers) into skips/haulage vehicles in a manner in which that minimizes noise, e.g. avoiding throwing or dropping materials.								
		Machinery and methods of operation should be selected on the basis of the quietest available within the constraints of reasonable cost. When the noise cannot be adequately controlled at source by the appropriate selection of plant, equipment and work methods, the use of enclosures and barriers should be considered.								
		Stockpiling of overburden between the Isibonelo Colliery and sensitive receptors, specifically Mr Greyling and the Informal Settlement, can act as an acoustic barrier.								
		Purpose built sound barriers around noisy machinery (example draglines and drills) should be investigated and implemented to reduce noise levels.								
		Noise monitoring should be completed on a frequent basis to assess compliance with SANS 10103	Non-compliant	<div><div>ISIBONELO NOISE AND VIBRATION MONITORING PROCEDURE</div><table><tr><td>IMPLEMENTATION DATE</td><td>2019/12/17</td><td>NEXT REVIEW DATE</td><td>2022/09/17</td></tr><tr><td>DOC NO</td><td>AATC009312</td><td>REVISION NUMBER</td><td>09</td></tr></table></div> <div>5.2 Area / Static Noise Monitoring: (this includes buildings and Machines)</div> <div>Area Noise surveys is conducted using the SABS 083 / SANS 10083 standards. These surveys are conducted using calibrated instrumentation (sound level meter) and source and worst case scenario readings and conditions are captured.</div> <div>This data is analysed by the occupational Hygienist who makes judgement and recommendations to either eliminate or control the noise levels in accordance with section 11 of the Mine health and Safety Act.</div>	IMPLEMENTATION DATE	2019/12/17	NEXT REVIEW DATE	2022/09/17	DOC NO	AATC009312
IMPLEMENTATION DATE	2019/12/17	NEXT REVIEW DATE	2022/09/17							
DOC NO	AATC009312	REVISION NUMBER	09							

				According to the noise and vibration monitoring procedure, Isibonelo is using the SABS 083/ SANS 10083 standards which is the measurement and assessment of occupational noise for hearing conservation purposes. Whereas the SANS 10103 standard recommended in this EMPr is the measurement and rating of environmental noise with respect to annoyance and to speech communication. It must be noted that there hasn't been any noise complaint from I & APs during this audit period.
Coal is exposed by removing the overburden/interburden using drilling and blasting.	Increase in audible noise resulting in nuisance/annoyance to sensitive receptors.	Ensure all blasting is undertaken between sunrise and sunset as per authorisation granted by the DMR.	Compliant	It was indicated that drilling and blasting are conducted during day time. A blasting schedule was provided during the audit.
		Blasting should be undertaken at a fixed time and a blasting schedule should be available to sensitive receptors so as to remove the element of surprise.	Compliant	An example of the blasting schedule was provided, the mine also has blasting schedule boards to notify everyone to avoid surprises.
		Continue monitoring blast and ground vibrations to ensure acceptable levels are being adhered to.	Compliant	Proof of monitoring report was provided.
		Noise monitoring should be completed on a frequent basis to assess compliance with SANS 10103.	Non-compliant	<div><div>ISIBONELO NOISE AND VIBRATION MONITORING PROCEDURE</div><div><div>IMPLEMENTATION DATE 2019/12/17</div><div>NEXT REVIEW DATE 2022/09/17</div><div>DOC NO AATC009312</div><div>REVISION NUMBER: 09</div></div></div> <p>5.2 Area / Static Noise Monitoring: (this includes buildings and Machines)</p> <p>Area Noise surveys is conducted using the SABS 083 / SANS 10083 standards. These surveys are conducted using calibrated instrumentation (sound level meter) and source and worst case scenario readings and conditions are captured.</p> <p>This data is analysed by the occupational Hygienist who makes judgement and recommendations to either eliminate or control the noise levels in accordance with section 11 of the Mine health and Safety Act.</p> <p>According to the noise and vibration monitoring procedure, Isibonelo is using the SABS 083/ SANS 10083 standards which is the measurement and assessment of occupational noise for hearing conservation purposes. Whereas the SANS 10103 standard recommended in this EMP is the measurement and rating of environmental noise with respect to annoyance and to speech communication. It must be noted that there hasn't been any noise complaint from I & APs during this audit period.</p>
VISUAL ASPECTS				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
SOCIO-ECONOMIC				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
DECOMMISSION				
ENVIRONMENTAL ASPECT	MANAGEMENT PRINCIPLE	MITIGATION MEASURES	FINDING	OBSERVATIONS/AUDIT EVIDENCE
CLIMATE				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
AIR QUALITY				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
GEOLOGY				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
TOPOGRAPHY				
Establishment of the opencast pit.	On-going removal of soil and overburden leading to an alteration of the existing topography.	The mined-out areas should be in filled as soon as practically possible.	Not applicable	The mine's Rehabilitation Procedure states that daily monitoring is necessary to ensure that stripping is done according to guidelines in the EMPR. According to the site visit, it was confirmed that the mine undertakes live placement of soil and roll over strategy thus no voids were observed on site except for areas where there's mining undertaking. Moreover, Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above; therefore, this condition will be assessed during the decommissioning phase.

		The depth of the pit should be restricted to optimize coal removal and not extend beyond such depths	Not-applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above; therefore, this condition will be assessed during the decommissioning phase.
	Removed soils and overburden that are stockpiled may impact the existing topography.	Stockpile height should be restricted and managed to ensure it is not exceeded. The location of the stockpiled materials should consider the local topography and be placed as such so that the impact is minimized.	Not-applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above; therefore, this condition will be assessed during the decommissioning phase.
		Stockpiled materials should be shaped to match the existing topography of the surrounding area.	Not-applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above; therefore, this condition will be assessed during the decommissioning phase.
		Regular inspection of the stockpiles should be undertaken and height exceedances should be reported and closed-out accordingly.	Not-applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above; therefore, this condition will be assessed during the decommissioning phase.
Infilling of the opencast pit.	Rehabilitated areas may alter the local topography and drainage lines.	Backfilling and levelling should consider the surrounding topography, the post-mining land-use, existing drainage lines and site activities.	Not- applicable	No backfilling and levelling were undertaken in Block Z during this audit period, mining in Block Z recently commenced.
		Areas of potential subsidence should be identified, mapped and regularly surveyed to prevent subsidence occurring.	Not applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above; therefore, this condition will be assessed during the decommissioning phase.
		Subsidence surveys should be completed regularly. Areas of subsidence identified should be managed to prevent recurrence.		
Infilling of opencast pit and final void(s).	The final void(s) will be backfilled, levelled and rehabilitated. This will have a positive impact on the topography in the area.	Backfilling and levelling should consider the surrounding topography, the post-mining land-use, existing drainage lines and site activities.	Not applicable	No backfilling and levelling were undertaken in Block Z during this audit period, mining in Block Z has recently commenced, a similar condition is assessed under the operational phase section above and this will be assessed during the decommissioning phase.
		Subsidence surveys should be conducted during and post-closure.	Not applicable	Mining at Block Z has recently commenced, the area is under still operational. This condition is not applicable yet and will be audited during and post-closure phase.
		Subsidence identified should be rehabilitated and managed to prevent reoccurrence or new occurrences in surrounding areas.		
SOIL, LAND USE AND LAND CAPABILITY				
Management of rehabilitated areas and dismantling and removal of machinery/equipment from the Proposed Project area.	Unmanaged overland flow of dirty water will result in erosion and possible sedimentation of the local streams and rivers with a loss of soil resource.	Management of storm water control system during dismantling and removal activities (Hydrology impacts), and monitoring of water quality used for watering/irrigation of vegetated/rehabilitated areas.	Not Applicable	Mining at Block Z has recently commenced, the area is under still operational. This condition is not applicable yet and will be audited during the decommissioning phase.
HYDROGEOLOGY				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
HYDROLOGY				
Management and maintenance of rehabilitated areas.	Decreased base flow expected due to the loss of the plinthic soil layer.	Sediment attenuation should be implemented to slow the velocity of runoff from the site and promote infiltration of water to subsoil. This will promote contributions to base flow beyond the site boundary.	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above; therefore, this condition will be assessed during the decommissioning phase.

Utilization of heavy vehicles and machinery during dismantling and removal which could result in contaminant spillages.	Deteriorating water quality potential oil spillages from the rehabilitation machinery.	Manage hydrocarbon leaks and spillages according to the Isibonelo Colliery management procedure.	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above; therefore, this condition will be assessed during the decommissioning phase.		
		Maintain capacity of the sediment attenuation facility by removing accumulated sediment and vegetation on a regular basis, i.e. to prevent reduced functionality of the facilities purpose.				
BIODIVERSITY						
Monitoring and maintenance of topsoiled and revegetated areas. Vehicle movement on and off site during transportation of coal, overburden/interburden and/or topsoil. Removal of equipment from the Proposed Project area.	Alien Species Invasion and Resultant impacts on biodiversity due to clearing of site equipment, transport to and from site, and rehabilitation of open/exposed areas.	An Alien and Invasive Management Plan should be developed for the Proposed Project area; alternatively, the existing Management Plan should be updated to include the Proposed Project area and should preferably include assessment of alien flora/fauna species in the area, density or population distribution, prevention and management, as well as removal/destruction thereof. Prevent the introduction/ingress of alien invasive flora and/or fauna species into the Proposed Project area, especially the floodplain. This should preferably be undertaken by an appropriately trained member of staff. Rehabilitation materials that may arise from origins off-site (e.g. borrow pit, other collieries or provided by contractors) should be sourced from reliable suppliers that can confirm the absence of alien plant specimens in their materials as far as practical A stand of Poplars exists in the north western corner of the study area. If this is to remain (a permit should be obtained) and provide cover for species such as Duiker, Bushpig and Jackal (detected on motion camera in this area), then the outer areas must be monitored for any spread (seedling growth) and must be manually removed. The intentional introduction of an alien plant species should not be considered for any screening effects or for stabilizing the sedimentation attenuation facilities rehabilitation etc. Indigenous alternatives should be considered suitable for the purposes for which the introduction is required.	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above; therefore, this condition will be assessed during the decommissioning phase.		
HERITAGE						
None of the assessed impacts were rated as significant or high and were therefore not included herein						
PALAEONTOLOGY						
No anticipated impacts during the decommissioning Phase. As such, no mitigation measures are required.						
BLASTING AND VIBRATION						

No anticipated impacts during the decommissioning Phase. As such, no mitigation measures are required.				
NOISE				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
VISUAL ASPECTS				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
SOCIO-ECONOMIC				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
CLOSURE AND PRE-CLOSURE				
ENVIRONMENTAL ASPECT	MANAGEMENT PRINCIPLE	MITIGATION MEASURES	FINDING	OBSERVATIONS/AUDIT EVIDENCE
CLIMATE				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
AIR QUALITY				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
GEOLOGY				
Final void(s) rehabilitation.	Loss of Geological Stratigraphy.	Excavated rock material is stockpiled separately to spoil and topsoil. These materials should be used for backfilling of the pit sequentially to manage the local geological integrity. All carbonaceous material (excluding coal for SSF) is to be returned to the pit during the rehabilitation activities to prevent oxidation.	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above therefore, this condition will be assessed during the pre-closure and closure phase.
	Subsidence may occur should materials shift resulting in areas of instability. This may also impact groundwater flow through the strata (Section 9.8.2).	Excavated rock material is stockpiled separately to spoil and topsoil. These materials should be used for backfilling of the pit sequentially to manage the local geological integrity.	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above therefore, this condition will be assessed during the pre-closure and closure phase.
		Subsidence surveys should be completed regularly and identified areas should be rehabilitated and maintained.	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above therefore, this condition will be assessed during the pre-closure and closure phase.
		Closure planning objectives and measures should include a plan for monitoring following mine closure.	Compliant	Monitoring post closure is already planned for and forms part of the closure plan accompanying the financial provisioning determination of the mine.
TOPOGRAPHY				
Establishment of the opencast pit.	On-going removal of soil and overburden leading to an alteration of the existing topography.	The mined out areas should be in filled as soon as practically possible.	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above therefore, this condition will be assessed during the pre-closure and closure phase.
		The depth of the pit should be restricted to optimize coal removal and not extend beyond such depths	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above therefore, this condition will be assessed during the pre-closure and closure phase.
	Removed soils and overburden that are stockpiled may impact the existing topography.	Stockpile height should be restricted and managed to ensure it is not exceeded. The location of the stockpiled materials should consider the local topography and be placed as such so that the impact is minimized.	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above therefore, this condition will be assessed during the pre-closure and closure phase.
		Stockpiled materials should be shaped to match the existing topography of the surrounding area.		
		Regular inspection of the stockpiles should be undertaken and height		

		exceedances should be reported and closed-out accordingly.		
Infilling of the opencast pit.	Rehabilitated areas may alter the local topography and drainage lines.	Backfilling and levelling should consider the surrounding topography, the post-mining land-use, existing drainage lines and site activities.	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above therefore, this condition will be assessed during the pre-closure and closure phase.
		Areas of potential subsidence should be identified, mapped and regularly surveyed to prevent subsidence occurring.	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above therefore, this condition will be assessed during the pre-closure and closure phase.
		Subsidence surveys should be completed regularly. Areas of subsidence identified should be managed to prevent recurrence.		
Infilling of opencast pit and final void(s).	The final void(s) will be backfilled, levelled and rehabilitated. This will have a positive impact on the topography in the area.	Backfilling and levelling should consider the surrounding topography, the post-mining land-use, existing drainage lines and site activities.	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above therefore, this condition will be assessed during the pre-closure and closure phase.
		Subsidence surveys should be conducted during and post-closure.	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above therefore, this condition will be assessed during the pre-closure and closure phase.
		Subsidence identified should be rehabilitated and managed to prevent reoccurrence or new occurrences in surrounding areas.		
SOIL, LAND USE AND LAND CAPABILITY				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
HYDROGEOLOGY				
Groundwater quantity.	Inter-mine flow is expected from the Proposed Project to the adjacent North Pit as the pit floor slopes to the northwest. 20-50m3/day groundwater influx to pit. This may lead to additional water requiring management and/or containment.	The additional groundwater make from the Proposed Project will be accommodated in the mine dirty water management system as detailed in the IWWMP compiled by the Isibonelo Colliery.	Compliant	Mine water from mining pit is being pumped to the Vaskop Dam as per the updated IWWMP. The mine water balance is updated with results from the water flow meter recordings on an annual basis, which is used to determine the ability of the pollution control dam to handle water emanating from the mine. A copy of the latest water balance was made available during the audit.
Groundwater quantity.	Inter-mine flow from the Proposed Project will be contaminated through interaction with backfill material. Acidification will only take place at least 30 years after closure. The expected water quality is in the region of 1400 mg/l SO4.	Desalination of polluted groundwater will take place at the regional water treatment plant.	Not Applicable	According to the updated IWWMP provided (section 5.2.3. second paragraph), the water treatment options are currently being investigated as part of the Post-closure water management at Isibonelo Colliery. Therefore, this condition will be audited once the final decision has been made.
		Details of such treatment has been provided in the Isibonelo Colliery’s IWWMP.	Not applicable	
HYDROLOGY				
Management and maintenance of rehabilitated areas.	Decrease in base flow due to the permanent changes in soil structure (loss of plinthic layer).	Sediment attenuation should be implemented to slow the velocity of runoff from the site and promote infiltration of water to subsoil. This will promote contributions to base flow beyond the site boundary.	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above therefore, this condition will be assessed during the pre-closure and closure phase.
Utilization of heavy vehicles and machinery during dismantling and removal which could result in contaminant spillages.	Impact on water quality from fertilized soils; increases in suspended solids from eroded soil.	Sediment attenuation facility continues to operate as a sediment trap	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above therefore, this condition will be assessed during the pre-closure and closure phase.

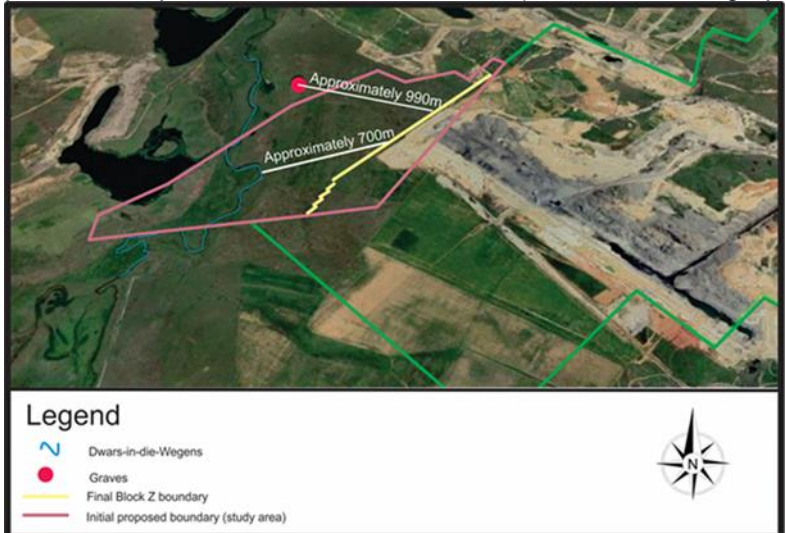
As well as soil conditioning applications to promote rehabilitation.		Maintain capacity of the sediment attenuation facility by removing accumulated sediment and vegetation on a regular basis, i.e., to prevent reduced functionality of the facilities purpose.	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above therefore, this condition will be assessed during the pre-closure and closure phase.
BIODIVERSITY				
Topsoil and overburden/interburden removal, transport and stockpiling. Backfilling, levelling and re-vegetation of previously mined areas. Monitoring and maintenance of topsoiled and revegetated areas. Vehicle movement on and off site during transportation of coal, overburden/interburden and/or topsoil.	Alien Species Invasion and Resultant impacts on biodiversity due to clearing and stockpiling of topsoils, overburden/interburden, as well as concurrent backfilling, levelling and rehabilitation.	<p>An Alien and Invasive Management Plan should be developed for the Proposed Project area; alternatively, the existing Management Plan should be updated to include the Proposed Project area and should preferably include assessment of alien flora/fauna species in the area, density or population distribution, prevention and management, as well as removal/destruction thereof.</p> <p>Prevent the introduction/ingress of alien invasive flora and/or fauna species into the Proposed Project area, especially the floodplain. This should preferably be undertaken by an appropriately trained member of staff.</p> <p>Rehabilitation materials that may arise from origins off-site (e.g., borrow pit, other collieries or provided by contractors) should be sourced from reliable suppliers that can confirm the absence of alien plant specimens in their materials as far as practical.</p> <p>A stand of Poplars exists in the north western corner of the study area. If this is to remain (a permit should be obtained) and provide cover for species such as Duiker, Bushpig and Jackal (detected on motion camera in this area), then the outer areas must be monitored for any spread (seedling growth) and must be manually removed.</p> <p>The intentional introduction of an alien plant species should not be considered for any screening effects or for stabilizing the sedimentation attenuation facilities rehabilitation etc. Indigenous alternatives should be considered suitable for the purposes for which the introduction is required.</p>	Not Applicable	Mining at Block Z has recently commenced, the area is under operational. A similar condition is assessed under the operational phase section above therefore, this condition will be assessed during the pre-closure and closure phase.
HERITAGE, CULTURAL AND ARCHAEOLOGICAL				
None of the assessed impacts were rated as significant or high and were therefore not included herein				
PALAEONTOLOGY				
No anticipated impacts during the Closure Phase. As such, no mitigation measures are required.				
BLASTING AND VIBRATION				
No anticipated impacts during the Closure Phase. As such, no mitigation measures are required.				
NOISE				
None of the assessed impacts were rated as significant or high and were therefore not included herein.				
VISUAL ASPECTS				

None of the assessed impacts were rated as significant or high and were therefore not included herein.
SOCIO-ECONOMIC
None of the assessed impacts were rated as significant or high and were therefore not included herein.


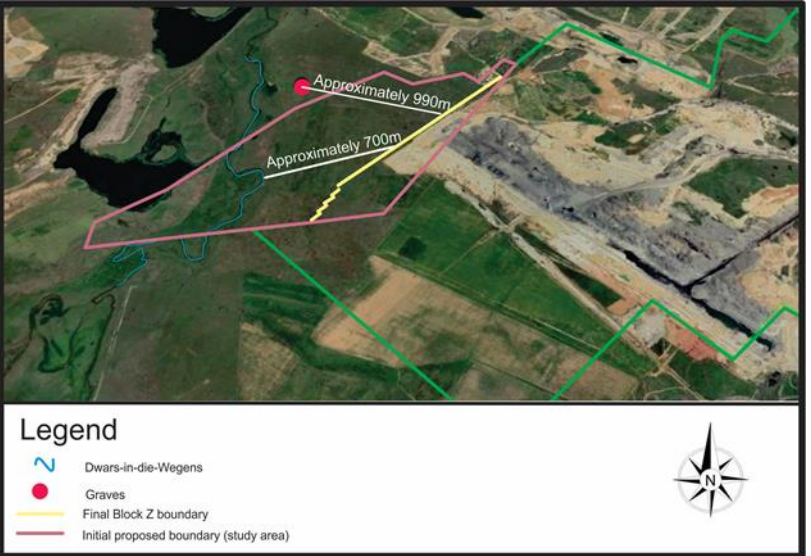
7.6 ISIBONELO COLLIERY BLOCK Z ENVIRONMENTAL AUTHORISATION, (17/2/3N-362)


Condition number	Condition	Finding	Observation/ Audit Evidence
Block Z: Environmental authorisation(17/2/3N-362)			
Scope of authorisation			
3.1.	Authorisation of the activity is subject to the conditions contained in this authorisation, which form part of the environmental authorisation and are binding on the holder of the authorisation.	Noted	Isibonelo Colliery is aware and takes cognisance of this condition.
3.2.	The holder of the authorisation must ensure compliance with these conditions by any person acting on his or her behalf, including but not limited to, an agent, sub-contractor, employee or person rendering a service to the holder of the authorisation.	Compliant	Isibonelo Colliery has appointed an Environmental Coordinator who is suitably qualified and ensures that all personnel rendering a service at the mine including visitors comply with the relevant conditions of this authorisation.
3.3.	The activity which is authorized may only be carried out at the properties indicated above.	Compliant	Activities at Isibonelo Colliery (Block Z) are carried out at the approved property. This was confirmed during the site visit and through the assessment of the mining plans provided during the audit interview.
3.4.	Any changes to, or deviations from, the project description set out in this authorisation must be approved, in writing, by the Department before such changes or deviations may be affected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further authorisation in terms of the regulations.	Compliant	There have been no changes to, or deviations from, the project description. The details on the authorisation still apply.
3.5.	In the event that the impacts exceed the significance as predicted in the environmental impact assessment report, the authorisation may be suspended after proper procedures have been followed.	Not applicable	Environmental impacts have not exceeded the significance predicted in the EIA phase and reporting.
3.6.	In the event of any dispute concerning the significance of a particular impact, the opinion of the Department in respect of its significance will prevail.	Noted	Isibonelo Colliery is aware and takes cognisance of this condition. It must be noted that there haven't been any disputes during this audit period.
3.7.	The Department may change or amend any of the conditions of this authorisation if, in the opinion of the Department, it is environmentally justified.	Noted	Isibonelo Colliery is aware and takes cognisance of this condition,
3.8.	Where any of the applicant's contact details change, including the name of the responsible person, the physical or postal address and/ or telephonic details, the applicant must notify the Department as soon as the new details become known to the applicant.	Not applicable	No changes to the Licensee's contact detail have occurred during this audit period. <u>Recommendation</u> The ECO must take cognisance of this condition for the upcoming audit period following the Anglo-American South Africa coal demerger.
3.9.	This activity must commence within a period of five (5) years from the date of issue. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken, unless the holder of this environmental authorisation has lodged a valid application to amend the validity period of this authorisation before this authorisation lapses, in which case, this authorisation will remain valid. However, the activity, including site preparation, may not commence prior to the amendment application being decided.	Compliant	The environmental authorisation was issued on 8 September 2015. The commencement of activities took place within five years and the same was communicated to the Department.
3.10.	The holder of this authorization (Anglo Operations Thermal Coal) is responsible for compliance with the provisions for Duty of Care and Remediation of Environmental Damage contained in Section 28 of the National Environmental Management Act, 1998 (Act 107 of 1998).	Compliant	Isibonelo Colliery conducts annual environmental legal compliance audits that includes a compliance assessment against Section 28 of the National Environmental Management Act, 1998 (Act No. 107 of 1998). Moreover, Isibonelo Colliery is ISO Accredited proving that Isibonelo Colliery takes reasonable measures to prevent, minimise and/or rectify pollution or degradation of environment from occurring.

Condition number	Condition	Finding	Observation/ Audit Evidence
3.11.	This authorisation does not negate the holder of the authorization, responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity, including, inter alia, the National Forests Act, 1998 (Act 84 of 1998), the Mineral and Petroleum Resources Development Act (Act No. 28 of 2002) the National Environmental Management: Waste Act, 2008 and the National Water Act, 1998 (Act No. 36 of 1998).	Noted	Isibonelo Colliery is aware and takes cognisance of this condition.
Appeal of authorisation			
3.12.	The holder of the authorisation must notify every registered interested and affected party, in writing and within twelve (12) days of the date of this decision, of the outcome of the application.	Compliant	Written notice was given to the interested and affected parties and included all relevant information to satisfy the requirements of this condition. Proof hereof was provided in the form of the notification letter (including proof of distribution) dated 2 November 2015 and compiled by WSP Environmental (Pty) Ltd.
3.13.	The notification referred to above, must —	Compliant	
a.	Specify the date on which the authorisation was issued;	Compliant	
b.	Inform the interested and affected party of the appeal procedure provided for in Chapter 7 of the Regulations;	Compliant	
c.	Advise the interested and affected party to the manner in which the decision can be accessed;	Compliant	
d.	Be published in the newspaper contemplated in Regulation 54(2) (c) and (d) and which newspaper was used for the placing of advertisements as part of the public participation process.	Compliant	
Management and monitoring of the activity			
3.14.	The Environmental Management Programme (EMPr) dated 14th April 2015 as included in the environmental impact assessment report is hereby approved, and must be implemented and adhered to throughout the lifecycle of the activity.	Compliant	Isibonelo Colliery is aware and takes cognisance of this condition. Isibonelo Colliery has developed an environmental management system that is aimed at ensuring that the Block Z mining operation is conducted in compliance with the approved EMPr. A separate audit report detailing its findings forms part of the overall audit.
3.15.	Before construction activities may commence, plant species of conservation importance (endemic, protected, Red Data) must be identified and marked, and may not be disturbed, or, where required, the relevant permits for their relocation or removal must be obtained from the relevant authority.	Not applicable	Isibonelo Colliery (Block Z) is currently under the operational phase; however, it must be noted that Isibonelo has a biodiversity management plan that is adhered to and so far, there are no endemic, protected and/or Red Data species identified.
3.16.	Development on, and the removal of indigenous vegetation from, stands zoned as Private Open Space is prohibited unless it is specifically for purposes directly related to the construction of watercourse crossings, attenuation facilities, cut-off canals and road infrastructure specifically approved herein.	Compliant	It was confirmed during the site visit that there is no development on private open spaces or in any unauthorised space or land.
3.17.	Before construction activities may commence, the 32m wetland buffer zones must be surveyed on site in consultation with the engineer and the wetland specialist, and must be clearly demarcated on site for the duration of the construction phase.	Not applicable	Isibonelo Colliery (Block Z) is under the operational phase hence this condition is not applicable. It must be noted however, prior to mining, a wetland assessment was conducted which determined the edge of the wetland systems in close proximity to the Block Z mining operation. Block Plans provided during the audit indicate that construction and mining activities are more than 32 meters away from the identified wetland areas. See plan below showing the approved battery limit for the Block Z opencast mining in relation to the initial


Condition number	Condition	Finding	Observation/ Audit Evidence
			<p>plan and the position of the nearest stream (Dwars-in-die-Weg Spruit)</p> 
3.18.	The applicant must appoint an independent Environmental Control Officer (ECO) that will have the responsibility of monitoring and reporting on compliance with the conditions of this environmental authorisation as well as monitoring and reporting on the implementation of the approved EMPr:	Compliant	<p>All required functions of the ECO are conducted by the mine's internal ECO and the environmental department as a part of Isibonelo Colliery as a whole since Block Z is just an extension of mining.</p> <p>Isibonelo Colliery thus sent a formal letter to the DMRE for this condition to be waived. Communication was sent on the 29th day of May 2019 and DMRE is still under decision making.</p> <p>Note as well that independent auditors are appointed to audit the compliance assessment of the mining operation against the approved EMPr and the issue environmental authorisation.</p>
3.18.1.	The ECO must be appointed before the commencement of construction and the Department must be notified of such an appointment for communication purposes.	Not-applicable	Isibonelo Colliery (Block Z) is under the operational phase and this condition was assessed during the pre-construction and construction phase; however, an ECO was and is still appointed at Isibonelo Colliery (Block Z) who is the responsible and a contact person.
3.18.2.	The ECO must oversee the identification, and relocation or removal of plant species of conservation importance.	Compliant	Extensive amount of proof was provided to prove that the ECO oversees all the environmental aspects on site, creating awareness regarding sensitive habitat, implementing Alien and Invasive control program as well as the success of rehabilitation activities at Isibonelo colliery as a whole (inclusive of Block Z).
3.18.3.	The ECO must, prior to any site clearing activities, oversee the identification and marking of trees that may not be removed.	Compliant	
3.18.4.	The ECO must monitor the contractors' entry into sensitive habitat.	Compliant	
3.18.5.	The ECO must monitor the restriction of construction to designated areas.	Compliant	
3.18.6.	The ECO must oversee the surveying and demarcation of designated wetland buffer zones that are prohibited from being developed.	Compliant	
3.18.7.	The ECO must oversee the implementation of an alien plant control program.	Compliant	
3.18.8.	The ECO must oversee and monitor the success of all rehabilitation activities.	Compliant	
3.18.9.	During the construction phase, the ECO must submit monthly compliance reports to the Department in writing and copy the applicant with such reports. Where applicable, the ECO may negotiate the required frequency for the submission of reports with the Department, which must be agreed to in writing by the Department. The reports must include a description of all activities on site, problems identified, transgressions noted and remedial action implemented. All reports must reflect the Department's reference number of the project on the cover page.	Not applicable	Isibonelo Colliery (Block Z) is under the operational phase and this condition was assessed during the pre-construction and construction phase.


Condition number	Condition	Finding	Observation/ Audit Evidence
3.18.10.	The ECO must maintain the following on site:		
a.	A site diary	Compliant	Proof was provided proving that the ECO keeps records of the day-to-day business.
b.	Copies of all reports submitted to the Department	Compliant	Copies of all reports are kept as hardcopies in the environmental department's office and as soft copies on the ENABLON system and on BOX folder (cloud storage).
c.	A complaints' register of all environmental complaints regarding the proposed project and the remedies applied to such complaints	Compliant	Proof of complaints' register was provided and it's also available on the ENABLON system. It includes the complaint, remediation measures as well as the progress regarding the complaint.
3.18.11.	The ECO must remain employed until all rehabilitation measures as well as site clean-up are completed and the site is handed over to the applicant by the contractor for operation.	Compliant	Isibonelo Colliery has appointed an Environmental Coordinator to ensure adherence to this condition.
3.19.	The holder of the authorisation must submit an environmental compliance audit report to the Department within 30 days of completion of the construction phase. The environmental audit report must indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the conditions of this authorisation as well as the requirements of the EMPr.	Compliant	Isibonelo Colliery appointed Geovicon Environmental to conduct an environmental audit for the mining operation at Block Z in 2020 and the audit was submitted to DMRE on the 10 th of December 2020. The mine completed its construction phase at the same year of the above audit.
3.20.	The Department retains the right to monitor and/ or inspect the proposed project throughout its lifecycle.	Noted	Isibonelo Colliery is aware and takes cognisance of this condition.
Commissioning and operation of the activity			
3.21.	Fourteen (14) days written notice must be given to the Department that the activity will commence. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence.	Not applicable	Isibonelo Colliery (Block Z) is under operational phase and this condition is no longer applicable; however, this condition was audited during the previous audit period and proof was provided that fourteen days written notice was given to the department with regards to the commencement of activities associated with Block Z and environmental authorisation. Such notification was provided in the form of the letter dated and stamped by the DMR on 28 September 2018.
3.22.	Construction personnel must be made aware of the sensitivity of the area and their movements must be limited to the construction areas only and must be enforced in terms of the contracts of appointment.	Not applicable	Isibonelo Colliery (Block Z) is under the operational phase, this condition is thus no longer applicable during this phase and was assessed during the pre-construction and construction phase.
3.23.	The perimeter of the construction site must be defined and demarcation of material lay down areas must precede all activities on site.	Not applicable	Isibonelo Colliery (Block Z) is under the operational phase, this condition is thus no longer applicable during this phase and was assessed during the pre-construction and construction phase.
3.24.	Fencing may not cause erosion and may not impede the flow of any watercourse or natural drainage. Fencing must be monitored throughout the construction and operation phase, and any signs of erosion caused by it must be remedied immediately.	Compliant	The site has been fenced with cattle fencing and the fence itself is raised 300 mm off ground level to allow movement of small animals and to provide a barrier for workers. The ECO monitors and check all aspects relating to the environment including fence inspection.
3.25.	Construction personnel must be made aware of the sensitivity of the area and their movements must be limited to the construction areas only and must be enforced in terms of the contracts of appointment.	Not-applicable	Isibonelo Colliery (Block Z) is under the operational phase, this condition is thus no longer applicable during this phase and was assessed during the pre-construction and construction phase.
3.26.	The clearing of vegetation must be minimised and phased to reduce the risk of significant runoff of sediments into watercourses. Where large areas of vegetation are cleared, strips of intact vegetation must be left to bind soils and reduce the risk of erosion dongas developing	Compliant	From the review of the Block Z layout plan provided, the initial mining layout has been reduced and hence resulted in the minimization of clearing of vegetation, which has significantly reduced the runoff of sediments into watercourses. In compliance with the mine's Rehabilitation Procedure, soil is stripped to a minimum of 2 planned cut widths ahead of mining at all times. This is to ensure prevention of clearing unnecessary large areas of vegetation. See picture below for mining plan showing the stripping of areas ahead of active cuts.


Condition number	Condition	Finding	Observation/ Audit Evidence
			
3.27.	Topsoil must be stockpiled at a height not exceeding 1.5m at a pre-designated location close to backfill area for use during rehabilitation and landscaping.	Not applicable	Live placement of soils and the roll over strategy is undertaken hence the only stockpiles on site are historical stockpiles which will be used to backfill the final voids and these are vegetated to prevent erosion. However, there are no stockpiles in the Block Z area.
3.28.	An alien plant control program must be implemented at the inception of the construction phase. Alien vegetation must be eradicated from wetland and riparian areas, and indigenous vegetation must be planted in wetland and riparian areas where alien vegetation is removed.	Compliant	The Alien and Invasive management plan was implemented at the beginning of the construction phase and was recently updated in August 2020 (proof was provided). All alien flora were identified and a strategy to eradicate them was initiated.
3.29.	The disturbance of breeding habits of birds and wildlife is strictly prohibited.	Compliant	<p>From the review of the Block Z layout plan provided, it was noted that the initial plan has been revised such that the mining area is much further away from the stream hence limiting the disturbance of the breeding habits of birds and wildlife.</p> 
3.30.	Stringent measures must be applied to suppress dust emanating from the construction site.	Not applicable	Mining in Block Z is under the operational phase; therefore, this condition is not applicable.
3.31.	Dust mitigation must be performed via water spraying at the transfer points which are located within the strip mine area and at the Syferfontein coal handling area as stated in the final impact assessment report.	Compliant	Dust suppression is undertaken at planned frequencies and at all potential dust generating localities. Proof was provided which showed that the mine has 4 water bowsers as well as records of the amount of water used for dusts suppression.

Condition number	Condition	Finding	Observation/ Audit Evidence
			
Storm water management must adhere to the following:			
3.32.1.	No surface storm water generated as a result of the development may be channeled directly into any wetland or watercourse, or directly into the riparian zone. All surface runoff generated during both construction and operation phases must be managed prior to entering any natural drainage system, wetland or riparian zone so as not to impact on the natural hydrology and morphology of the watercourse.	Compliant	The mine has developed a comprehensive storm water management plan, which include the Block Z mining area. Storm water diversion trenches and berms are used to divert clean storm water around the mine. During the site visit, the constructed storm water diversion structures at Block Z mining area were evaluated. Based on site observation, no impacts are caused by the storm water being released to the clean water environment.
3.32.2.	Storm water management must be designed to promote infiltration and slow the release of runoff into wetlands and watercourses.	Compliant	A comprehensive water management plan has long been established at Isibonelo Colliery and surface water flow design of Block Z has been considered as part of this plan.
3.32.3.	Any point of overland discharge must be located at least 30m away from a watercourse, wetland, riparian zone or dam and overland discharge must occur over areas that have a minimum vegetation cover of 80%.	Compliant	The mine has developed a comprehensive storm water management plan, which include the Block Z mining area. Storm water diversion trenches and berms are used to divert clean storm water around the mine. During the site visit, the constructed storm water diversion structures at Block Z mining area were evaluated. Based on site observation, no discharge of storm water was undertaken within 30 meters from the nearby Dwars-in-die Weg Spruit.
3.32.4.	All mechanisms for dissipating water energy must be implemented at the inception of the construction phase.	Not applicable	Isibonelo Colliery (Block Z) is under the operational phase and this condition was assessed during the pre-construction and construction phase hence no longer applicable now; however, energy dissipating mechanisms were observed on site.
3.32.5.	The increase in downstream peak flows must be mitigated by retaining storm water until after peak flows.	Compliant	A comprehensive water management plan has long been established at Isibonelo Colliery and surface water flow design of Block Z has been considered as part of this plan, this includes an attenuation dam and retaining dam constructed on site to prevent flooding by retaining storm water. Note that the reduction of the Block Z mining area has reduced the potential impacts of storm water on the nearby stream. No attenuation dams were hence constructed at Block Z mining area.
3.32.6.	Flows leaving the site must be suitably attenuated, specifically for storm events with a return frequency of up to the 1:5 year return frequency. The instantaneous discharge volume and peaks may not	Compliant	A comprehensive water management plan has long been established at Isibonelo Colliery and surface water flow design of Block Z has been considered as part of this plan, this includes an attenuation dam and retaining dam constructed on site to prevent flooding by retaining storm water. Note that the reduction of the Block Z mining area has reduced

Condition number	Condition	Finding	Observation/ Audit Evidence
	exceed 20% of the pre-development conditions measured at the point where the current flows leave the property.		the potential impacts of storm water on the nearby stream. No attenuation dams were hence constructed at Block Z mining area.
3.32.7.	The rate of storm water runoff must be reduced by using mechanisms such as the construction of earth berms, grassed swales and armourflex lined channels and the construction of energy breakers at storm water outlet structures.	Compliant	A comprehensive water management plan has long been established at Isibonelo Colliery and surface water flow design of Block Z has been considered as part of this plan, this includes berms, an attenuation dam and energy dissipating structures.
3.32.8.	Where erosion at the base of swales or channels and at outlets from piped systems is likely to occur, inverts must be armoured to obviate scour, and where appropriate, swales must be grassed or lined.	Not Applicable	It was confirmed during the site visit that there are no Swales, channels and piped system at the Block Z area thus rendering this condition inapplicable.
3.32.9.	Sediment trapping facilities must be employed during the construction phase.	Not Applicable	The Isibonelo Colliery is currently on operational phase, no construction is being undertaken.
3.32.10.	The following measures must be included at the road works and site level:		
3.32.10.1.	All parking areas must be porous to allow infiltration of surface water.	Not Applicable	No new parking areas will be constructed as part of Block Z. Existing infrastructure is used in dirty areas. There are no concreted or paved areas in Block Z.
3.32.10.2.	Run-off from roads and parking areas must, where possible, be directed to infiltration trenches to convey storm water.	Not Applicable	A comprehensive water management plan has long been established at Isibonelo Colliery and surface water flow design of Block Z has been considered as part of this plan; furthermore, there are no parking areas and trenches around Block Z and dirty run off is diverted using berms.
3.33	Increased runoff due to vegetation clearance and/or soil compaction and/or any hardened surfaces must be managed, and steps must be taken to ensure that storm water does not lead to bank instability and excessive levels of silt entering the watercourse or wetland.	Compliant	A comprehensive water management plan has long been established at Isibonelo Colliery and surface water flow design of Block Z has been considered as part of this plan. In addition, weekly surface water modelling and potential gap identification is undertaken. Moreover, the footprint area of Block Z has been reduced thus reducing the impact of on watercourses and wetland.
3.34.	Scouring, erosion or sedimentation of all watercourses and wetlands must be prevented, and the stability of watercourses may not be detrimentally affected.	Compliant	A comprehensive water management plan has long been established at Isibonelo Colliery and surface water flow design of Block Z has been considered as part of this plan. In addition, weekly surface water modelling and potential gap identification is undertaken. Moreover, the footprint area of Block Z has been reduced thus reducing the impact of on watercourses and wetland.
3.35.	Wash down water at the transfer points must be collected and transferred to evaporation and settling dams where the coal is recovered and fed back into the system.	Compliant	Wash down water is controlled and transferred to dirty water catchment facilities around the mine as part of the existing operation. Note that no plant or workshop occurs at the Block Z mining area hence no wash-down water is generated from the Block Z mining area.
3.36.	The quality of water downstream may not deteriorate as a result of construction activities.	Not applicable	Isibonelo Colliery (Block Z) is currently under the operational phase; however, surface water monitoring is undertaken to monitor the quality of water in comparison with the standards set out in the water use licence.
3.37.	Soils that become compacted through the activities of the development must be loosened to an appropriate depth to allow seed germination.	Not applicable	The mining activities have recently commenced in Block Z thus there are no topsoiled areas thus far.
3.38.	Where ablution facilities for construction personnel are required, dry chemical toilet facilities or e-loos must be provided on site at a ratio of 1:10 for construction staff. Ablution facilities may not be located within 50m from any watercourse or wetland or riparian zone, and may not cause pollution.	Not Applicable	Isibonelo Colliery (Block Z) is currently under the operational phase, there are no construction personnel onsite.
3.39.	Chemical toilets must be maintained and cleaned regularly and effluent must be disposed of off-site into an approved municipal sewage system.	Not applicable	It was confirmed during the site visit that there are no chemical toilets at Block Z, existing toilet facilities are used and the mine has its own sewage plant. These will be audited under the main EMP.

Condition number	Condition	Finding	Observation/ Audit Evidence
3.40.	The storage and handling of fuel, lubricants and other chemicals must be in especially demarcated impervious and bunded areas.	Not applicable	<p>Storage and handling of the fuel, lubricants and other chemicals at mine is conducted as part of the existing operations (not located in Block Z) and will be audited under the main EMPr. However, it was confirmed during the site visit that storage and handling of fuel, lubricant and other chemicals is executed in demarcated impervious and bunded areas.</p> 
3.41.	The mixing of cement, asphalt, chemicals or other noxious materials must be undertaken in designated areas on an impermeable layer such as a concrete slab or in a container suitable for this.	Not Applicable	This condition is not applicable since the mine is now on the operational phase.no mixing of cement, asphalt, chemicals or other noxious material undertaken during this audit period.
3.42.	Existing infrastructure, machinery and vehicles must be utilized as far as possible.	Compliant	It was confirmed during the site visit that existing infrastructures and machinery and Block Z is considered as part of the existing operations.
3.43.	Construction vehicles and equipment must be checked and maintained regularly to ensure that there is no environmental contamination as a result of oil, fuel or hydraulic fluid leakages.	Not applicable	Isibonelo Colliery (Block Z) is currently under the operational phase; therefore, this condition is no longer applicable.
3.44.	Pollution due to improper storage of construction materials or any hazardous substances is prohibited.	Compliant	Isibonelo Colliery (Block Z) is currently under the operational phase, there are no construction material on site. Furthermore, hazardous material is stored in designated areas as part of the existing infrastructure and not in Block Z.
3.45.	It is the responsibility of the holder of the authorisation to rectify any source of pollution from their undertaking and to take appropriate measures to prevent any pollution of surface as well as ground water.	Compliant	A comprehensive chemical and other hazardous substances including a water management plan has long been established at Isibonelo Colliery to ensure that appropriate measures to prevent any surface and groundwater contamination.
3.46.	All disturbed areas must be fully rehabilitated and protected from erosion. Rehabilitation measures must be aimed at the prevention of soil erosion and the re-establishment of indigenous vegetation.	Not applicable	Mining activities have recently commenced in Block Z and there are no rehabilitated areas thus far.

Condition number	Condition	Finding	Observation/ Audit Evidence
3.47.	The rehabilitated areas must be contoured to prevent pooling of surface water and ensure that excessive erosion does not occur.	Not Applicable	Mining activities have recently commenced in Block Z and there are no rehabilitated areas thus far.
3.48.	No construction material or any other waste material may be dumped into any watercourse or surrounding area.	Compliant	Isibonelo Colliery (Block Z) is currently under the operational phase, there are no construction material on site. Waste material; however, is managed via skips and wheeled bins whereas used oil and diesel is stored in drums. All this waste is collected by relevant contractors. Proof of waste manifest and safe disposal certificates for all waste was provided.
3.49.	All general waste generated on the site must be disposed of at a registered landfill site or as directed by any other relevant authority.	Compliant	Waste material is managed via skips and wheeled bins. All this waste is collected by relevant contractors. Proof of waste manifest and safe disposal certificates for all waste was provided.
3.50.	All hazardous waste must be disposed of at an official registered site, or be removed by registered hazardous waste contractors.	Compliant	Hazardous material is managed via skips and used oil and diesel is stored in drums. All this waste is collected by relevant contractors. Proof of waste manifest and safe disposal certificates for all waste was provided.
3.51.	All hydrocarbons and hazardous chemicals must be stored in bunded areas as directed in SANS specifications.	Compliant	Storage and handling of the fuel, lubricants and other chemicals at mine is conducted as part of the existing operations (not located in Block Z) and will be audited under the main EMP. However, it was confirmed during the site visit that storage and handling of fuel, lubricant and other chemicals is executed in demarcated impervious and bunded areas. 
3.52.	A noise management programme must be implemented as stipulated in the report and in compliance with SANS 10103:2008.	Non-compliant	Noise management measures are implemented by an Occupational Hygienist onsite. However, according to the noise and vibration monitoring procedure, Isibonelo is using the SABS 083/ SANS 10083 standards which is the measurement and assessment of occupational noise for hearing conservation purposes. Whereas the SANS 10103 standard recommended in this EMP is the measurement and rating of

Condition number	Condition	Finding	Observation/ Audit Evidence
			<p>environmental noise with respect to annoyance and to speech communication. It must be noted that there hasn't been any noise complaint from I & APs during this audit period.</p> <div><div>ISIBONELO NOISE AND VIBRATION MONITORING PROCEDURE</div><div><div>IMPLEMENTATION DATE: 2019/12/17</div><div>NEXT REVIEW DATE: 2022/09/17</div><div>DOC NO: AATC009312</div><div>REVISION NUMBER: 09</div></div></div> <p>5.2 Area / Static Noise Monitoring: (this includes buildings and Machines)</p> <p>Area Noise surveys is conducted using the SABS 083 / SANS 10083 standards. These surveys are conducted using calibrated instrumentation (sound level meter) and source and worst case scenario readings and conditions are captured.</p> <p>This data is analysed by the occupational Hygienist who makes judgement and recommendations to either eliminate or control the noise levels in accordance with section 11 of the Mine health and Safety Act.</p>
3.53.	An Air Quality Management system and monitoring programme must be in place during all phases of the development.	Compliant	Air Quality Monitoring Programme was developed, implemented as part of existing operations.
3.54.	Belt turnovers must be utilised to minimise spillage along the trajectory of the conveyors.	Compliant	<p>It was confirmed during the site visit that belt turnover are utilized.</p> 
3.55.	All hydrocarbons and hazardous chemicals must be transported in accordance with SANS specifications.	Compliant	All oils and hydrocarbons are removed via certified waste contractors who adhere to the relevant SANS specifications.
3.56.	Construction personnel must be sensitized to the requirements of the South African Heritage Resources Act. Should any material of cultural or archaeological significance be encountered during construction, all activities must cease immediately and the South African Heritage Resources Agency (SAHRA) must be informed accordingly.	Not Applicable	Isibonelo Colliery (Block Z) is currently under the operational phase, there are no construction personnel onsite.
3.57	Complaints received from the public during the construction and operational phases of the activity must be attended to as soon as possible and addressed to the satisfaction of all concerned.	Compliant	Proof of complaints' register was provided and it's also available on the ENABLON system. It includes the complaint, remediation measures as well as the progress regarding the complaint.
General			
3.58.	A copy of this authorisation must be kept at the property where the activity will be undertaken. The authorisation must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.	Compliant	The environmental authorisation is kept in hardcopy and electronically at the Isibonelo Colliery environmental office. The electronic copy of the authorisation is also kept on the mine's database system and is accessible on all computers located across the mine.

Condition number	Condition	Finding	Observation/ Audit Evidence
3.59.	Non-compliance with a condition of this authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the regulations.	Noted	Isibonelo Colliery is aware and takes cognisance of this condition.
3.60.	National government, provincial government, local authorities or committees appointed in terms of the conditions of this authorisation or any other public authority shall not be held responsible for any damages or losses suffered by the applicant or his successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the applicant with the conditions of authorisation as set out in this document or any other subsequent document emanating from these conditions of authorisation.	Noted	Isibonelo Colliery is aware and takes cognisance of this condition.

8 DELIBERATIONS

8.1 ADEQUACY AND COMPLIANCE WITH THE ALIGNED EMPR

8.1.1 ADEQUACY OF THE ALIGNED EMPR

An assessment was conducted for the determination of the ability of the EMPr to adequately address the impacts that are arising from the Isibonelo Colliery operations. Below are the areas within the Approved EMPr that may require attention. This may be in the form of an amendment of the Approved EMPr or changes in the mine's internal environmental management system. It must also be noted that Isibonelo Colliery is in the process of amending the Approved EMPr, addressing some of the issues raised below.

- Water balance management is not clearly defined in the Approved EMPr. The EMPr is speaking to the expired controlled release of water from the opencast pits to the Steenkoolspruit. The EMPr does not indicate a reasonable alternative to the management of excess water during flood events. Isibonelo Colliery indicated during the time of the audit that an amendment has been submitted to address this. The risk and mitigation measures as per the consolidated EMPr, for release of excess mine water during flood events into the Steenkoolspruit, was amended to include for the new strategy to store the affected water within Vaskop Dam.
- Anglo Operations (Pty) Limited has developed a strategy to rehabilitate the Steenkoolspruit System since a compensating area of wetland was removed by the Isibonelo strip mine, which was a condition for the approval of the EMPr. This strategy is however not described in the approved EMPr and hence not audited via this environmental auditing process.
- The EMPr does not address the old bulk fuel facility hence not audited in this environmental auditing process; however, the new (expansion area) bulk fuel facility was audited. The audit was used to cover the entire facility.
- During the site visit, graves near the south block were noted. This EMPr does not address the grave site near south block hence not audited; however, these graves were well fenced and clearly demarcated. The graves were also well away from the current mining area. The mine must however indicate if the planned mining will affect these sites and appropriate measures taken to dress any resultant impacts.

8.1.2 COMPLIANCE WITH THE ALIGNED EMPR COMMITMENTS

All non-compliances for the Aligned EMPr have been listed in section 7.1 of this report. The mine has indicated that an application for an amendment of the Aligned EMPr has been submitted to the relevant competent authority (the Department of Mineral Resources and Energy) during the time of this audit for their consideration.

8.2 ADEQUACY AND COMPLIANCE WITH THE BULK FUEL STORAGE FACILITY EMPR

8.2.1 ADEQUACY OF THE EMPR

Assessment of the EMPr indicated that the EMPr is adequate for the management of environmental impacts from the fuel storage facility.

8.2.2 COMPLIANCE WITH THE BULK FUEL STORAGE EMPR

All non-compliances for the Aligned EMPr have been listed in section 7.2 of this report.

8.3 ADEQUACY AND COMPLIANCES WITH THE BLOCK Z EMPR

8.3.1 ADEQUACY OF THE EMPR

On evaluation of the adequacy of the Block Z EMPr, it was clear that the EMPr is adequate for the management of any environmental impact that may arise from the Block Z mining area. The EMPr has addressed all issues relating to the physical, biological and social components of the environment. In addition to the above, Isibonelo Colliery has developed and revised their environmental management system to ensure compliance with the commitments in the approved EMPr for Block Z.

8.3.2 COMPLIANCE WITH THE EMPR

The following non-compliances were identified during the audit:

- No wetting or covering of trucks transporting coal or soil undertaken.
- No regular paleontological inspections of the pit face to identify potential fossils.
- According to the noise and vibration monitoring procedure, Isibonelo is using the SABS 083/ SANS 10083 standards which is the measurement and assessment of occupational noise for hearing conservation purposes. Whereas the SANS 10103 standard recommended in this EMP is the measurement and rating of environmental noise with respect to annoyance and to speech communication.

8.4 COMPLIANCE WITH THE ENVIRONMENTAL AUTHORIZATIONS

8.4.1 BULK FUEL STORAGE EXEMPTION, APPROVED AUGUST 2004, WITH REFERENCE NO.: 17.2.4 EV 37

There were no non-compliances identified during the audit.

8.4.2 BULK FUEL STORAGE EXPANSION ENVIRONMENTAL AUTHORISATION, APPROVED JULY 2012, WITH REFERENCE NO.: 17/2/3N-184

There were no non-compliances identified during the audit.

8.4.3 BLOCK Z ENVIRONMENTAL AUTHORISATION, APPROVED SEPTEMBER 2015, WITH REFERENCE NO.: 17/2/3N-362

The following non-compliance was identified during the audit:

- According to the noise and vibration monitoring procedure, Isibonelo is using the SABS 083/ SANS 10083 standards which is the measurement and assessment of occupational noise for hearing conservation purposes. Whereas the SANS 10103 standard recommended in this EMP is the measurement and rating of environmental noise with respect to annoyance and to speech communication.

9 CONCLUSION

This environmental audit report was compiled to comply with the relevant legislative requirements specifically the NEMA, with the main objectives to report on the compliance status of the commitments and

conditions, as well as the appropriateness and adequacy of the various EMPR's. This audit report will be submitted to the competent authority. Within 7 days of submission of this Audit Report to the competent authority (DMRE), Anglo Operations (Pty) Limited, Isibonelo Colliery, must notify all potential and registered I&APs of the submission, and make this report immediately available to anyone on request and on a publicly accessible website.

It is recommended that Isibonelo Colliery develop action plans to address non-compliances to the EMPR commitments, and EAs conditions, reported in this audit report and the actions be implemented to ensure compliance.

10 DISCLAIMER

This report has been produced by Geovicon Environmental (Pty) Limited, with the skill and care normally exercised by a reasonable Independent Environmental Consultant during the rendering of the service. The service provided by Geovicon Environmental (Pty) Limited should not be considered as a legal opinion of any kind but shall be a representation of the findings. The work performed was based on the Client's scope of work, time and resource allocations, as well as information provided by the Client. Any reference to legislation in this report should not be considered as a substitute for the provisions of such legislation.

Geovicon Environmental (Pty) Limited ensures by all means, that information provided by management and/or representatives is correct and relevant, and that this report is based on information that could reasonably have been sourced within the time period allocated to the audit performed. It should not be assumed that all possible and applicable findings are included in this report as this report represents a sample of the audit. Therefore, should additional information become available, Geovicon Environmental (Pty) Limited reserves the right to amend its findings accordingly.

11 DECLARATION

Mr. Ornassis Tshepo Shakwane of Geovicon Environmental (Pty) Limited, hereby declares that he is an independent auditor and that Geovicon Environmental (Pty) Limited and himself have no business, financial, personal or other interest in this project in respect of which Geovicon Environmental (Pty) Limited is appointed. Furthermore, no circumstances exist that may compromise the objectivity of Geovicon Environmental (Pty) Limited, excluding fair remuneration for work performed in connection with this audit.

Signed: 

Date: 03/11/2021

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