



# **ANGLO AMERICAN INYOSI COAL PROPRIETARY LIMITED (A MEMBER OF THUNGELA RESOURCES LIMITED)**

## **ZIBULO COLLIERY OPENCAST**

**Final**

## **Environmental Audit Report**

**Submitted as contemplated in section 24N(7)(d) of the 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.: MP 30/5/1/2/2/ (338) MR**

**DECEMBER 2022**

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

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Zibulo Colliery (opencast mining operation), which is a Division of Anglo American Inyosi Coal Proprietary Limited (A Member of Thungela Resources Limited), is an operational coal mine located in the Mpumalanga Province near the town of Ogies on the following properties i.e.: Portions 19/12, 39, 40, 41 of Oogiesfontein 4 IS and Portion 12 of Klipfontein 3 IS. The mine is bordered by the N12 highway to the north and the R545 provincial road to the west. A railway line and the town of Ogies are located to the south of the coal reserves.

Zibulo Colliery Opencast Mine was issued with a mining right on 06 October 2010. An Environmental Management Programme Report ("EMPr") was submitted to the then Department of Minerals and Energy ("DME") in January 2010 in support of the Mining Right application. The mine received approval of the EMPr, on 06 October 2010 together with the issuance of the mining right. Zibulo Colliery Opencast is operating in accordance with the approved EMPr (DMRE reference number: MP 30/5/1/2/2/338 EM). The mine is also in possession of a water use licence (Number: 04/B20G/AGJ/809) that was granted on the 17th of May 2011.

In addition to the above, Anglo American Inyosi Coal Proprietary Limited (A member of Thungela Resources Limited) applied for and was issued with an environmental authorisation for the Zibulo Colliery Opencast Mining Eastern and Southern sections' opencast activities. The Eastern Section opencast area is occupied by overburden material stockpile that was removed as part of the initial box-cut material for the existing opencast operations and the Southern Section consists of wetland systems which will be impacted by the approved opencast mining activities. The Eastern Pit is currently used for the stockpiling of overburden material, this material will be removed and stockpiled or placed on top of the mined-out areas once the Eastern Section opencast mining commences. Whereas, the Southern Pit will be mined in an area that was identified as seepage wetland areas. A wetland strategy has been developed to address the impacts of mining these wetland areas associated with the Oogiesfonteinspruit and Saalklapspruit Catchment areas.

Zibulo Colliery Opencast consists of a 35-meter-deep box cut development using the truck and shovel method. The No. 2 and No. 4 coal seams are extracted and hauled to the Phola Coal Processing Plant. The mine access road branches off of the R545. Electricity is supplied from the Phola Coal Processing Plant as part of the agreement between Anglo Coal Limited and South 32. Water is obtained from the Phola Coal Processing Plant. The mine has an allocation for treating dirty water to a maximum of 1MI/day at the eMalahleni Water Reclamation plant.

Clean water is diverted around the mine workings and discharged into the unnamed tributary of the Saalklapspruit, northeast of the site. Dirty water is collected and stored in a dirty water dam. Water from this dam is used for dust suppression purposes. Water is also treated at the eMalahleni Water Reclamation Plant ("EWRP").

In addition to the above EMPr, Zibulo Colliery Opencast was granted two environmental authorisations in terms of the National Environmental Management Act, 1998 ("**NEMA**") ("**EA**"). The EAs were granted for the for the development of an activity, including structures and infrastructure, in respect of 20 hectares or more of the farm Oogiesfontein 4 IS, Ogies, Mpumalanga, with reference no.: 17/2/2/2 NK-1 and for the extension of mining of the farm Oogiesfontein 4 IS and Klipfontein 3 IS, Witbank, with reference number 30/5/1/2/3/2/1/338 EA.

In terms of the NEMA, the amended NEMA Environmental Impact Assessment Regulations, 2014 and the EMPr approval letter, Anglo American Inyosi Coal Proprietary Limited (A member of Thungela

Resources Limited) must assess its compliance with the conditions of the EA and approved EMPr for its mining and associated activities at Zibulo Colliery Opencast.

Anglo American Inyosi Coal Proprietary Limited (A member of Thungela Resources Limited) appointed Geovicon Environmental (Pty) Limited to assess the compliance of Zibulo Colliery Opencast's mining operation against conditions/commitments of the EAs and the EMPr's issued and approved in terms of the NEMA and the MPRDA (for further details on the scope, please see item 3 further below). This report was compiled after completion of the initial and virtual environmental audit and site visit conducted on 29 June 2022.

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## 2. LEGAL FRAMEWORK

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

Section 24N(7)(d) of NEMA requires that the holder and any person issued with an Environmental Authorisation must monitor and audit compliance with the requirements of the EMPr. Regulation 34 of the EIA Regulations, 2014 states that the holder of an environmental authorisation must, for the period during which the environmental authorisation and EMPr remain valid, ensure that compliance with the conditions of the environmental authorisation 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 Zibulo Colliery Opencast is the Department of Mineral Resources and Energy, Mpumalanga Regional Office. The above-mentioned environmental audit report must determine the ability of the approved 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 EA 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 recently amended under Government Notice 517 under *Government Gazette* 44701 published on 11 June 2021, 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 Plan, an audit report 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."*

Zibulo Colliery Opencast's approved EMPR and opencast expansion EMPR remains valid after 8 December 2014. 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 EMPRs and relevant regulations of the NEMA EIA Regulations, a compliance assessment for Zibulo Colliery Opencast's approved EMPRs and NEMA EA are undertaken.

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### **3. SCOPE AND PURPOSE OF THE ENVIRONMENTAL AUDIT**

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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 authorisation and EMPRs –

#### **Environmental Management Programmes:**

- EMPR for Zibulo Colliery opencast, dated December 2009 and approved 6 October 2010, with DMRE reference no.: MP 30/5/1/2/2/338 EM. Zibulo Colliery Opencast,
- EMPR for Zibulo Colliery opencast extension, dated February 2018, with DMRE reference no.: MP 30/5/1/2/2/338 MR. Zibulo Colliery Opencast extension,

#### **Environmental Authorisation (“EA”):**

- Environmental Authorisation for the development of an activity, including structures and infrastructure, where the total area of the developed area is, or is intended to be, 20 hectares or more on portions 12, 19, 39, 40 and 41 of the farm Oogiesfontein 4 I, Ogies, Mpumalanga, approved 30 April 2010, with reference no.: 17/2/2/2 NK-1.
- Environmental Authorisation for the extension of mining of the farm Oogiesfontein 4IS and Klipfontein 3 is, Witbank, approved on 12 February 2020 with reference number 30/5/1/2/3/2/1/338 EA.

Copies of any of these documents are available on 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 EMPRs. The audit was conducted to further determine the ability of the measures contained in the EMPRs to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with Zibulo Colliery Opencast'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 EMPs and EAs and the extent to which the avoidance, management and mitigation measures provided for in the EMPs, achieve the objectives and outcomes of the EMPs.
- To identify and assess any new impacts and risks arising from the Zibulo Colliery Opencast mining activities;
- To evaluate the effectiveness of the EMPs,
- To identify any inadequacies in the EMPs, and
- To identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPs.

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## 4. METHODOLOGY ADOPTED IN PREPARING THE ENVIRONMENTAL AUDIT REPORT

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### 4.1. AUDIT TEAM AND STATEMENT OF INDEPENDENCE

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

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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 with a number of tertiary institutions. He has worked within the three state departments tasked with mining and environmental management i.e. Department of Water and Sanitation (Gauteng and Mpumalanga Region), 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 Zibulo Colliery Opencast. Mr. Shakwane is one of the auditors that Zibulo Colliery Opencast's compliance with their EA and EMPr. 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.

**Auditor 2:** Ms Phangisile Mthimunye

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### **Experience of the Auditor**

Ms. Phangisile Petronelah Mthimunye obtained her degree of Bachelor of Earth Sciences in Mining and Environment in 2016. Her responsibilities include, Water monitoring and Reporting, Performance Assessment Reporting, Prospecting and Mining Permit Applications, NEMA applications, Basic Assessment Reports and Environmental Management Plans.

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 exists that may compromise the objectivity of Geovicon Environmental (Pty) Limited, excluding fair remuneration for work performed in connection with this environmental audit.

### **4. FREQUENCY OF REPORTING**

In terms of regulation 34(2)(d) of the NEMA EIA Regulations "*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*".

Zibulo Colliery Opencast is operated under an EMPr approved in terms of the MPRDA and two Environmental Authorisations and an EMPr approved in terms of NEMA.

Zibulo Colliery's approval letter for the MPRDA approved EMPr (with DMRE reference no.: MP 30/5/1/2/2/338 MR) specify that the auditing frequency required for the approved EMPr is annually.

In the NEMA environmental authorisation and the approved EMPr, no auditing frequency was 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 environmental authorisation to specify the frequency of auditing of compliance with the conditions of the environmental authorisation and compliance with the approved EMPr, the maximum auditing interval allowed is two years. Since the EMPr provides for annual auditing, it may be practical to also annually audit the NEMA environmental authorisation since they are silent on frequency.

#### **4.1 PERIOD THAT APPLIES TO THIS COMPLIANCE ASSESSMENT**

The audit review period for this environmental audit report is 1 March 2021 to 28 February 2022.

#### **4.2 PROCEDURE USED DURING THE COMPLIANCE ASSESSMENT**

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

- Desktop assessment of the approved Zibulo Colliery's approved EMPRs and NEMA EAs. The desktop assessment was used to list all commitments and conditions indicated in the Approved EMPRs 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 EMPRs 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 Zibulo Colliery personnel. 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 EMPRs 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 EMPRs, the adequacy of the information was also assessed through evaluating activities and verifying such against the descriptions and risk assessments provided in the EMPRs, and whether location specific risks and the necessary specialist assessments had been considered.

#### **4.3 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 environmental management programmes and NEMA Environmental Authorisations in place?
- Are the measures adequate and structures maintained, and at what frequency?
- Has the monitoring as indicated in the environmental management programmes and NEMA Environmental Authorisations been conducted? (Data, reports).
- Is the reported frequency of the monitoring in accordance with the environmental management programmes and NEMA Environmental Authorisations? (Reports)

- 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 environmental management programmes and NEMA Environmental Authorisations included the following:

- Compliance with relevant laws pertaining to the environment.
- Compliance of mining and associated activities with the EMPRs and NEMA Environmental Authorisations. (Is the mine conducting activities that are not indicated in the EMPRs and the Environmental Authorisations?)

#### 4.7 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 failure to comply with, or satisfy the requirements of an applicable condition, commitment and/or mitigation measure. When site visits are finally conducted, non-compliances will 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, alternative effective measure is utilised or 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 Zibulo Colliery Opencast 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.

In an event where insufficient information was provided to support the verification of compliance status, the auditors’ general approach was to indicate that such commitments/conditions could not be verified, and as such, the findings were noted as undetermined.

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## 6 EMPr RECOMMENDATION REPORT

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Regulation 34(4) of the EIA regulation, 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 environmental authorisations or EMPrs and where applicable the closure plan;

the holder of the must when submitting the environmental audit report to the competent authority in terms of sub regulation (1), submit recommendations to amend the EMPr 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 Zibulo Colliery Opencast is in a process to undertake an amendment process to address some of the non-compliances and recommendations.

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## 7 RESULTS OF THE ENVIRONMENTAL AUDIT

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The results of the Environmental Audit are given in the Tables below. The tables below outline the EMPrs and the EAs for each of the authorised activities at Zibulo Colliery Opencast.

**7 ZIBULO COLLIERY OPENCAST EMPR AUDIT (MP 30/5/1/2/2/ 338 MR)**

Aspect	Impact	Management principle	Mitigation measure	Compliance	Audit findings/observation
<b>Activity: Strip mining</b>					
Removal of overburden	Geology impact	To place material optimally for rehabilitation and minimizing acid generation	Place excavated materials optimally in terms of surface rehabilitation.	Compliant	Stockpiles at Zibulo Colliery opencast are separated based on type and characteristics (e.g. topsoil, softs, hards, wetland material). In accordance with the Zibulo Opencast Rehabilitation Procedure (AATC016665), topsoil and subsoil are stripped separately with topsoil stripping occurring to a depth of 1.5 m in all areas. According to the Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd (copy of which was made available), topsoil is stripped from ahead of the mining window and is placed 'live' on profiled spoils.
			Place excavated materials optimally in terms of potential acid generation, if the mining technique allows for stratified handling.	Compliant	In accordance with Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, during the mining process, concurrent rehabilitation takes place. Rehabilitation operation is conducted such that spoils, which will most likely have contaminating material, are used as backfilling material as part of the roll over operation.
			All carbonaceous/acid generating units must be placed in the bottom of the pit, if possible.	Compliant	Carbonaceous material is placed at the bottom of the pit during rehabilitation of the mined out opencast pits.
			At Oogiesfontein 100% of the coal floor is flooded at decant and 42% of the pit volume is present below decant elevation (1524mamsl).	No mitigation measure has been provided for implementation.	
			A detailed materials balance must be compiled to optimise placement of spoils, subsoil and topsoil, in order to obtain a well-landscaped and sustainable final rehabilitation profile, to minimise infiltration and intake of atmospheric oxygen.	Compliant	According to the Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, the operation continuously reconciles its volumes to ensure that a full record is kept of materials on stockpile and material backfilled into the pit to ensure that a balanced volumetric plan is in place to confirm the achievement of the modelled final landform.
			Ongoing monitoring of the rehabilitation process will be undertaken and recommendations on the geological/geohydrological setting will be made.	Compliant	The Surveyor sends out monthly reports indicating areas that have been rehabilitated, the mine also undertakes weekly planning meetings which incorporates the rehabilitation process. According to the Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, monitoring is conducted after two growing seasons, and if the required 10% basal cover with a representation of at least 4 species is not achieved, remedial action may be implemented, or the area may stand over another season. During monitoring the operation will ensure that the following information forms part of the reporting process: • post-mining soil surveys completed, and records are available to show bulk densities, and other physical and chemical properties, of replaced soils. • Operation has a record of areas rehabilitated to different land capability classes and has assessed performance against EMPr land capability targets. • Confirm that target areas for different land capability classes have been met and that this can be demonstrated by post-mining land capability surveys.
Ongoing rehabilitation during the mining process	Topography impacts	To create a free draining landscape	Shape the spoils to emulate the existing topography and create free drainage towards the unnamed tributary of the Saalklapspruit.	Compliant	According to the Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd the post-mining Digital Terrain Model (DTM) with drainage plan indicates that all areas are free-draining and that drainage lines report to identified target natural wetlands/watercourse.
	Soils impact land capability	To avoid impacts on soil integrity and quality	During steady state mining the usable soil stripped ahead of mining in accordance with the soil stripping map (Figure 2-2) during the dry season will be placed directly on levelled spoils to avoid stockpiling.	Compliant	According to Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd topsoil is stripped from ahead of the mining window and is placed 'live' on profiled spoils. The placed topsoil is then levelled to different depths which correspond to the land capability requirement of that area. Anglo American Topsoil Operations is governed by a topsoil procedure which

Aspect	Impact	Management principle	Mitigation measure	Compliance	Audit findings/observation														
					is guided by the topsoil strategy document (this is regarded as industry best practise). Please note that this commitment was amended to align with the Zibulo Opencast Rehabilitation Procedure (AATC016665). The Zibulo Opencast is a mini pit and faces space constraints, it is thus very difficult for soils to be placed on levelled spoils as this space can be used for other stockpiles.														
			Induced compaction will be reduced by limiting the access of vehicles onto the rehabilitated land.	Compliant	Access is restricted on all areas that have been rehabilitated or are in the process of being backfilled and rehabilitated. The access restriction is implemented through the placement of berms and the removal of the access ramps.														
			The effects of over-compaction will be alleviated by ripping.	Compliant	Rehabilitation at Zibulo Colliery, in terms of backfilling, levelling and topsoiling is conducted by the external mining contractor. Seeding is then undertaken by a contractor (Hydromulch) who further determines the ripping and fertilizer requirements prior to seeding.														
			A qualified person will carry out soil sampling to establish lime and fertilizer requirements prior to the start of the rehabilitation process.	Compliant	Soil analysis and fertilizer were conducted by Hydromulch on 7 March 2014. A sub-soil analysis (fertility/fertilizer recommendation) by Hydromulch was submitted for review during the audit. It was however determined that no recent soil sampling has been undertaken to establish lime and fertilizer requirements for the rehabilitation process. Zibulo Colliery must apply for an EMPr amendment application to reword this commitment to "soil analysis will be undertaken by a qualified person as and when required to determine the fertility of the soil, should revegetation and the propagation thereof not achieve the required basal cover (GCS, 2005). A report thereof will be made available on request. Further, fertiliser will also be applied during the seeding process."														
	Vegetation and fauna	To re-establish the indigenous vegetation cover in the mining area during steady state mining.	Vegetation will not be cleared from the site prior to stripping to provide additional organic nutrients to the soil and help preserve the soil structure.	Compliant	Vegetation is stripped along with topsoil to maintain the seedbanks and organic material.														
			The mine will demarcate each year the potential area to be mined during that year, the environmental officer will arrange that a rescue operation take place within that area during the growing season of the previous year. Plants rescued will be propagated on site and replaced on the site during rehabilitation.	Not Applicable	According to the Zibulo Colliery Biodiversity and Land Management Plan and the Fauna and Flora Assessment undertaken by Digby Wells Environmental, there is potential for red data species to occur within Zibulo Colliery's mining area. Mine personnel reported that prior to stripping activities, the area is demarcated and a site inspection conducted to determine whether any red data species occur on site. To date and according to the Wetland Study provided, no red data species have been identified (especially within the wetland areas), therefore, no rescue operations have been required.														
			Stands of exotics must be cut and controlled within these areas, and used as stipulated in the construction phase.	Not Applicable	The mine is in its operational phase and hence the commitment is no longer applicable. It was however indicated that appointed contractors, Hydromulch, as well as mine personnel conduct regular site inspection to determine alien invasive and weed propagation and implement control measures where required.														
			A mixture of the grasses of Eragrostis curvula (8kg/ha), E. tef (3kg/ha), Chloris gayana (2kg/ha), Digitaria eriantha (5kg/ha) and Cynodon dactylon (3kg/ha) recommended for revegetation.	Compliant	According to Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, seeding is conducted by seeding contractors. A seeding mix of the following species is used for rehabilitation purposes at Zibulo Colliery: <table border="1" data-bbox="2071 1612 2694 1869"> <thead> <tr> <th>Species</th> <th>Rate (Kg/Ha)</th> </tr> </thead> <tbody> <tr> <td>Eragrostis curvula</td> <td>8 kg / ha</td> </tr> <tr> <td>Eragrostis tef</td> <td>3 kg / ha</td> </tr> <tr> <td>Chloris gayana</td> <td>2 kg / ha</td> </tr> <tr> <td>Digitaria eriantha</td> <td>5 kg / ha</td> </tr> <tr> <td>Cynodon dactylon</td> <td>3 kg / ha</td> </tr> <tr> <td><b>Total</b></td> <td><b>21 kg / ha</b></td> </tr> </tbody> </table>	Species	Rate (Kg/Ha)	Eragrostis curvula	8 kg / ha	Eragrostis tef	3 kg / ha	Chloris gayana	2 kg / ha	Digitaria eriantha	5 kg / ha	Cynodon dactylon	3 kg / ha	<b>Total</b>	<b>21 kg / ha</b>
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			Once the area has been revegetated, it should be monitored for declared weeds and invasive plants.	Non-compliant	The mine indicated that inspections of the rehabilitated areas are undertaken by mine employees (Environmental Department) and are further undertaken by Hydromulch. However, no proof was provided to determine compliance of this condition.
			During the initial stages, grazing animals should be kept away from the area.	Compliant	Zibulo Colliery opencast mine boundary is fenced with access control for security purposes as well as to prevent access to grazing animals.
			Veld fires should be controlled.	Compliant	Mowers and disking machinery are utilized to construct the firebreaks. Zibulo Colliery also confirmed that firebreaks are established at the beginning of the second quarter, prior to the winter months.
Surface management	water impacts	<p>To minimise the impact on catchment yield</p> <p>To prevent floods up to the 1:100 year recurrence interval flood from spilling to the dirty water systems associated with the mining infrastructure</p> <p>To identify and control surface water runoff that may be affected by mining, as well as the water balance associated with the mining operations, and to ensure the risk of spilling of this water to the clean catchment is : in line with licensing requirements, and legislative requirement</p> <p>To ensure the downstream water quality objectives are both understood and compiled with by relevant mine personnel in terms of the mine's potential impact on the environment</p> <p>To ensure adequate monitoring so that the objectives of the water management system can be met</p>	<p>Measures are required to maximise the return of mined areas to the catchment as soon as they will generate clean runoff. All spoils within the opencast section will be rehabilitated and made free draining as soon as possible after placement.</p> <p>Ensuring the rehabilitated spoils levels line up with the natural topography, including some allowance for settlement.</p> <p>Stripping the full depth of available soft soils to limit the long term recharge to the mined out area.</p> <p>Grassing will be undertaken on a seasonal basis, to ensure the germination of the grass species. However, by the start of the rainy season all topsoil areas will have been seeded to ensure maximum drainage from these areas of clean water back into the catchment system without excessive suspended solids.</p> <p>The final rehabilitation plan is based on a free-draining landform, which will require the entire overburden stockpile to be placed back into the pit during decommissioning.</p> <p>Manage the dirty water make.</p>	<p>Compliant</p> <p>Compliant</p> <p>Compliant</p> <p>Compliant</p> <p>Compliant</p>	<p>In accordance with Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd the post-mining Digital Terrain Model (DTM) with drainage plan indicates that all areas are free-draining and that drainage lines report to identified target natural wetlands/watercourse. The design is based on achieving the Mine's EMPR requirements, and to achieve a free draining post mining topography.</p> <p>According to Zibulo Colliery rehabilitation plan excel power point, the cross section indicates how rehabilitation monitoring is conducted and as can be seen, the backfilling and levelling will ensure that the actual topography is in line with the modelled post mining topography.</p> <p>Soil stripping is done according to the Topsoil Management Procedure (AATC000582), which clearly indicate that soil stripped (growth medium) must comprises the A-Horizon and non-plinthic B-Horizon and that striping of the plinthic material and sub-soil horizons must be avoided.</p> <p>Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd indicates the amount of topsoil stripped and the area requiring reshaping and topsoil placement, which is based on the available material removed and extent of the disturbed areas. According to the above plan, as much of the useable material are striped/excavated and used for rehabilitation.</p> <p>Hydromulch (Pty) Ltd was appointed by Anglo Coal to provide revegetation services at Zibulo Opencast. Hydromulch was established on Wed 7th April 2021 to carry said revegetation works.</p> <p>In accordance with Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd the post-mining Digital Terrain Model (DTM) with drainage plan indicates that all areas are free-draining and that drainage lines report to identified target natural wetlands/watercourse. The operation continuously reconciles its volumes to ensure that a full record is kept of materials on stockpile and material backfilled into the pit to ensure that a balanced volumetric plan is in place to confirm the achievement of the modelled final landform.</p> <p>Zibulo Colliery operates three (3) pollution control dams namely the 40 MI Dam, the 9 MI Dam and the 1 MI Dam in accordance with a water use licence granted in terms of the NWA (licence number: 4/B20G/AGJ/809) ("WUL") in May 2011. All dewatered pit water is pumped to the 40 MI Dam and when required, the water is pumped to the 9 MI Dam (balancing dam). The 9 MI Dam also receives mine affected surface water runoff from the workshop and office area, secondary crusher area and ROM coal loading area. The 1 MI Dam receives mine affected surface water runoff from the 9 ML Dam</p>

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					overflow as well as the tipping ramp area. In the event that the 1 MI Dam overflows, the mine affected water accumulates within the open pit where after it is pumped back to the 40 MI Dam. The 40 MI also receives water from the Zibulo Colliery UG 20 MI Dam (pumped via the Phola Plant). Surplus water is then pumped to the EWRP. Zibulo Colliery OC has also entered into an agreement with Phola Plant, whereby excess mine affected water is provided to Phola Plant for re-use in the plant. The agreement with Phola Plant and the provision of mine affected water to EWRP has substantially reduced the quantity of affected water on the mine, with resultant relief on the capacities of the process water dams.
			The water balance should be easily managed for this site, provided there are adequate water tankers to allow the water make to be reused for dust suppression, and adequate pumping capacity back to Phola Coal Processing Plant. Once the water balance model has been calibrated, adequate storage space will be provided to prevent spilling during extreme wet years.	Compliant	Dust suppression with mine affected water is conducted using water tankers. Surplus mine affected water is pumped to EWRP with additional mine affected water provided to Phola Coal Processing Plant for re-use in the plant. The agreement with Phola Plant and the provision of mine affected water to EWRP has substantially reduced the quantity of affected water on the mine. No event of dirty water spillages to the environment due to the storage facilities not being able to handle volumes of water emanating from extreme storm events. A water balance dated 9 December 2020 was made available for referencing.
			Note that the provisional pumping rate given here (150l/s) should not be used as a final design parameter, an analysis is required to assess the pumping rate compared to loss of production.	Compliant	Data and reports generated following the installation of electromagnetic flow meters were used to update the pumping rates within the water and salt balance for the Zibulo Colliery. Zibulo Colliery has also implemented a SCADA system, a live system used to monitor the water reticulation and management system at the Zibulo Colliery. Information from the flow meters is transmitted to the system to update and record all volumes of water pumped, abstracted and disposed of at Zibulo Colliery. The 150 l/s pumping rate although indicated on the SCADA system, 100 l/s pumping rate has been indicated as the general average.
			The objective of the surface water monitoring system is to ensure that the water management systems perform according to specifications, to act as a pollution early warning system, to check compliance with license requirements and for reporting purposes. The objectives of these systems will be achieved if there is no impact (attributable to the mine) on the in-stream and downstream fitness for use criteria. The sampling points are based on the current sampling points, with only additional points on the mine (for dirty water) added as required.	Compliant	Water quality monitoring is performed by an external contractor (Aquatiko Scientific (Pty) Ltd). Dirty water containment facilities including up- and downstream surface water localities are included within the monitoring programme to assess impacts on the receiving surface water environment. Compliance is measured according to the conditions as stipulated in the WUL.
			Data will continue to be presented in graphic and tabular form indicating maximum, minimum and average values with information being submitted annually to DWAF or more frequently if required. As is currently the practice, these submissions are included in the annual EMA.	Compliant	A review of the Quarterly Water Quality Assessment Report January - March 2022 compiled by Aquatiko Scientific (Pty) Ltd confirmed that the data is presented in graphic and tabular form. Proof of submission of the 2021 Annual Water Quality Assessment Report to the DWS was made available for referencing.
			Electrical Conductivity, pH, TDS, SS, Cl, SO4, Na, F, Fe, Al, Mn, Zn, Total Alkalinity, Ca, Mg, K, Total Hardness will be measured monthly.	Compliant	All variables, as per this commitment, are included in the Quarterly Water Quality Report January - March 2022 compiled by Aquatiko Scientific (Pty) Ltd. All surface and process water localities were sampled monthly as required by the IWUL.
			Analyses to 95% charge balance will be undertaken at 6 monthly intervals, including all metals.	Non-compliant	Water quality monitoring and analyses are performed by Aquatiko who is also SANAS accredited. The charge balance is a basic requirement of SANAS accreditation. Monitoring is performed according to the

Aspect	Impact	Management principle	Mitigation measure	Compliance	Audit findings/observation
					WUL that specifies that lead, iron, manganese and aluminium analyses be performed within the dirty water containment facilities. Zibulo Colliery must apply for the EMP amendment application to remove this condition because the charge balance is already calculated as part of a quality check. This does not need to be analysed separately. Metals to be tested are required as per the IWUL and include within the abovementioned commitment.
Groundwater management	Groundwater related impacts	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.	Management measures for the operational phase, relating to recharge potential, will focus on continuous rehabilitation as mining progresses. The recharge potential for unlevelled spoils is higher than that for levelled spoils, and is higher in turn than that of re-vegetated areas. Continuous, optimal rehabilitation will effectively minimize recharge to areas disturbed by strip mine mining.	Compliant	In accordance with Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, Zibulo Colliery is performing in accordance with the rehabilitation plan, which ensures that rehabilitation is conducted concurrently with the mine which will ensure that as much of the mined out opencast areas as possible are rehabilitated. Backfilling of the excavated material are indeed replaced during rehabilitation.
			The increased influx of ground water into the strip mine during the operational phase will be managed as part of the total water balance.	Compliant	The active mine pits are dewatered with the mine affected water pumped to the 40 MI Dam and is managed as part of the water balance. A Water balance dated 9 December 2020 compiled by Golder was made available for referencing.
			Mine planning personnel must determine the extent of strip mine mining for any given time during the operational phase.	Compliant	The extent of strip mining is indicated in the Zibulo Updated Mine plan that includes the Southern Box cut.
			These areas, together with the additional areas covered by the virtual cone of depression, must be identified as the areas of potential depletion.	Non-compliant	An updated groundwater modelling report, which determines the areas considered for the potential depletion for Zibulo Colliery was not made available for referencing.
			Mine personnel must use the geohydrological information, as provided in Table 2.10(A) and 2.10(B) in Appendix 1 to determine the potential impact of strip mine mining on any given area via the ground water monitoring boreholes.	Compliant	A water monitoring programme is in place for Zibulo Colliery with groundwater monitoring conducted in terms of the approved IWUL with cognizance of the minimum requirements for monitoring. The groundwater monitoring is used to determine the impacts of mining on ground water regime.
			The yielding capacity of all boreholes potentially affected, must be mutually agreed on by the owner and mine authorities or through long-term geohydrological pump testing.	Not-applicable	No formal complaints with regards to the yielding capacity of surrounding boreholes have been received hence no agreement regarding yielding capacity of the surrounding boreholes were required.
			All external users' boreholes within a 1 km radius of any mining activities must be monitored for water level response.	Compliant	According to the quarterly water monitoring at Zibulo Colliery external users' boreholes within a 1 km radius are included.
			A structured compensation protocol, to be compiled in consultation with external users, will be commissioned for the Oogiesfontein Opencast strip mine areas. The main component of such a protocol will be the yielding capacity of external user's resources - a parameter already mutually agreed on. This protocol will control alternative water supply to external users in the event that their ground water resources have been detrimentally affected by Oogiesfontein Opencast strip mine mining activities. The protocol will be initiated based upon a geohydrological interpretation of water level response and/or pumping test results.	Not-applicable	No formal complaints with regards to the yielding capacity of surrounding boreholes have been received. Should such a complaint be received, it will be investigated and should it be found to be as a result of mine dewatering, compensation will be provided to the affected water user. The compensation of affected external water users will occur on a case-by-case basis and will occur as per an agreement between Zibulo Colliery OC and the affected water user. The affected water user will be given water from the mine or a monetary compensation. All engagements with stakeholders take place according to the EMS stakeholder communication, complaints and grievance procedure (ZIB/ENV/SYSP/0006).
			The ground water monitoring at Oogiesfontein Opencast strip mine must be done subject to monitoring guidelines contained in the document "Minimum Requirements for Monitoring at Waste Management Facilities", published by DWAF.	Compliant	A water monitoring programme is in place for Zibulo Colliery with groundwater monitoring conducted in terms of the approved WUL with cognizance of the minimum requirements for monitoring. Quarterly groundwater monitoring is conducted.
			A formalised and documented ground water monitoring system must be commissioned, according to the requirements outlines in the DWAF	Compliant	A formalised water-monitoring programme is in place as documented in the Zibulo Water Monitoring Procedure (AATC016632). Groundwater sampling and analyses are performed by Aquatico, a

Aspect	Impact	Management principle	Mitigation measure	Compliance	Audit findings/observation
			publication, and site-specific conditions. The monitoring system must consist of the following components: Dedicated monitoring localities, e.g. boreholes in/around rehabilitated mine workings, boreholes within potential impact zones of surface pollution sources, and selected external users' boreholes and springs. Care must be taken to ensure that the construction specifications of all additional boreholes are fully compliant with the Minimum Requirements of DWAF; Realistic monitoring frequencies; Applicable monitoring/sampling techniques e.g. stratified sampling for monitoring holes, application sampling for external users' boreholes, and grab sampling for springs; Differentiated list of water quality variables, as applicable to the various sampling localities and frequencies; Laboratory analysis techniques will comply with SABS guidelines; Data storage protocols, e.g. data base, GIS.		SANAS accredited laboratory and results interpretation is performed by Groundwater Complete. Water monitoring boreholes are strategically placed to account for the impact from rehabilitated areas, zones of surface water pollution and external borehole users (regional boreholes).
			Six monthly monitoring reports must consist of the following: Systems audit; Efficiency and design; Status of monitoring system; Data audit and the compliance protocols used; Water quality trends and the comparative protocols used; Water quality comparison and verification of analytical quality (ion balances); Hydrochemical image comparison and variation protocol used; Ground water level data trends and comparative protocols used; Upgrading of ground water monitoring system; Conclusions on the monitoring system efficiency; Recommendations on gaps/shortcomings of the current system.	Non-compliant	The mine indicated that a regional water-monitoring programme exists with the reports thereof submitted to the DWS on a quarterly and annual basis. It is to be noted that reports are submitted to the DWS in accordance with the approved WUL. It is also noted that Zibulo Colliery conducts annual internal ISO and systems audits to ensure the efficiency and status of the monitoring system. Zibulo Colliery must apply an EMP amendment application to align it with that of the WUL as well as separate the various reports based on the department they must be sent to and the times of submission.
			All spoils must be rehabilitated.	Compliant	In accordance with Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, Zibulo Colliery undertake its opencast mining concurrently with rehabilitation whereby spoils removed are as much as possible used for backfilling the mine out opencast voids. Continuous backfilling and rehabilitation is conducted where spoils used for backfilling are rehabilitated via levelling and topsoil with re-vegetation. However not all spoils have been used to backfill the mine's voids, Spoil 1-4 are still in existence. These spoils will be used for the rehabilitation of the mine's final voids. The current rehabilitation progress and presence of the spoils were confirmed during the site visit at the opencast mining area.
			The absolute minimum area of vegetation and topsoil will be removed from the mining area at any one time.	Compliant	Topsoil is stripped from ahead of the mining window and is placed 'live' on profiled spoils.
			Spoils will be rehabilitated on an ongoing basis to leaving a maximum of 4 strips of unrehabilitated spoils behind the active pit.	Compliant	Levelling and rehabilitation activities are undertaken two (2) spoils rows behind the active mining strip as described in the 5-year Rehabilitation Plan.
Stockpiling Of overburden	Visual impact	To reduce the visual impact of the mine	An indigenous tree screen will be planted around the mine and infrastructure areas.	Compliant	Vegetated overburden and topsoil dumps have been placed around the mining area in order to minimise the visual intrusion of the mine. Trees were planted next to gate of the Zibulo opencast colliery.
Truck and shovel operations	Air quality	To minimise the impact of dust generation and greenhouse gas emissions	Applications of a chemical binder to permanent haul roads to develop a crust coupled to watering and sweeping to eliminate dust mobilisation from this source.	Compliant	A chemical binder in the form of Dustex as well as mine affected water as obtained from the 1 MI Dam are used to suppress dust on the haul roads.
			The revegetation of idle stockpiles and berms.	Compliant	Vegetated overburden and topsoil dumps have been placed around the mining area in order to minimise the visual intrusion of the mine.

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			Constant watering (with water trucks) in areas where materials removal, placement or manipulation is occurring.	Compliant	Water bowsers dowse with mine affected water and dustex to suppress dust.
			On-going dust fallout monitoring using the current network to assess the effectiveness of dust control measures.	Compliant	Zibulo Colliery has developed and implemented the Zibulo air quality monitoring procedure (AATC016306), that covers the management and monitoring of fallout dust and Particulate Matter at Zibulo Opencast Operations. WSP Environmental (Pty) Ltd has been appointed by Zibulo Colliery to manage the dust fallout monitoring network and ambient monitoring for the colliery. The report May 2022 air quality monitoring report, was provided for review. Exceedances are recorded in the ENABLON system for investigation and corrective action.
			Under very windy conditions, management on the mine will decide whether haulage should be reduced or stopped altogether until conditions improve.	Noted	The mine takes note of this condition.
			Vehicles should not be left idling when not in use.	Compliant	As per the Anglo Fatal Risk Standard, no vehicles are allowed to be left idling when not in use.
			To and emissions of greenhouse gases, stockpile containing carbonaceous material will be capped and mined out areas will be rehabilitated as soon possible to prevent old workings being open.	Compliant	Spontaneous combustion areas identified are managed as part of the mining operation and the overall safety programme for the mine. All areas with the potential for spontaneous combustion were identified. The hards stockpiles were not identified as areas where spontaneous combustion can occur. Hards stockpiles are hence not capped. Capping is however undertaken when the areas with spontaneous combustion are identified which is hot spoils. Water cannons are available at the product stockpile area for use for dust suppression as well as to be used in the event of spontaneous combustion.
			An air emissions inventory will be developed.	Compliant	An air quality management plan, Air Quality Impact Assessment and Air Quality Management Plan for the Zibulo Colliery has been developed by Airshed Planning Professionals (Airshed, 2012). Further, the mine provided proof of the NAEIS registration as undertaken as well as proof of submission.
			Strict speed control (30km/h) will be implemented and the shortest haul routes will be used.	Compliant	The mine indicated that the shortest haul roads are used as it is an economic requirement for the mine. A maximum speed limit of 40km/h (and not 30km/h) is enforced and abided by as per Anglo Safety Standard and is further based on a risk assessment conducted by Zibulo Colliery. According to the monthly air quality report, Conducted by ECO Elementum dated September 2022, the monitoring points within the colliery were within the dust limits, this shows that the speed the mine is driving at does not cause dust to exceed the limits. However, the mine must amend this commitment to align with the applicable mine safety standard.
<b>Activity: Soil handling</b>					
Ongoing rehabilitation during the mining process	Topography impacts	To create a free draining landscape	Shape the spoils to emulate the existing topography and create free drainage towards the unnamed tributary of the Saalklapspruit.	Compliant	According to Zibulo rehabilitation plan excel power point, the cross section indicates how rehabilitation monitoring is conducted and as can be seen, the backfilling and levelling will ensure that the actual topography is in line with the modelled post mining modelled topography.
			Soil will be stripped in accordance with the soil stripping plan which provides the minimum stripping depths.	Compliant	Soil stripping is done according to the Topsoil Management Procedure (AATC000582A), which was made available for review.
			The action of soil stripping causes the material to expand in volume, a process known as bulking. This is followed by a degree of natural compaction as the material settles after replacement. Induced compaction will be reduced by limiting the access of vehicles onto the rehabilitated land. The effects of over-compaction will be alleviated by ripping.	Compliant	Rehabilitated areas are protected from induced compaction through limiting access by placement of berms and / or the removal of access ramps.

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Ongoing rehabilitation during the mining process	Vegetation and animal life	To re-establish the indigenous vegetation cover in the mining area during steady state mining	Vegetation will not be cleared from the site prior to stripping to provide additional organic nutrients to the soil and help preserve the soil structure.	Compliant	Vegetation is stripped along with topsoil so as to maintain the seedbanks and organic material.														
			A mixture of the grasses <i>Eragrostis curvula</i> (8kg/ha), <i>E. tef</i> (3kg/ha), <i>Chloris gayana</i> (2kg/ha), <i>Digitaria eriantha</i> (5kg/ha) and <i>Cynodon dactylon</i> (3kg/ha) is recommended for revegetation.	Compliant	According to Zibulo Colliery's 5-year rehabilitation plan, seeding is conducted by seeding contractors. A seeding mix of the following species is used for rehabilitation purposes at Zibulo Colliery:														
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Once the area has been revegetated, it should be monitored for declared weeds and invasive plants.	Non-compliant	The mine indicated that inspections of the rehabilitated areas are undertaken by mine employees (Environmental Department) and are further undertaken by Hydromulch. However, no proof was provided to determine compliance of this condition.																	
During the initial stages, grazing animals should be kept away from the area. Veld fires should be controlled.	Compliant	Zibulo Colliery opencast mine boundary is fenced, with access control, for security purposes as well as to prevent access to grazing animals. This was confirmed during the limited site visit.																	
Surface Water Management	Contamination of surface water	<p>To minimise the impact on catchment yield</p> <p>To prevent floods up to The 1:100-year recurrence interval flood from spilling to the dirty water systems associated with the mining infrastructure</p> <p>To identify and control surface water runoff that may be affected by mining, as well as the water balance associated with the mining operations, and to ensure the risk of spilling of this water to the clean catchment is: In line with licensing requirements; and Legislative requirements</p> <p>To ensure the downstream water quality objectives are both understood and complied with by relevant mine personnel in terms of the mine's potential impact on the environment to ensure adequate monitoring so that the objectives of the water management system can be met</p>	Stripping the full depth of available soft soils to limit the long-term recharge to the mined-out area.	Compliant	Soil stripping is done according to the Topsoil Management Procedure (AATC000582), which clearly indicate that soil stripped (growth medium) must comprise the A-Horizon and non-plinthic B-Horizon and that stripping of the plinthic material and sub-soil horizons must be avoided. Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, indicates the amount of topsoil stripped and the area requiring reshaping and topsoil placement, which is based on the available material removed and extent of the disturbed areas. According to the above plan, as much of the useable material are striped/excavated and used for rehabilitation.														
			Grassing will be undertaken on a seasonal basis, to ensure germination of the grass species. However, by the start of the rainy season all topsoil areas will have been seeded to ensure maximum drainage from these areas of clean water back into the catchment system without excessive suspended solids.	Compliant	Hydromulch (Pty) Ltd was appointed by Anglo Coal to provide revegetation services at Zibulo Opencast. Hydromulch was established on Wed 7th April 2021 to carry said revegetation works.														
			The final rehabilitation plan is based on a free-draining landform, which will require the entire overburden stockpile to be placed back into the pit during decommissioning.	Compliant	In accordance with Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd the post-mining Digital Terrain Model (DTM) with drainage plan indicates that all areas are free-draining and that drainage lines report to identified target natural wetlands/watercourse. The operation continuously reconciles its volumes to ensure that a full record is kept of materials on stockpile and material backfilled into the pit to ensure that a balanced volumetric plan is in place to confirm the achievement of the modelled final landform.														
			Managing the dirty water make.	Compliant	Zibulo Colliery operates three (3) pollution control dams namely the 40 MI Dam, the 9 MI Dam and the 1 MI Dam in accordance with a water use licence granted in terms of the NWA (licence number: 4/B20G/AGJ/809) ("WUL") in May 2011. All dewatered pit water is pumped to the 40 MI Dam and when required, the water is pumped to the 9 MI Dam (balancing dam). The 9 MI Dam also receives mine affected surface water runoff from the workshop and office area, secondary crusher area and ROM coal loading area. The 1 MI Dam														

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					receives mine affected surface water runoff from the 9 ML Dam overflow as well as the tipping ramp area. In the event that the 1 MI Dam overflows, the mine affected water accumulates within the open pit where after it is pumped back to the 40 MI Dam. The 40 MI also receives water from the Zibulo Colliery UG 20 MI Dam (pumped via the Phola Plant). Surplus water is then pumped to the EWRP. Zibulo Colliery OC has also entered into an agreement with Phola Plant, whereby excess mine affected water is provided to Phola Plant for re-use in the plant. The agreement with Phola Plant and the provision of mine affected water to EWRP has substantially reduced the quantity of affected water on the mine, with resultant relief on the capacities of the process water dams.
			The water balance should be easily managed for this site, provided there are adequate water tankers to allow the water make to be reused for dust suppression, and adequate pumping capacity back to Phola Coal Processing Plant. Once the water balance model has been calibrated, adequate storage space will be provided to prevent spilling during extreme wet years.	Compliant	Dust suppression with mine affected water is conducted using water tankers. Surplus mine affected water is pumped to EWRP with additional mine affected water provided to Phola Coal Processing Plant for re-use in the plant. The agreement with Phola Plant and the provision of mine affected water to EWRP has substantially reduced the quantity of affected water on the mine. No event of dirty water spillages to the environment due to the storage facilities not being able to handle volumes of water emanating from extreme storm events. A water balance dated 9 December 2020 was made available for referencing.
			Note that the provisional pumping rate given here (150l/s) should not be used as a final design parameter; an analysis is required to assess the pumping rate compared to loss of production.	Compliant	Data and reports generated following the installation of electromagnetic flow meters were used to update the pumping rates within the water and salt balance for the Zibulo Colliery. Zibulo Colliery has also implemented a SCADA system, a live system used that monitors water reticulation and management system at the mine. Information from the flow meters is transmitted to the system to update and record all volumes of water pumped, abstracted and disposed of at Zibulo Colliery. Pumping rate of 150 l/s is indicated on the SCADA system, with 100 l/s indicated as the general average.
			The objective of the surface water monitoring system is to ensure that the water management systems perform according to specifications, to act as a pollution early warning system, to check compliance with license requirements and for reporting purposes. The objectives of these systems will be achieved if there is no impact (attributable to the mine) on the in-stream and downstream fitness for use criteria. The sampling points are based on the current sampling points, with only additional points on the mine (for dirty water) added as required. Data will continue to be presented in graphic and tabular form indicating maximum, minimum and average values with information being submitted annually to DWAF or more frequently if required. As is currently the practice, these submissions are included in the annual EMA.	Compliant	Water quality monitoring is performed by an external contractor (Aquatico Scientific (Pty) Ltd.). Dirty water containment facilities including up- and downstream surface water localities are included within the monitoring programme to assess impacts on the receiving surface water environment. Compliance is measured according to the conditions as stipulated in the WUL.
Truck and shovel operations	Air quality	To minimise the impact of dust generation and greenhouse gas emissions	Applications of a chemical binder to permanent haul roads to develop a crust coupled to watering and sweeping to eliminate dust mobilisation from this source.	Compliant	A chemical binder in the form of Dustex as well as mine affected water as obtained from the 1 MI Dam are used to suppress dust on the haul roads. This was confirmed during the site visit.
			The revegetation of idle stockpiles and berms.	Compliant	Vegetated overburden and topsoil dumps have been placed around the mining area in order to minimise the visual intrusion of the mine.

Aspect	Impact	Management principle	Mitigation measure	Compliance	Audit findings/observation
			Constant watering (with water trucks) in areas where materials removal, placement or manipulation is occurring.	Compliant	Water bowsers with mine affected water and dustex are used to suppress dust at the mine. The use of water carts and dustex for dust suppression on site were verified during the site visit.
			Ongoing dust fallout monitoring using the current network to assess the effectiveness of dust control measures.	Compliant	Zibulo Colliery has developed and implemented the Zibulo air quality monitoring procedure (AATC016306), that covers the management and monitoring of fallout dust and Particulate Matter at Zibulo Opencast Operations. WSP Environmental (Pty) Ltd has been appointed by Zibulo Colliery to manage the dust fallout monitoring network and ambient monitoring for the colliery. The air quality monitoring report, dated May 2022, was provided for review. Exceedances are recorded in the ENABLON system for investigation and corrective action.
			Under very windy conditions, management on the mine will decide whether haulage should be reduced or stopped altogether until conditions improve.	Noted	The mine takes note of this condition.
			Vehicles should not be left idling when not in use.	Compliant	As per the Anglo Fatal Risk Standard, no vehicles are allowed to be left idling when not in use.
			To prevent spontaneous combustion and emissions of greenhouse gases, stockpile containing carbonaceous material will be capped and mined out areas will be rehabilitated as soon possible to prevent old workings being open.	Compliant	Spontaneous combustion areas identified are managed as part of the mining operation and the overall safety programme for the mine. All areas with the potential for spontaneous combustion were identified. The hards stockpiles were not identified as areas where spontaneous combustion can occur. Hards stockpiles are hence not capped. Capping is however undertaken when the areas with spontaneous combustion are identified. Water cannons are available at the product stockpile area for use for dust suppression as well as to be used in the event of spontaneous combustion.
			An air emissions inventory will be developed.	Compliant	An air quality management plan, Air Quality Impact Assessment and Air Quality Management Plan for the Zibulo Colliery has been developed by Airshed Planning Professionals (Airshed, 2012). Further, the mine provided proof of the NAEIS registration as undertaken as well as proof of submission.
			Strict speed control (30km/h) will be implemented and the shortest haul routes will be used.	Compliant	The mine indicated that the shortest haul roads are used as it is an economic requirement for the mine. A maximum speed limit of 40km/h (and not 30km/h) is enforced and abided by as per Anglo Safety Standard and is further based on a risk assessment conducted by Zibulo Colliery. According to the monthly air quality report, Conducted by ECO Elementum dated September 2022, the monitoring points within the colliery were within the dust limits, this shows that the speed the mine is driving at does not cause dust to exceed the limits. However, the mine must amend this commitment to align with the applicable mine safety standard.
<b>Activity: Drilling and blasting</b>					
Blasting	Noise and vibration	To limit the impact of noise and vibrations from blasting on sensitive receptors	Effective blast designs for limiting vibration, air blast and fly rock. This will be carried out by a qualified blasting engineer with experience in opencast and surface blasting operations. Close attention must be given to air blast control methods, especially when blasting the coal, the narrower waste bands and the pre-splits. Stemming design and application will need special attention. Effective blast designs carried out by a qualified and experienced blasting engineer to limit the risk of ground displacement beneath the R545 road during blasting of the initial box-cut development on the west side of the mine.	Compliant	A Noise and Vibration monitoring Procedure (AATC016626) is in place to manage blasting and vibration at the mine. No noise and vibration complaints have been received by the mine during the audit review period.
			Smaller charge masses will need to be applied in the southern part of the mine to prevent blasting induced vibrations that are too high in the Ogies village.	Compliant	The mine indicated that blast hole diameters of either 171 mm or 141 mm are used, depending on the location (within the vicinity of roads) of the block to be blasted as well as the size of the block.

Aspect	Impact	Management principle	Mitigation measure	Compliance	Audit findings/observation
			Mining closer than 500 m to the southern perimeter of the mine should, therefore, be carried out using 165 mm holes.		
			Auditing of all surface blasts closer than 500 m from any mine boundary to make sure there are no overcharged holes or incorrectly applied designs. This can be carried out by a mine employee, but is more effective if done by a third party who carries some liability for errors in application.	Compliant	Ground vibration and air blast recording is an on-going process at the mine. Blast Management and Consulting (Pty) Ltd has been contracted to monitor ground vibration and air blast on a continuous basis at Zibulo Colliery. According to the Ground Vibration and Air Blast Monitoring report for June 2022, ground vibration events recorded showed no to medium high activity on the analysis and confirm that levels were within the Thungela Good Practise maximum limits of 5 mm/s (public installations) and 50 mm/s (N12 Bridge) of safe blasting criteria. All the matched air blast events recorded were within the recommended Thungela Good Practise set limit of 128.0 dB at the public installations, two non-matched events exceeded the 128 dB limit. All of the other air blast levels recorded were within the accepted 134 dB limit applied in South Africa.
			Monitoring of air blast and vibration for every surface blast using blasting seismographs located at sensitive positions.	Compliant	A Noise and Vibration monitoring Procedure (AATC016626) is in place to manage blasting and vibration at the mine. Blast Management and Consulting (Pty) Ltd has been contracted to monitor ground vibration and air blast on a continuous basis at Zibulo Colliery. According to the Ground Vibration and Air Blast Monitoring report for June 2022, ground vibration events recorded showed no to medium high activity on the analysis and confirm that levels were within the Thungela Good Practise maximum limits of 5 mm/s (public installations) and 50 mm/s (N12 Bridge) of safe blasting criteria. All the matched air blast events recorded were within the recommended Thungela Good Practise set limit of 128.0 dB at the public installations, two non-matched events exceeded the 128 dB limit. All of the other air blast levels recorded were within the accepted 134 dB limit applied in South Africa.
			Good quality initiation systems will be necessary for all the blasting. Detonating cord should not be used because of the high air blast that it will generate. For all blasting closer than 500 m to the final perimeter of the mine, precise detonators (accuracy of 1 ms or less) should be used for effective control of vibration, air blast and fly rock.	Compliant	Ground vibration and air blast recording is an on-going process at the mine. Blast Management and Consulting (Pty) Ltd has been contracted to monitor ground vibration and air blast on a continuous basis at Zibulo Colliery. According to the Ground Vibration and Air Blast Monitoring report for June 2022, ground vibration events recorded showed no to medium high activity on the analysis and confirm that levels were within the Thungela Good Practise maximum limits of 5 mm/s (public installations) and 50 mm/s (N12 Bridge) of safe blasting criteria. All the matched air blast events recorded were within the recommended Thungela Good Practise set limit of 128.0 dB at the public installations, two non-matched events exceeded the 128 dB limit. All of the other air blast levels recorded were within the accepted 134 dB limit applied in South Africa.
			When blasting closer than 500 m to the R545 or the N12 highway, road closure will be necessary during blasting times to prevent the risk of fly rock injuries to motorists. Road closures will be done in conjunction with the Traffic Authorities.	Compliant	Zibulo Colliery indicated that when blasting closer than 500m to the R545 or the N12 highway, road closure take place during blasting times to prevent the risk of fly rock injuries to motorists. Road closure is arranged in conjunction with the Traffic Authorities. proof of notification was available to determine compliance of this condition.
			Explosive quality control measures will need to be implemented to prevent the generation of nitrous fumes and carbon monoxide during blasting. The quality control is normally carried out by the explosives supplier, but test results will need to be checked by mine management on a regular basis.	Compliant	The following documents which are used to ensure quality control for explosives were provided by the mine i.e. transport permits, appointment of magazine masters, handling of flammable liquids, delivery notes, explosive audits, inspection reports, resistance test certificates, and yearly explosive magazine inspections.
<b>Activity: Coal removal and transport</b>					
Surface water management	Surface water	To 19ormaliz the impact on catchment yield To prevent floods up to the 1:100-year recurrence interval	Measures are required to maximise the return of mined areas to the catchment as soon as they will generate clean runoff. All spoils within the opencast	Compliant	In accordance with Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, the post-mining Digital Terrain Model (DTM) with drainage plan indicates that all areas are free-draining and that drainage lines report to identified

Aspect	Impact	Management principle	Mitigation measure	Compliance	Audit findings/observation
		<p>To prevent floods up to the 1:100-year recurrence interval flood from spilling to the dirty water systems associated with the mining infrastructure</p> <p>To identify and control surface water runoff that may be affected by mining, as well as the water balance associated with the mining operations, and to ensure the risk of spilling of this water to the clean catchment is: In line with licensing requirements; and Legislative requirements.</p> <p>To ensure the downstream water quality objectives are both understood and complied with by relevant mine personnel in terms of the mine's potential impact on the environment.</p> <p>To ensure adequate monitoring so that the objectives of the water management system can be met.</p>	section will be rehabilitated and made free draining as soon as possible after placement.		target natural wetlands/watercourse. The design is based on achieving the Mine's EMPR requirements, and to achieve a free draining post mining topography.
			Ensuring the rehabilitated spoils levels line up with the natural topography, including some allowance for settlement.	Compliant	According to Zibulo rehabilitation plan excel power point, the cross section indicates how rehabilitation monitoring is conducted and as can be seen, the backfilling and levelling will ensure that the actual topography is in line with the modelled post mining modelled topography.
			Stripping the full depth of available soft soils to limit the long-term recharge to the mined-out area.	Compliant	Soil stripping is done according to the Topsoil Management Procedure (AATC000582), which clearly indicate that soil stripped (growth medium) must comprises the A-Horizon and non-plinthic B-Horizon and that striping of the plinthic material and sub-soil horizons must be avoided. Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, indicates the amount of topsoil stripped and the area requiring reshaping and topsoil placement, which is based on the available material removed and extent of the disturbed areas. According to the above plan, as much of the useable material are striped/excavated and used for rehabilitation.
			Grassing will be undertaken on a seasonal basis, to ensure germination of the grass species. However, by the start of the rainy season all topsoil areas will have been seeded to ensure maximum drainage from these areas of clean water back into the catchment system without excessive suspended solids.	Compliant	Hydromulch (Pty) Ltd was appointed by Anglo Coal to provide revegetation services at Zibulo Opencast. Hydromulch was established on Wed 7th April 2021 to carry said revegetation works.
			The final rehabilitation plan is based on a free-draining landform, which will require the entire overburden stockpile to be placed back into the pit during decommissioning.	Compliant	In accordance with Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd the post-mining Digital Terrain Model (DTM) with drainage plan indicates that all areas are free-draining and that drainage lines report to identified target natural wetlands/watercourse. The operation continuously reconciles its volumes to ensure that a full record is kept of materials on stockpile and material backfilled into the pit to ensure that a balanced volumetric plan is in place to confirm the achievement of the modelled final landform.
			Managing the dirty water make.	Compliant	Zibulo Colliery operates three (3) pollution control dams namely the 40 MI Dam, the 9 MI Dam and the 1 MI Dam in accordance with a water use licence granted in terms of the NWA (licence number: 4/B20G/AGJ/809) ("WUL") in May 2011. All dewatered pit water is pumped to the 40 MI Dam and when required, the water is pumped to the 9 MI Dam (balancing dam). The 9 MI Dam also receives mine affected surface water runoff from the workshop and office area, secondary crusher area and ROM coal loading area. The 1 MI Dam receives mine affected surface water runoff from the 9 ML Dam overflow as well as the tipping ramp area. In the event that the 1 MI Dam overflows, the mine affected water accumulates within the open pit where after it is pumped back to the 40 MI Dam. The 40 MI also receives water from the Zibulo Colliery UG 20 MI Dam (pumped via the Phola Plant). Surplus water is then pumped to the EWRP. Zibulo Colliery OC has also entered into an agreement with Phola Plant, whereby excess mine affected water is provided to Phola Plant for re-use in the plant. The agreement with Phola Plant and the provision of mine affected water to EWRP has substantially reduced the quantity of affected water on the mine, with resultant relief on the capacities of the process water dams.

Aspect	Impact	Management principle	Mitigation measure	Compliance	Audit findings/observation
			The water balance should be easily managed for this site, provided there are adequate water tankers to allow the water make to be reused for dust suppression, and adequate pumping capacity back to Phola Coal Processing Plant. Once the water balance model has been calibrated, adequate storage space will be provided to prevent spilling during extreme wet years.	Compliant	Dust suppression with mine affected water is conducted using water tankers. Surplus mine affected water is pumped to EWRP with additional mine affected water provided to Phola Coal Processing Plant for re-use in the plant. The agreement with Phola Plant and the provision of mine affected water to EWRP has substantially reduced the quantity of affected water on the mine. No event of dirty water spillages to the environment due to the storage facilities not being able to handle volumes of water emanating from extreme storm events. A water balance dated 9 December 2020 was made available for referencing.
			Note that the provisional pumping rate given here (150l/s) should not be used as a final design parameter; an analysis is required to assess the pumping rate compared to loss of production.	Compliant	Data and reports generated following the installation of electromagnetic flow meters were used to update the pumping rates within the water balance Water and salt balance for the Zibulo Colliery. Zibulo Colliery has also implemented a SCADA system. SCADA is the live system used to monitor the water reticulation and management system at the Zibulo Colliery. Information from the flow meters is transmitted to the system to update and record all volumes of water pumped, abstracted and disposed of at Zibulo Colliery. Pumping rate of 150 l/s is indicated on the SCADA system, with a pumping rate of 100 l/s indicated as the general average.
			The objective of the surface water monitoring system is to ensure that the water management systems perform according to specifications, to act as a pollution early warning system, to check compliance with license requirements and for reporting purposes. The objectives of these systems will be achieved if there is no impact (attributable to the mine) on the in-stream and downstream fitness for use criteria. The sampling points are based on the current sampling points, with only additional points on the mine (for dirty water) added as required. Data will continue to be presented in graphic and tabular form indicating maximum, minimum and average values with information being submitted annually to DWAF or more frequently if required. As is currently the practice, these submissions are included in the annual EMA.	Compliant	Water quality monitoring is performed by an external contractor (Aquatiko Scientific (Pty) Ltd.). Dirty water containment facilities including up- and downstream surface water localities are included within the monitoring programme to assess impacts on the receiving surface water environment. Compliance is measured according to the conditions as stipulated in the WUL.
Truck and Shovel operations	Air quality	To normalize the impact of dust generation and greenhouse gas emissions.	Applications of a chemical binder to permanent haul roads to develop a crust coupled to watering and sweeping to eliminate dust normalized from this source.	Compliant	A chemical binder in the form of Dustex as well as mine affected water as obtained from the 1 MI Dam are used to suppress dust on the haul roads. This was confirmed on site during the site visit.
			The revegetation of idle stockpiles and berms.	Compliant	Vegetated overburden and topsoil dumps have been placed around the mining area in order to minimise the visual intrusion of the mine.
			Constant watering (with water trucks) in areas where materials removal, placement or manipulation is occurring.	Compliant	Water bowsers with mine affected water and dustex are used to suppress dust at the mine. The use of water carts and dustex for dust suppression on site were verified during the site visit.
			Ongoing dust fallout monitoring using the current network to assess the effectiveness of dust control measures.	Compliant	Airshed Planning Professionals (Pty) Ltd has been appointed by Zibulo Colliery to assess the potential impacts from the Zibulo Colliery on the surrounding environment and on human health and to provide guidance on mitigation and ambient monitoring. The report Air Quality Impact Assessment and Air Quality Management Plan, Zibulo Colliery, dated October 2019, was provided for review. Exceedances are recorded in the ENABLON system for investigation and corrective action.

Aspect	Impact	Management principle	Mitigation measure	Compliance	Audit findings/observation
			Under very windy conditions, management on the mine will decide whether haulage should be reduced or stopped altogether until conditions improve.	Noted	The mine takes note of this condition.
			Vehicles should not be left idling when not in use.	Compliant	As per the Anglo Fatal Risk Standard, no vehicles are allowed to be left idling when not in use.
			To prevent spontaneous combustion and emissions of greenhouse gases, stockpile containing carbonaceous material will be capped and mined out areas will be rehabilitated as soon able to prevent old workings being open.	Compliant	Spontaneous combustion areas identified are managed as part of the mining operation and the overall safety programme for the mine. All areas with the potential for spontaneous combustion were identified. The hards stockpiles were not identified as areas where spontaneous combustion can occur. Hards stockpiles are hence not capped. Capping is however undertaken when the areas with spontaneous combustion are identified. Water cannons are available at the product stockpile area for use for dust suppression as well as to be used in the event of spontaneous combustion.
			An air emissions inventory will be developed.	Compliant	An air quality management plan, Air Quality Impact Assessment and Air Quality Management Plan for the Zibulo Colliery has been developed by Airshed Planning Professionals (Airshed, 2012). Further, the mine provided proof of the NAEIS registration as undertaken as well as proof of submission.
			Strict speed control (30km/h) will be implemented and the shortest haul routes will be used.	Compliant	The mine indicated that the shortest haul roads are used as it is an economic requirement for the mine. A maximum speed limit of 40km/h (and not 30km/h) is enforced and abided by as per Anglo Safety Standard and is further based on a risk assessment conducted by Zibulo Colliery. According to the monthly air quality report, Conducted by ECO Elementum dated September 2022, the monitoring points within the colliery were within the dust limits, this shows that the speed the mine is driving at does not cause dust to exceed the limits. However, the mine must amend this commitment to align with the applicable mine safety standard.
<b>Activity: Water handling</b>					
Removal of overburden	Geology impact	To place material optimally for rehabilitation and minimizing acid generation. To ensure stability of disturbed ground.	Place excavated materials optimally in terms of surface rehabilitation. Place excavated materials optimally in terms of potential acid generation, if the mining technique allows for stratified handling.	Compliant	In accordance with Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, during the mining process, concurrent rehabilitation takes place. Rehabilitation operation is conducted such that spoils, which will most likely have contaminating material, are used as backfilling material as part of the roll over operation.
			All carbonaceous/ acid-generating units must be placed in the bottom of the pit, if possible.	Compliant	Carbonaceous material is placed at the bottom of the pit during rehabilitation of the mined out opencast pits.
			At Oogiesfontein 100% of the coal floor is flooded at decant and 42% of the pit volume is present below decant elevation (1524mamsl).	No mitigation measure has been provided for implementation.	
			A detailed materials balance must be compiled to 22ormaliz placement of spoils, subsoil and topsoil, in order to obtain a well-landscaped and sustainable final rehabilitation profile, to 22ormaliz infiltration and intake of atmospheric oxygen.	Compliant	According to the Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, the operation continuously reconciles its volumes to ensure that a full record is kept of materials on stockpile and material backfilled into the pit to ensure that a balanced volumetric plan is in place to confirm the achievement of the modelled final landform.
			Ongoing monitoring of the rehabilitation process will be undertaken and recommendations on the geological/geohydrological setting will be made.	Compliant	The Surveyor sends out monthly reports indicating areas that have been rehabilitated, the mine also undertakes weekly planning meetings which incorporates the rehabilitation process. According to the Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, monitoring is conducted after two growing seasons, and if the required 10% basal cover with a representation of at least 4 species is not achieved, remedial action may be implemented, or the area may stand over another season. During monitoring the operation will ensure that the

Aspect	Impact	Management principle	Mitigation measure	Compliance	Audit findings/observation														
					following information forms part of the reporting process: • Post-mining soil surveys completed, and records are available to show bulk densities, and other physical and chemical properties, of replaced soils. • Operation has a record of areas rehabilitated to different land capability classes and has assessed performance against EMPr land capability targets. • Confirm that target areas for different land capability classes have been met and that this can be demonstrated by post-mining land capability surveys.														
Ongoing rehabilitation during the mining process	Vegetation and animal life	To re-establish the indigenous vegetation cover in the mining area during steady state mining.	Vegetation will not be cleared from the site prior to stripping to provide additional organic nutrients to the soil and help preserve the soil structure.	Compliant	Vegetation is stripped along with topsoil so as to maintain the seedbanks and organic material.														
			A mixture of the grasses <i>Eragrostis curvula</i> (8kg/ha), <i>E. tef</i> (3kg/ha), <i>Chloris gayana</i> (2kg/ha), <i>Digitaria eriantha</i> (5kg/ha) and <i>Cynodon dactylon</i> (3kg/ha) is recommended for revegetation.	Compliant	According to Zibulo Colliery's 5-year rehabilitation plan, seeding is conducted by seeding contractors. A seeding mix of the following species is used for rehabilitation purposes at Zibulo Colliery:														
					<table border="1"> <thead> <tr> <th>Species</th> <th>Rate (Kg/Ha)</th> </tr> </thead> <tbody> <tr> <td><i>Eragrostis curvula</i></td> <td>8 kg / ha</td> </tr> <tr> <td><i>Eragrostis tef</i></td> <td>3 kg / ha</td> </tr> <tr> <td><i>Chloris gayana</i></td> <td>2 kg / ha</td> </tr> <tr> <td><i>Digitaria eriantha</i></td> <td>5 kg / ha</td> </tr> <tr> <td><i>Cynodon dactylon</i></td> <td>3 kg / ha</td> </tr> <tr> <td><b>Total</b></td> <td><b>21 kg / ha</b></td> </tr> </tbody> </table>	Species	Rate (Kg/Ha)	<i>Eragrostis curvula</i>	8 kg / ha	<i>Eragrostis tef</i>	3 kg / ha	<i>Chloris gayana</i>	2 kg / ha	<i>Digitaria eriantha</i>	5 kg / ha	<i>Cynodon dactylon</i>	3 kg / ha	<b>Total</b>	<b>21 kg / ha</b>
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<b>Total</b>	<b>21 kg / ha</b>																		
Once the area has been revegetated, it should be monitored for declared weeds and invasive plants.	Non-compliant	The mine indicated that inspections of the rehabilitated areas are undertaken by mine employees (Environmental Department) and are further undertaken by Hydromulch. However, no proof was provided to determine compliance of this condition.																	
		During the initial stages, grazing animals should be kept away from the area. Veld fires should be controlled.	Compliant	Zibulo Colliery opencast mine boundary is fenced, with access control, for security purposes as well as to prevent access to grazing animals.															
Surface Water management	Surface water	To 23ormaliz the impact on catchment yield. To prevent floods up to the 1:100-year recurrence interval flood from spilling to the dirty water systems associated with the mining infrastructure. To identify and control surface water runoff that may be affected by mining, as well as the water balance associated with the mining operations, and to ensure the risk of spilling of this water to the clean catchment is: In line with licensing requirements; and Legislative requirements. Downstream water quality objectives are both understood and complied with by relevant mine personnel in terms of the mine's potential impact on the environment. To ensure adequate monitoring so that the objectives of the water management system	Measures are required to maximise the return of mined areas to the catchment as soon as they will generate clean runoff. All spoils within the opencast section will be rehabilitated and made free draining as soon as possible after placement.	Compliant	In accordance with Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, the post-mining Digital Terrain Model (DTM) with drainage plan indicates that all areas are free-draining and that drainage lines report to identified target natural wetlands/watercourse. The design is based on achieving the Mine's EMPR requirements, and to achieve a free draining post mining topography.														
			Ensuring the rehabilitated spoils levels line up with the natural topography, including some allowance for settlement.	Compliant	According to Zibulo rehabilitation plan excel power point, the cross section indicates how rehabilitation monitoring is conducted and as can be seen, the backfilling and levelling will ensure that the actual topography is in line with the modelled post mining modelled.														
			Stripping the full depth of available soft soils to limit the long-term recharge to the mined-out area.	Compliant	Soil stripping is done according to the Topsoil Management Procedure (AATC000582), which clearly indicate that soil stripped (growth medium) must comprises the A-Horizon and non-plinthic B-Horizon and that striping of the plinthic material and sub-soil horizons must be avoided. Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, indicates the amount of topsoil stripped and the area requiring reshaping and topsoil placement, which is based on the available material removed and extent of the disturbed areas. According to the above plan, as much of the useable material are striped/excavated and used for rehabilitation.														
			Grassing will be undertaken on a seasonal basis, to ensure germination of the grass species. However, by the start of the rainy season all topsoil areas will have been seeded to ensure	Compliant	Hydromulch (Pty) Ltd was appointed by Anglo Coal to provide revegetation services at Zibulo Opencast. Hydromulch was established on Wed 7th April 2021 to carry said revegetation works.														

Aspect	Impact	Management principle	Mitigation measure	Compliance	Audit findings/observation
		can be met.	maximum drainage from these areas of clean water back into the catchment system without excessive suspended solids.		
			The final rehabilitation plan is based on a free-draining landform, which will require the entire overburden stockpile to be placed back into the pit during decommissioning.	Compliant	In accordance with Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, the post-mining Digital Terrain Model (DTM) with drainage plan indicates that all areas are free-draining and that drainage lines report to identified target natural wetlands/watercourse. The operation continuously reconciles its volumes to ensure that a full record is kept of materials on stockpile and material backfilled into the pit to ensure that a balanced volumetric plan is in place to confirm the achievement of the modelled final landform.
			Managing the dirty water make.	Compliant	Zibulo Colliery operates three (3) pollution control dams namely the 40 MI Dam, the 9 MI Dam and the 1 MI Dam in accordance with a water use licence granted in terms of the NWA (licence number: 4/B20G/AGJ/809) ("WUL") in May 2011. All dewatered pit water is pumped to the 40 MI Dam and when required, the water is pumped to the 9 MI Dam (balancing dam). The 9 MI Dam also receives mine affected surface water runoff from the workshop and office area, secondary crusher area and ROM coal loading area. The 1 MI Dam receives mine affected surface water runoff from the 9 ML Dam overflow as well as the tipping ramp area. In the event that the 1 MI Dam overflows, the mine affected water accumulates within the open pit where after it is pumped back to the 40 MI Dam. The 40 MI also receives water from the Zibulo Colliery UG 20 MI Dam (pumped via the Phola Plant). Surplus water is then pumped to the EWRP. Zibulo Colliery OC has also entered into an agreement with Phola Plant, whereby excess mine affected water is provided to Phola Plant for re-use in the plant. The agreement with Phola Plant and the provision of mine affected water to EWRP has substantially reduced the quantity of affected water on the mine, with resultant relief on the capacities of the process water dams.
			The water balance should be easily managed for this site, provided there are adequate water tankers to allow the water make to be reused for dust suppression, and adequate pumping capacity back to Phola Coal Processing Plant. Once the water balance model has been calibrated, adequate storage space will be provided to prevent spilling during extreme wet years.	Compliant	Dust suppression with mine affected water is conducted using water tankers. Surplus mine affected water is pumped to EWRP with additional mine affected water provided to Phola Coal Processing Plant for re-use in the plant. The agreement with Phola Plant and the provision of mine affected water to EWRP has substantially reduced the quantity of affected water on the mine. No event of dirty water spillages to the environment due to the storage facilities not being able to handle volumes of water emanating from extreme storm events. A water balance dated 9 December 2020 was made available for referencing.
			Note that the provisional pumping rate given here (150l/s) should not be used as a final design parameter; an analysis is required to assess the pumping rate compared to loss of production.	Compliant	Data and reports generated after the installation of electromagnetic flow meters were used to update the pumping rates within the water balance Water and salt balance for the Zibulo Colliery. Zibulo Colliery has also implemented a SCADA system. SCADA is the live system used to monitor the water reticulation and management system at the Zibulo Colliery. Information from the flow meters is transmitted to the system to update and record all volumes of water pumped, abstracted and disposed of at Zibulo Colliery. 150 l/s is indicated on the SCADA system, 100 l/s is the general average.
			The objective of the surface water monitoring system is to ensure that the water management systems perform according to specifications, to act as a pollution early warning system, to check compliance with license requirements and for reporting	Compliant	Water quality monitoring is performed by an external contractor (Aquatiko Scientific (Pty) Ltd.). Dirty water containment facilities including up- and downstream surface water localities are included within the monitoring programme to assess impacts on the receiving

Aspect	Impact	Management principle	Mitigation measure	Compliance	Audit findings/observation
			purposes. The objectives of these systems will be achieved if there is no impact (attributable to the mine) on the in-stream and downstream fitness for use criteria. The sampling points are based on the current sampling points, with only additional points on the mine (for dirty water) added as required. Data will continue to be presented in graphic and tabular form indicating maximum, minimum and average values with information being submitted annually to DWAF or more frequently if required. As is currently the practice, these submissions are included in the annual EMA.		surface water environment. Compliance is measured according to the conditions as stipulated in the WUL.
Groundwater management	Groundwater	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.	Management measures for the operational phase, relating to recharge potential, will focus on continuous rehabilitation as mining progresses. The recharge potential for unlevelled spoils is higher than that for levelled spoils, and is higher in turn than that of re-vegetated areas. Continuous, optimal rehabilitation will effectively minimize recharge to areas disturbed by strip mine mining.	Compliant	In accordance with Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, Zibulo Colliery is performing in accordance with the rehabilitation plan, which ensures that rehabilitation is conducted concurrently with the mine which will ensure that as much of the mined out opencast areas as possible are rehabilitated. Backfilling of the excavated material are indeed replaced during rehabilitation.
			The increased influx of ground water into the strip mine during the operational phase will be managed as part of the total water balance.	Compliant	The active mine pits are dewatered with the mine affected water pumped to the 40 MI Dam and is managed as part of the water balance. A Water balance dated 9 December 2020 compiled by Golder was made available for referencing.
			Mine planning personnel must determine the extent of strip mine mining for any given time during the operational phase.	Compliant	The extent of strip mining is indicated in the Zibulo Updated Mine plan that includes the Southern Box cut.
			These areas, together with the additional areas covered by the virtual cone of depression, must be identified as the areas of potential depletion.	Non-compliant	An updated groundwater modelling report, which determines the areas considered for the potential depletion for Zibulo Colliery was not made available for referencing.
			Mine personnel must use the geohydrological information, as provided in Table 2.10(A) and 2.10(B) in Appendix 1 to determine the potential impact of strip mine mining on any given area via the ground water monitoring boreholes.	Compliant	A water monitoring programme is in place for Zibulo Colliery with groundwater monitoring conducted in terms of the approved WUL with 25ormalized of the minimum requirements for monitoring.
			The yielding capacity of all boreholes potentially affected, must be mutually agreed on by the owner and mine authorities or through long-term geohydrological pump testing.	Not-applicable	No formal complaints with regards to the yielding capacity of surrounding boreholes have been received. This was confirmed by the assessment of the compliant register.
			All external users' boreholes within a 1 km radius of any mining activities must be monitored for water level response.	Compliant	According to the quarterly water monitoring at Zibulo Colliery external users' boreholes within a 1 km radius are included.
			A structured compensation protocol, to be compiled in consultation with external users, will be commissioned for the Oogiesfontein Opencast strip mine areas. The main component of such a protocol will be the yielding capacity of external users resources – a parameter already mutually agreed on. This protocol will control alternative water supply to external users in the event that their ground water resources have been detrimentally affected by Oogiesfontein Opencast strip mine mining activities. The protocol will be initiated based upon a geohydrological interpretation of water level response and/or pumping test results.	Not-applicable	No formal complaints with regards to the yielding capacity of surrounding boreholes have been received. Should such a complaint be received, it will be investigated and should it be found to be as a result of mine dewatering, compensation will be provided to the affected water user. The compensation of affected external water users will occur on a case-by-case basis and will occur as per an agreement between Zibulo Colliery OC and the affected water user. The affected water user will be given water from the mine or a monetary compensation. All engagements with stakeholders take place according to the EMS stakeholder communication, complaints and grievance procedure (ZIB/ENV/SYSP/0006).
			The ground water monitoring at Oogiesfontein Opencast strip mine must be done subject to monitoring guidelines contained in the document	Compliant	A water monitoring programme is in place for Zibulo Colliery with Groundwater monitoring conducted in terms of the approved WUL with

Aspect	Impact	Management principle	Mitigation measure	Compliance	Audit findings/observation
			<p>"Minimum Requirements for Monitoring at Waste Management Facilities", published by DWAF.</p> <p>A formalized and documented ground water monitoring system must be commissioned, according to the requirements outlines in the DWAF publication, and site-specific conditions.</p> <p>The monitoring system must consist of the following components: Dedicated monitoring localities, e.g. boreholes in/around rehabilitated mine workings, boreholes within potential impact zones of surface pollution sources, and selected external users' boreholes and springs. Care must be taken to ensure that the construction specifications of all additional boreholes are fully compliant with the Minimum Requirements of DWAF; Realistic monitoring frequencies; Applicable monitoring/sampling techniques e.g. stratified sampling for monitoring holes, application sampling for external users' boreholes, and grab sampling for springs; Differentiated list of water quality variables, as applicable to the various sampling localities and frequencies; Laboratory analysis techniques will comply with SABS guidelines; Data storage protocols, e.g. data base, GIS.</p>	Compliant	<p>formalized of the minimum requirements for monitoring. Monthly groundwater monitoring is conducted.</p> <p>A formalized water monitoring programme is in place as documented in the Zibulo Water Monitoring Procedure (AATC016632). Groundwater sampling and analyses are performed by Aquatico, a SANAS accredited laboratory and results interpretation is performed by Groundwater Complete. Water monitoring boreholes are strategically placed to account for the impact from rehabilitated areas, zones of surface water pollution and external borehole users (regional boreholes).</p>
			<p>Six monthly monitoring reports must consist of the following: Systems audit; Efficiency and design; Status of monitoring system; Data audit and the compliance protocols used; Water quality trends and the comparative protocols used; Water quality comparison and verification of analytical quality (ion balances); Hydrochemical image comparison and variation protocol used; Ground water level data trends and comparative protocols used; Upgrading of ground water monitoring system; Conclusions on the monitoring system efficiency; Recommendations on gaps/shortcomings of the current system.</p>	Non-Compliant	<p>The mine indicated that a regional water monitoring programme exists with the reports thereof submitted to the DWS on a quarterly and annual basis. It is to be noted that reports are submitted to the DWS in accordance with the approved WUL. It is also noted that Zibulo Colliery conducts annual internal ISO and systems audits to ensure the efficiency and status of the monitoring system.</p> <p>The mine must apply for an amendment for this commitment to be aligned with the Zibulo Opencast IWUL, added authorities to whom submissions should be made to.</p>
<b>Operational personnel</b>					
Labor	Socio-economic Impact	Enhance local employment and awarding of contracts to local businesses.	No housing of staff on-site.	Compliant	No staff housing is present on site.
			Facilitating local business participation in provision of mine service.	Compliant	<p>According to the mine's Social and Labour Plan, Anglo American Coal has a Social Hub called Anglo Zimele that is a business hub in Ogies where small loans are offered to communities. This Hub is used for facilitating the growth and development of the area's small enterprise sector with the Ogies area.</p> <p>According to the report, Zibulo Colliery employs 30 % of its workforce from surrounding communities (Phola, Ogies Kriel and Leandra). In addition, the mine will continue working closely with all stakeholders, at the same time monitoring and overseeing the sustainability of community investments. The colliery will liaise with other Anglo Coal South Africa operations and stakeholders to build partnership and promote sustainability and self-reliance for the community's closer to the operations. In addition, a database of local service providers has been developed and is included Into Zibulo Colliery's procurement policy. A 50km radius around the mine is considered to be local.</p>
			Sourcing labor, goods and services in the surrounding area, where feasible with a transparent, well planned recruitment process with maintenance of open communication.	Compliant	
			Working with local agencies to combat HIV/aids.	Compliant	<p>Anglo American Coal, through the Chairman's Fund, has formed public private partnerships in order to encourage the youth in developing positive life skills that are aimed at reducing the spread of sexually transmitted deceases and HIV / AIDS. In August 2002, Anglo American</p>

Aspect	Impact	Management principle	Mitigation measure	Compliance	Audit findings/observation
					announced its intention to make anti-retroviral treatment available to HIV positive employees who are at the stage of infection where ART is most effective. This initiative is still continuing.
			Co-operation in security aspects.	Compliant	Zibulo Colliery is part of the local Community Policing Forum.
Mine traffic	Socio-economic Impact	Traffic on R545. Higher death rates from road accidents	Appropriate measures such as slip lanes and slow down lanes will be implemented on the R555 and at the junction between the R555 and the R545. Speed limits will be set and the lighting in the area will be improved. All traffic management measures will be done in conjunction with the Traffic Authorities.	Compliant	Slip lanes have been established to allow for the free movement of traffic on the Provincial Road R545.

**7 ZIBULO COLLIERY OPENCAST, OPENCAST EXPANSION PROJECT, WITH REFERENCE NO.: MP 30/5/1/2/3/2/1 (338) MR)**

NAME OF THE ACTIVITY	PROJECT PHASE	IMPACT / RECEIVING ENVIRONMENT	OBJECTIVE	PROPOSED MANAGEMENT OR MITIGATION MEASURE	COMPLIANCE	AUDIT FINDINGS/OBSERVATION
<b>Operational phase</b>						
<b>Note: No additional new employment opportunities will be created as these activities will be the extension and continuation of the current Zibulo Colliery Opencast Operations. But in case of any available job and procurement opportunities the following will be considered:</b>						
8. Employment of workers and procurement of materials.	Operational phase	Socio-economic development	Ensure that recruitment strategies for the mine prioritizes the sourcing of local labour and share in gender equality.	Social and Labor Plan	Compliant	It must also be noted that the existing employees were used for the extension project and hence no new employees were recruited except for any construction work that may be required. According to the mine's Social and Labour Plan, Anglo American Coal has a Social Hub called Anglo Zimele that is a business hub in Ogies where small loans are offered to communities. This Hub is used for facilitating the growth and development of the area's small enterprise sector with the Ogies area. According to the report, Zibulo Colliery employs 30 % of its workforce from surrounding communities (Phola, Ogies Kriel and Leandra). In addition, the mine will continue working closely with all stakeholders, at the same time monitoring and overseeing the sustainability of community investments. The colliery will liaise with other Anglo Coal South Africa operations and stakeholders to build partnership and promote sustainability and self-reliance for the community's closer to the operations. In addition, a database of local service providers has been developed and is included into Zibulo Colliery's procurement policy. A 50km radius around the mine is considered to be local.
			Empower the workforce to develop skills that will equip them to obtain employment in other sectors of the economy.	Social and Labor Plan		
			Contribute to the sustainable development of a community (not dependent on the mine) surrounding the area of operation.	Social and Labour Plan and minutes record of meetings		
9. Storage of fuel, lubricant and explosives.	Operational phase	Soils	To prevent soil contamination and degradation.	Emergency Response Plan	Compliant	In accordance to the Zibulo Colliery's Opencast Explosives Handling Standard Procedure Doc No ZIB-OM-STA-0559 stipulate the requirements for delivering explosives and accessories to magazines, storing, issuing and transporting these to the blasting area. In Addition, the Zibulo's Spill Management Procedure clearly describes the methodology recommended for handling hazardous chemical or material spillages that may occur.
				Vehicle Maintenance Plan		
	Operational phase	Wetlands and Aquatic Ecology	To prevent the contamination of the wetland systems and aquatic ecosystems.	Stormwater Management Plan	Compliant	In accordance to the Update of the Surface Water Flood Risk Management Plan and Stormwater Management Plan dated January 2021 compiled by Golder, current stormwater management systems at underground and opencast operations were evaluated and additional SWMPs were developed where necessary especially at Zibulo opencast. <ul style="list-style-type: none"> <li>Due to the Southern box cut, the new river diversion design by Semane was evaluated to ensure conveyance of the 1:50-year 24-hour storm event.</li> <li>Surface flood risk assessment for Zibulo Underground and Opencast operations were carried out and it was found that overall, there are no high/ significant risks identified at Zibulo Colliery. Risks were classified as low and medium, with proper control and mitigation measures they can be reduced.</li> <li>It is recommended that the water reticulation plan shown in this report be reviewed to ensure it includes release points, pipelines and pump capacities at Zibulo Colliery; and</li> <li>Triggers Actions and Response Plans for the storage facilities were developed, particularly for the freeboard levels, overflows and the spillway conditions.</li> </ul>
Operational phase	Surface Water	To prevent and minimise negative impacts on surface	Aquatic Monitoring Programme	Compliant	Zibulo's Spill Management Procedure clearly describes the methodology recommended for handling hazardous chemical or material spillages that may occur. The LDV service job card and Zibulo	
				Emergency Response Plan		
				Vehicle Maintenance Plan.		
				Vehicle Maintenance Plan		

NAME OF THE ACTIVITY	PROJECT PHASE	IMPACT / RECEIVING ENVIRONMENT	OBJECTIVE	PROPOSED MANAGEMENT OR MITIGATION MEASURE	COMPLIANCE	AUDIT FINDINGS/OBSERVATION
			water resources as a result of hydrocarbon spills.	Hydrocarbon Management Procedure and Emergency Preparedness and Response Plan		Colliery Emergency Preparedness Procedure ZIB-ENV-PRO-0808 was available for referencing.
	Operational phase	Groundwater	To prevent and minimise groundwater contamination.	Hydrocarbon Management Procedure and Emergency Preparedness and Response Plan. Vehicle Maintenance Plan.	Compliant	Zibulo's Spill Management Procedure clearly describes the methodology recommended for handling hazardous chemical or material spillages that may occur. The LDV service job card and Zibulo Colliery Emergency Preparedness Procedure ZIB-ENV-PRO-0808 was available for referencing.
				Groundwater Monitoring Programme.	Compliant	A water monitoring programme is in place for Zibulo Colliery with groundwater monitoring conducted in terms of the approved IWUL with cognizance of the minimum requirements for monitoring. The groundwater monitoring is used to determine the impacts of mining on ground water regime.
				Hydrocarbon Management Procedure and Emergency Preparedness and Response Plan	Compliant	Zibulo's Spill Management Procedure clearly describes the methodology recommended for handling hazardous chemical or material spillages that may occur. The LDV service job card and Zibulo Colliery Emergency Preparedness Procedure ZIB-ENV-PRO-0808 was available for referencing.
				Groundwater Monitoring Programme and monitoring results.	Compliant	A formalised water-monitoring programme is in place as documented in the Zibulo Water Monitoring Procedure (AATC016632). Groundwater sampling and analyses are performed by Aquatico, a SANAS accredited laboratory and results interpretation is performed by Groundwater Complete. Water monitoring boreholes are strategically placed to account for the impact from rehabilitated areas, zones of surface water pollution and external borehole users (regional boreholes).
10. Drilling and blasting.	Operational phase Construction phase	Air quality.	To minimise fugitive dust generation emanating from drilling activities.	Mine Plan	Compliant	Controlling dust at the drill rigs can be achieved using a wet suppression system or a dry suppression system (dust colling system). A chemical binder in the form of Dustex as well as mine affected water as obtained from the 1 MI Dam are used to suppress dust on the haul roads.
		Topography and Visual Environment	To minimise the negative visual impact caused by the removal of overburden by drilling and blasting; and To minimise the negative visual impact caused by dust from the blasting of overburden.	Dust Management Plan. Dust Monitoring Programme.	Compliant	Zibulo Colliery has developed and implemented the Zibulo air quality monitoring procedure (AATC016306) that covers the management and monitoring of fallout dust and Particulate Matter at Zibulo Opencast Operations. WSP Environmental (Pty) Ltd has been appointed by Zibulo Colliery to manage the dust fallout monitoring network and ambient monitoring for the colliery. The air quality monitoring report, dated May 2022, was provided for review. Exceedances are recorded in the ENABLON system for investigation and corrective action.
		Geology	To minimise loss of geological formation	Rehab Plan	Compliant	The Surveyor sends out monthly reports indicating areas that have been rehabilitated, the mine also undertakes weekly planning meetings which incorporates the rehabilitation process.
		Surface Water	To prevent the contamination of clean water resources.	Stormwater Management Plan	Compliant	In accordance with the Update of the Surface Water Flood Risk Management Plan and Stormwater Management Plan dated January 2021 compiled by Golder, current stormwater management systems at underground and opencast operations were evaluated and additional SWMPs were developed where necessary especially at Zibulo opencast: <ul style="list-style-type: none"> <li>Due to the Southern box cut, the new river diversion design by Semane was evaluated to ensure conveyance of the 1:50-year 24-hour storm event.</li> <li>Surface flood risk assessment for Zibulo Underground and Opencast operations were carried out and it was found that overall, there are no high/ significant risks identified at Zibulo</li> </ul>

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						<p>Colliery. Risks were classified as low and medium, with proper control and mitigation measures they can be reduced.</p> <ul style="list-style-type: none"> <li>It is recommended that the water reticulation plan shown in this report be reviewed to ensure it includes release points, pipelines and pump capacities at Zibulo Colliery; and</li> <li>Triggers Actions and Response Plans for the storage facilities were developed, particularly for the freeboard levels, overflows and the spillway conditions.</li> </ul>
				Surface Water Monitoring Plan	Compliant	Water quality monitoring is performed by an external contractor (Aquatico Scientific (Pty) Ltd.). Dirty water containment facilities including up- and downstream surface water localities are included within the monitoring programme to assess impacts on the receiving surface water environment. Compliance is measured according to the conditions as stipulated in the WUL.
		Noise	To prevent the noise emanating from the blasting activities impacting on surrounding sensitive receptors.	Blasting Schedule.	Compliant	In accordance to Zibulo Opencast Blasting Practices Procedure Doc No AATC022094, notices must be posted on the Blasting Notice Board at the beginning of shift. Neighboring mines and other affected neighbors are informed via a formal email and during opencast meetings it is plan ahead when to blast.
		Blasting	To prevent ground vibrations from impacting on sensitive receptors and from damaging the integrity of structures.	Ground vibration monitoring plan; Implementation of blasting buffer zones.	Compliant	Ground vibration and air blast recording is an on-going process at the mine. Blast Management and Consulting (Pty) Ltd has been contracted to monitor ground vibration and air blast on a continuous basis at Zibulo Colliery. According to the Ground Vibration and Air Blast Monitoring report for June 2022, ground vibration events recorded showed no to medium high activity on the analysis and confirm that levels were within the Thungela Good Practice maximum limits of 5 mm/s (public installations) and 50 mm/s (N12 Bridge) of safe blasting criteria. All the matched air blast events recorded were within the recommended Thungela Good Practice set limit of 128.0 dB at the public installations, two non-matched events exceeded the 128 dB limit. All of the other air blast levels recorded were within the accepted 134 dB limit applied in South Africa.
			To prevent air blast from impacting on the structural integrity of houses and buildings.	Air blast monitoring plan.		
			To prevent fly rock from damaging structures, including roads and railways.	Implementation of blasting buffer zones.		
			To prevent noxious fumes from impacting on farmsteads and sensitive receptors.	Blasting procedure and plan		
				Hydrocarbon Management Procedure and Emergency Preparedness and Response Plan.		
				Stormwater Management Plan	Compliant	<p>In accordance with the Update of the Surface Water Flood Risk Management Plan and Stormwater Management Plan dated January 2021 compiled by Golder, current stormwater management systems at underground and opencast operations were evaluated and additional SWMPs were developed where necessary especially at Zibulo opencast:</p> <ul style="list-style-type: none"> <li>Due to the Southern box cut, the new river diversion design by Semane was evaluated to ensure conveyance of the 1:50-year 24-hour storm event.</li> <li>Surface flood risk assessment for Zibulo Underground and Opencast operations were carried out and it was found that overall, there are no high/ significant risks identified at Zibulo Colliery. Risks were classified as low and medium, with proper control and mitigation measures they can be reduced.</li> </ul>

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						<ul style="list-style-type: none"> <li>It is recommended that the water reticulation plan shown in this report be reviewed to ensure it includes release points, pipelines and pump capacities at Zibulo Colliery; and</li> <li>Triggers Actions and Response Plans for the storage facilities were developed, particularly for the freeboard levels, overflows and the spillway conditions.</li> </ul>	
				Surface water Monitoring Programme	Compliant	Water quality monitoring is performed by an external contractor (Aquatico Scientific (Pty) Ltd.). Dirty water containment facilities including up- and downstream surface water localities are included within the monitoring programme to assess impacts on the receiving surface water environment. Compliance is measured according to the conditions as stipulated in the WUL.	
				Groundwater Monitoring	Compliant	A formalised water-monitoring programme is in place as documented in the Zibulo Water Monitoring Procedure (AATC016632). Groundwater sampling and analyses are performed by Aquatico, a SANAS accredited laboratory and results interpretation is performed by Groundwater Complete. Water monitoring boreholes are strategically placed to account for the impact from rehabilitated areas, zones of surface water pollution and external borehole users (regional boreholes).	
11. Coal removal, loading and stockpiling.	Operational phase	Air Quality	To minimise fugitive dust generation emanating from coal extraction activities.	Dust Management Plan. Dust Monitoring Programme.	Compliant	Zibulo Colliery has developed and implemented the Zibulo air quality monitoring procedure (AATC016306), that covers the management and monitoring of fallout dust and Particulate Matter at Zibulo Opencast Operations. WSP Environmental (Pty) Ltd has been appointed by Zibulo Colliery to manage the dust fallout monitoring network and ambient monitoring for the colliery. The report May 2021 air quality monitoring report, was provided for review. Exceedances are recorded in the ENABLON system for investigation and corrective action.	
		Topography and Visual Environment	To minimise the negative visual impact caused by mining activities.	Mining Plan			Compliant
		Soils	To prevent soil contamination and degradation	Emergency Response Plan Vehicle Maintenance Plan.	Compliant		Zibulo's Spill Management Procedure clearly describes the methodology recommended for handling hazardous chemical or material spillages that may occur. The LDV service job card and Zibulo Colliery Emergency Preparedness Procedure ZIB-ENV-PRO-0808 was available for referencing.
		Fauna and Flora	To prevent the loss of biodiversity and minimise impacts on floral species.	Dust Management Plan.	Compliant		Zibulo Colliery has developed and implemented the Zibulo air quality monitoring procedure (AATC016306) that covers the management and monitoring of fallout dust and Particulate Matter at Zibulo Opencast Operations. WSP Environmental (Pty) Ltd has been appointed by Zibulo Colliery to manage the dust fallout monitoring network and ambient monitoring for the colliery. The air quality monitoring report, dated May 2022, was provided for review. Exceedances are recorded in the ENABLON system for investigation and corrective action.
		Wetlands and Aquatic Ecology	To prevent the contamination and sedimentation of the wetland systems and aquatic ecosystems.	Stormwater Management Plan	Compliant		In accordance with the Update of the Surface Water Flood Risk Management Plan and Stormwater Management Plan dated January 2021 compiled by Golder, current stormwater management systems at underground and opencast operations were evaluated and additional SWMPs were developed where necessary especially at Zibulo opencast: <ul style="list-style-type: none"> <li>Due to the Southern box cut, the new river diversion design by Semane was evaluated to ensure conveyance of the 1:50-year 24-hour storm event.</li> <li>Surface flood risk assessment for Zibulo Underground and Opencast operations were carried out and it was found that overall, there are no high/ significant risks identified at Zibulo Colliery. Risks were classified as low and medium, with proper control and mitigation measures they can be reduced.</li> </ul>

NAME OF THE ACTIVITY	PROJECT PHASE	IMPACT / RECEIVING ENVIRONMENT	OBJECTIVE	PROPOSED MANAGEMENT OR MITIGATION MEASURE	COMPLIANCE	AUDIT FINDINGS/OBSERVATION
						<ul style="list-style-type: none"> <li>It is recommended that the water reticulation plan shown in this report be reviewed to ensure it includes release points, pipelines and pump capacities at Zibulo Colliery; and</li> <li>Triggers Actions and Response Plans for the storage facilities were developed, particularly for the freeboard levels, overflows and the spillway conditions.</li> </ul>
				Dust Management Plan. Dust Monitoring Programme.	Compliant	Zibulo Colliery has developed and implemented the Zibulo air quality monitoring procedure (AATC016306) that covers the management and monitoring of fallout dust and Particulate Matter at Zibulo Opencast Operations. WSP Environmental (Pty) Ltd has been appointed by Zibulo Colliery to manage the dust fallout monitoring network and ambient monitoring for the colliery. The air quality monitoring report, dated May 2022, was provided for review. Exceedances are recorded in the ENABLON system for investigation and corrective action.
				Aquatic Monitoring Programme	Compliant	According to the Biomonitoring and Ecotoxicity Assessment Programme dated January 2022, reference should be made to surface water monitoring data to determine the potential reason for the acidic and toxic conditions at site ZC7E and ZC7B. Rehabilitation of the tributary at site ZC7B should be considered as a way to improve wetland function.
		Surface water	To prevent the contamination and sedimentation of clean water resources.	Stormwater Management Plan	Compliant	<p>In accordance with the Update of the Surface Water Flood Risk Management Plan and Stormwater Management Plan dated January 2021 compiled by Golder, current stormwater management systems at underground and opencast operations were evaluated and additional SWMPs were developed where necessary especially at Zibulo opencast:</p> <ul style="list-style-type: none"> <li>Due to the Southern box cut, the new river diversion design by Semane was evaluated to ensure conveyance of the 1:50-year 24-hour storm event.</li> <li>Surface flood risk assessment for Zibulo Underground and Opencast operations were carried out and it was found that overall, there are no high/ significant risks identified at Zibulo Colliery. Risks were classified as low and medium, with proper control and mitigation measures they can be reduced.</li> <li>It is recommended that the water reticulation plan shown in this report be reviewed to ensure it includes release points, pipelines and pump capacities at Zibulo Colliery; and</li> <li>Triggers Actions and Response Plans for the storage facilities were developed, particularly for the freeboard levels, overflows and the spillway conditions.</li> </ul>
				Surface Water Monitoring Plan	Compliant	Water quality monitoring is performed by an external contractor (Aquatico Scientific (Pty) Ltd.). Dirty water containment facilities including up- and downstream surface water localities are included within the monitoring programme to assess impacts on the receiving surface water environment. Compliance is measured according to the conditions as stipulated in the WUL.
		Noise	To prevent the noise emanating from mining and vehicular activities impacting on surrounding sensitive receptors.	Regular Vehicle Inspections.	Compliant	Vohe conducts vehicle inspections. The LDV service job card was available for referencing.
		Traffic	To prevent and minimise the degradation of the road structures resulting in potential	Road Maintenance Plan.	Compliant	Zibulo Colliery has developed and implemented the Zibulo Opencast haul road design, construction & maintenance standard procedure (AATC023972) that covers the haul road maintenance under section 5.3.

NAME OF THE ACTIVITY	PROJECT PHASE	IMPACT / RECEIVING ENVIRONMENT	OBJECTIVE	PROPOSED MANAGEMENT OR MITIGATION MEASURE	COMPLIANCE	AUDIT FINDINGS/OBSERVATION
			health and safety risks and soil erosion.			
12. Dirty water management.	Operational phase	Wetlands and Aquatic Ecology	To prevent the contamination of the wetland systems and aquatic ecosystems.	Stormwater Management Plan	Compliant	In accordance with the Update of the Surface Water Flood Risk Management Plan and Stormwater Management Plan dated January 2021 compiled by Golder, current stormwater management systems at underground and opencast operations were evaluated and additional SWMPs were developed where necessary especially at Zibulo opencast: <ul style="list-style-type: none"> <li>• Due to the Southern box cut, the new river diversion design by Semane was evaluated to ensure conveyance of the 1:50-year 24-hour storm event.</li> <li>• Surface flood risk assessment for Zibulo Underground and Opencast operations were carried out and it was found that overall, there are no high/ significant risks identified at Zibulo Colliery. Risks were classified as low and medium, with proper control and mitigation measures they can be reduced.</li> <li>• It is recommended that the water reticulation plan shown in this report be reviewed to ensure it includes release points, pipelines and pump capacities at Zibulo Colliery; and</li> <li>• Triggers Actions and Response Plans for the storage facilities were developed, particularly for the freeboard levels, overflows and the spillway conditions.</li> </ul>
				Dust Management Plan. Dust Monitoring Programme.	Compliant	Zibulo Colliery has developed and implemented the Zibulo air quality monitoring procedure (AATC016306) that covers the management and monitoring of fallout dust and Particulate Matter at Zibulo Opencast Operations. WSP Environmental (Pty) Ltd has been appointed by Zibulo Colliery to manage the dust fallout monitoring network and ambient monitoring for the colliery. The air quality monitoring report, dated May 2022, was provided for review. Exceedances are recorded in the ENABLON system for investigation and corrective action.
				Aquatic Monitoring Programme	Compliant	According to the Biomonitoring and Ecotoxicity Assessment Programme dated January 2022, reference should be made to surface water monitoring data to determine the potential reason for the acidic and toxic conditions at site ZC7E and ZC7B. Rehabilitation of the tributary at site ZC7B should be considered as a way to improve wetland function.
		Surface Water	To prevent the contamination of clean water resources.	Stormwater Management Plan	Compliant	In accordance with the Update of the Surface Water Flood Risk Management Plan and Stormwater Management Plan dated January 2021 compiled by Golder, current stormwater management systems at underground and opencast operations were evaluated and additional SWMPs were developed where necessary especially at Zibulo opencast: <ul style="list-style-type: none"> <li>• Due to the Southern box cut, the new river diversion design by Semane was evaluated to ensure conveyance of the 1:50-year 24-hour storm event.</li> <li>• Surface flood risk assessment for Zibulo Underground and Opencast operations were carried out and it was found that overall, there are no high/ significant risks identified at Zibulo Colliery. Risks were classified as low and medium, with proper control and mitigation measures they can be reduced.</li> <li>• It is recommended that the water reticulation plan shown in this report be reviewed to ensure it includes release points, pipelines and pump capacities at Zibulo Colliery; and</li> <li>• Triggers Actions and Response Plans for the storage facilities were developed, particularly for the freeboard levels, overflows and the spillway conditions.</li> </ul>

NAME OF THE ACTIVITY	PROJECT PHASE	IMPACT / RECEIVING ENVIRONMENT	OBJECTIVE	PROPOSED MANAGEMENT OR MITIGATION MEASURE	COMPLIANCE	AUDIT FINDINGS/OBSERVATION
				Surface Water Monitoring Plan	Compliant	Water quality monitoring is performed by an external contractor (Aquatico Scientific (Pty) Ltd.). Dirty water containment facilities including up- and downstream surface water localities are included within the monitoring programme to assess impacts on the receiving surface water environment. Compliance is measured according to the conditions as stipulated in the WUL.
		Groundwater	To prevent and minimise groundwater contamination.	Stormwater Management Plan	Compliant	In accordance with the Update of the Surface Water Flood Risk Management Plan and Stormwater Management Plan dated January 2021 compiled by Golder, current stormwater management systems at underground and opencast operations were evaluated and additional SWMPs were developed where necessary especially at Zibulo opencast: <ul style="list-style-type: none"> <li>• Due to the Southern box cut, the new river diversion design by Semane was evaluated to ensure conveyance of the 1:50-year 24-hour storm event.</li> <li>• Surface flood risk assessment for Zibulo Underground and Opencast operations were carried out and it was found that overall, there are no high/ significant risks identified at Zibulo Colliery. Risks were classified as low and medium, with proper control and mitigation measures they can be reduced.</li> <li>• It is recommended that the water reticulation plan shown in this report be reviewed to ensure it includes release points, pipelines and pump capacities at Zibulo Colliery; and</li> <li>• Triggers Actions and Response Plans for the storage facilities were developed, particularly for the freeboard levels, overflows and the spillway conditions.</li> </ul>
				Groundwater Monitoring Programme	Compliant	A formalised water-monitoring programme is in place as documented in the Zibulo Water Monitoring Procedure (AATC016632). Groundwater sampling and analyses are performed by Aquatico, a SANAS accredited laboratory and results interpretation is performed by Groundwater Complete. Water monitoring boreholes are strategically placed to account for the impact from rehabilitated areas, zones of surface water pollution and external borehole users (regional boreholes).
13. Operation and management of Pollution Control Dams.	Operational phase	Wetlands and Aquatic Ecology	To prevent the contamination of the wetland systems and aquatic ecosystems.	Stormwater Management Plan	Compliant	In accordance with the Update of the Surface Water Flood Risk Management Plan and Stormwater Management Plan dated January 2021 compiled by Golder, current stormwater management systems at underground and opencast operations were evaluated and additional SWMPs were developed where necessary especially at Zibulo opencast: <ul style="list-style-type: none"> <li>• Due to the Southern box cut, the new river diversion design by Semane was evaluated to ensure conveyance of the 1:50-year 24-hour storm event.</li> <li>• Surface flood risk assessment for Zibulo Underground and Opencast operations were carried out and it was found that overall, there are no high/ significant risks identified at Zibulo Colliery. Risks were classified as low and medium, with proper control and mitigation measures they can be reduced.</li> <li>• It is recommended that the water reticulation plan shown in this report be reviewed to ensure it includes release points, pipelines and pump capacities at Zibulo Colliery; and</li> <li>• Triggers Actions and Response Plans for the storage facilities were developed, particularly for the freeboard levels, overflows and the spillway conditions.</li> </ul>
				Dust Management Plan. Dust Monitoring Programme.	Compliant	Zibulo Colliery has developed and implemented the Zibulo air quality monitoring procedure (AATC016306) that covers the management and monitoring of fallout dust and Particulate Matter at Zibulo Opencast

NAME OF THE ACTIVITY	PROJECT PHASE	IMPACT / RECEIVING ENVIRONMENT	OBJECTIVE	PROPOSED MANAGEMENT OR MITIGATION MEASURE	COMPLIANCE	AUDIT FINDINGS/OBSERVATION
						Operations. WSP Environmental (Pty) Ltd has been appointed by Zibulo Colliery to manage the dust fallout monitoring network and ambient monitoring for the colliery. The air quality monitoring report, dated May 2022, was provided for review. Exceedances are recorded in the ENABLON system for investigation and corrective action.
				Aquatic Monitoring Programme	Compliant	According to the Biomonitoring and Ecotoxicity Assessment Programme dated January 2022, reference should be made to surface water monitoring data to determine the potential reason for the acidic and toxic conditions at site ZC7E and ZC7B. Rehabilitation of the tributary at site ZC7B should be considered as a way to improve wetland function.
		Surface Water	To prevent the contamination of clean water resources.	Stormwater Management Plan	Compliant	In accordance with the Update of the Surface Water Flood Risk Management Plan and Stormwater Management Plan dated January 2021 compiled by Golder, current stormwater management systems at underground and opencast operations were evaluated and additional SWMPs were developed where necessary especially at Zibulo opencast: <ul style="list-style-type: none"> <li>• Due to the Southern box cut, the new river diversion design by Semane was evaluated to ensure conveyance of the 1:50-year 24-hour storm event.</li> <li>• Surface flood risk assessment for Zibulo Underground and Opencast operations were carried out and it was found that overall, there are no high/ significant risks identified at Zibulo Colliery. Risks were classified as low and medium, with proper control and mitigation measures they can be reduced.</li> <li>• It is recommended that the water reticulation plan shown in this report be reviewed to ensure it includes release points, pipelines and pump capacities at Zibulo Colliery; and</li> <li>• Triggers Actions and Response Plans for the storage facilities were developed, particularly for the freeboard levels, overflows and the spillway conditions.</li> </ul>
				Surface Water Monitoring Plan	Compliant	Water quality monitoring is performed by an external contractor (Aquatico Scientific (Pty) Ltd.). Dirty water containment facilities including up- and downstream surface water localities are included within the monitoring programme to assess impacts on the receiving surface water environment. Compliance is measured according to the conditions as stipulated in the WUL.
		Groundwater	To prevent and minimise groundwater contamination.	Groundwater Monitoring Programme	Compliant	A formalised water-monitoring programme is in place as documented in the Zibulo Water Monitoring Procedure (AATC016632). Groundwater sampling and analyses are performed by Aquatico, a SANAS accredited laboratory and results interpretation is performed by Groundwater Complete. Water monitoring boreholes are strategically placed to account for the impact from rehabilitated areas, zones of surface water pollution and external borehole users (regional boreholes).
14. Stockpile operation and maintenance.	Operational phase	Air quality	To minimise fugitive dust generation emanating from the operation and management of stockpiles.	Dust Management Plan.	Compliant	Zibulo Colliery has developed and implemented the Zibulo air quality monitoring procedure (AATC016306) that covers the management and monitoring of fallout dust and Particulate Matter at Zibulo Opencast Operations. WSP Environmental (Pty) Ltd has been appointed by Zibulo Colliery to manage the dust fallout monitoring network and ambient monitoring for the colliery. The air quality monitoring report, dated May 2022 was provided for review. Exceedances are recorded in the ENABLON system for investigation and corrective action.
		Topography and Visual Environment Soils	To minimise topography change and disruption of surface water flow.	Mining Plan	Compliant	In accordance with Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, a master post mining topographical design is created at Anglo American's Divisional Environmental Office using Model Maker design software. The design

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						is based on achieving the Mine's EMPr requirements, and to achieve a free draining post mining topography. Once the post mining topographical design has been developed and signed off, reshaping of the spoil to conform to the design is undertaken. Survey pegs are staked at various intervals to guide machine operators in achieving the design.
			To prevent soil erosion.	Stormwater Management Plan	Compliant	In accordance with the Update of the Surface Water Flood Risk Management Plan and Stormwater Management Plan dated January 2021 compiled by Golder, current stormwater management systems at underground and opencast operations were evaluated and additional SWMPs were developed where necessary especially at Zibulo opencast: <ul style="list-style-type: none"> <li>• Due to the Southern box cut, the new river diversion design by Semane was evaluated to ensure conveyance of the 1:50-year 24-hour storm event.</li> <li>• Surface flood risk assessment for Zibulo Underground and Opencast operations were carried out and it was found that overall, there are no high/ significant risks identified at Zibulo Colliery. Risks were classified as low and medium, with proper control and mitigation measures they can be reduced.</li> <li>• It is recommended that the water reticulation plan shown in this report be reviewed to ensure it includes release points, pipelines and pump capacities at Zibulo Colliery; and</li> <li>• Triggers Actions and Response Plans for the storage facilities were developed, particularly for the freeboard levels, overflows and the spillway conditions.</li> </ul>
				Soil Rehabilitation Plan.	Compliant	Zibulo Spill Handling Procedure Doc No AATC003255, describe the methodology recommended for handling of hazardous chemical or material's spillages that may occur.
		Wetlands and Aquatic Ecology	To prevent the contamination and sedimentation of the wetland systems and aquatic ecosystems	Aquatic Monitoring Programme	Compliant	According to the Biomonitoring and Ecotoxicity Assessment Programme dated January 2022, reference should be made to surface water monitoring data to determine the potential reason for the acidic and toxic conditions at site ZC7E and ZC7B. Rehabilitation of the tributary at site ZC7B should be considered as a way to improve wetland function.
		Surface Water	To prevent the contamination and sedimentation of clean water resources.	Stormwater Management Plan	Compliant	In accordance with the Update of the Surface Water Flood Risk Management Plan and Stormwater Management Plan dated January 2021 compiled by Golder, current stormwater management systems at underground and opencast operations were evaluated and additional SWMPs were developed where necessary especially at Zibulo opencast: <ul style="list-style-type: none"> <li>• Due to the Southern box cut, the new river diversion design by Semane was evaluated to ensure conveyance of the 1:50-year 24-hour storm event.</li> <li>• Surface flood risk assessment for Zibulo Underground and Opencast operations were carried out and it was found that overall, there are no high/ significant risks identified at Zibulo Colliery. Risks were classified as low and medium, with proper control and mitigation measures they can be reduced.</li> <li>• It is recommended that the water reticulation plan shown in this report be reviewed to ensure it includes release points, pipelines and pump capacities at Zibulo Colliery; and</li> <li>• Triggers Actions and Response Plans for the storage facilities were developed, particularly for the freeboard levels, overflows and the spillway conditions.</li> </ul>
				Surface Water Monitoring Plan	Compliant	Water quality monitoring is performed by an external contractor (Aquatico Scientific (Pty) Ltd.). Dirty water containment facilities

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		Groundwater	To prevent and minimise groundwater contamination.	Groundwater Monitoring Programme	Compliant	including up- and downstream surface water localities are included within the monitoring programme to assess impacts on the receiving surface water environment. Compliance is measured according to the conditions as stipulated in the WUL. A formalised water-monitoring programme is in place as documented in the Zibulo Water Monitoring Procedure (AATC016632). Groundwater sampling and analyses are performed by Aquatico, a SANAS accredited laboratory and results interpretation is performed by Groundwater Complete. Water monitoring boreholes are strategically placed to account for the impact from rehabilitated areas, zones of surface water pollution and external borehole users (regional boreholes).		
15. Waste and sewage generation and disposal.	Operational phase	Topography and Visual Environment	To minimise topography change; and	IWWMP	Compliant	Updated IWWMP dated September 2020, clearly describe the management measures for the topography and visual impacts caused by the waste stored on site.		
			To minimise the negative visual impact caused by waste stored on site.					
			To monitor waste generation as result of mining.					
		Surface Water	To prevent the contamination of clean water resources.	Stormwater Management Plan	Compliant	<p>In accordance with the Update of the Surface Water Flood Risk Management Plan and Stormwater Management Plan dated January 2021 compiled by Golder, current stormwater management systems at underground and opencast operations were evaluated and additional SWMPs were developed where necessary especially at Zibulo opencast:</p> <ul style="list-style-type: none"> <li>• Due to the Southern box cut, the new river diversion design by Semane was evaluated to ensure conveyance of the 1:50-year 24-hour storm event.</li> <li>• Surface flood risk assessment for Zibulo Underground and Opencast operations were carried out and it was found that overall, there are no high/ significant risks identified at Zibulo Colliery. Risks were classified as low and medium, with proper control and mitigation measures they can be reduced.</li> <li>• It is recommended that the water reticulation plan shown in this report be reviewed to ensure it includes release points, pipelines and pump capacities at Zibulo Colliery; and</li> <li>• Triggers Actions and Response Plans for the storage facilities were developed, particularly for the freeboard levels, overflows and the spillway conditions.</li> </ul>		
				Surface Water Monitoring Plan			Compliant	Water quality monitoring is performed by an external contractor (Aquatico Scientific (Pty) Ltd.). Dirty water containment facilities including up- and downstream surface water localities are included within the monitoring programme to assess impacts on the receiving surface water environment. Compliance is measured according to the conditions as stipulated in the WUL.
				IWWMP			Compliant	Updated IWWMP dated September 2020, was available for review. Which clearly describes the management of the clean water resources.
Groundwater	To prevent and minimise groundwater contamination.	Stormwater Management Plan	Compliant	In accordance to the Update of the Surface Water Flood Risk Management Plan and Stormwater Management Plan dated January 2021 compiled by Golder, current stormwater management systems at underground and opencast operations were evaluated and additional SWMPs were developed where necessary especially at Zibulo opencast.				

NAME OF THE ACTIVITY	PROJECT PHASE	IMPACT / RECEIVING ENVIRONMENT	OBJECTIVE	PROPOSED MANAGEMENT OR MITIGATION MEASURE	COMPLIANCE	AUDIT FINDINGS/OBSERVATION											
16. Concurrent rehabilitation.						<ul style="list-style-type: none"> <li>Due to the Southern box cut, the new river diversion design by Semane was evaluated to ensure conveyance of the 1:50-year 24-hour storm event.</li> <li>Surface flood risk assessment for Zibulo Underground and Opencast operations were carried out and it was found that overall, there are no high/ significant risks identified at Zibulo Colliery. Risks were classified as low and medium, with proper control and mitigation measures they can be reduced.</li> <li>It is recommended that the water reticulation plan shown in this report be reviewed to ensure it includes release points, pipelines and pump capacities at Zibulo Colliery; and</li> <li>Triggers Actions and Response Plans for the storage facilities were developed, particularly for the freeboard levels, overflows and the spillway conditions.</li> </ul>											
						Groundwater Monitoring Programme	Compliant	A formalised water-monitoring programme is in place as documented in the Zibulo Water Monitoring Procedure (AATC016632). Groundwater sampling and analyses are performed by Aquatico, a SANAS accredited laboratory and results interpretation is performed by Groundwater Complete. Water monitoring boreholes are strategically placed to account for the impact from rehabilitated areas, zones of surface water pollution and external borehole users (regional boreholes).									
		Air Quality	To minimise fugitive dust generation emanating from concurrent rehabilitation activities.	Dust Management Plan. Dust Monitoring Programme.	Compliant	Zibulo Colliery has developed and implemented the Zibulo air quality monitoring procedure (AATC016306), that covers the management and monitoring of fallout dust and Particulate Matter at Zibulo Opencast Operations. WSP Environmental (Pty) Ltd has been appointed by Zibulo Colliery to manage the dust fallout monitoring network and ambient monitoring for the colliery. The air quality monitoring report, dated May 2022 was provided for review. Exceedances are recorded in the ENABLON system for investigation and corrective action.											
		Topography and Visual Environment	To rehabilitate the topography; To minimise soil erosion and topsoil loss; and	Rehabilitation Plan	Compliant	According to Zibulo rehabilitation plan excel power point, the cross section indicates how rehabilitation monitoring is conducted and the backfilling and levelling will ensure that the actual topography is in line with the modelled post mining modelled topography.											
		Soils	To prevent soil contamination and degradation.	Emergency Response Plan	Compliant	Zibulo's Spill Management Procedure clearly describes the methodology recommended for handling hazardous chemical or material spillages that may occur. The LDV service job card and Zibulo Colliery Emergency Preparedness Procedure ZIB-ENV-PRO-0808 was available for referencing.											
				Vehicle Maintenance Plan.	Compliant	Vohe conducts vehicle inspections. The LDV service job card was available for referencing.											
				Soil Rehabilitation Plan; and Soil monitoring.	Compliant	Soil analysis and fertilizer were conducted by Hydromulch on 7 March 2014. A sub-soil analysis (fertility/fertilizer recommendation) by Hydromulch was submitted for review during the audit. Zibulo Colliery must apply for an amendment of this commitment.											
		Fauna and Flora	To restore vegetation establishment; and	Rehabilitation Plan	Compliant	According to Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, seeding is conducted by seeding contractors. A seeding mix of the following species is used for rehabilitation purposes at Zibulo Colliery:											
		<table border="1"> <thead> <tr> <th>Species</th> <th>Rate (Kg/Ha)</th> </tr> </thead> <tbody> <tr> <td><i>Eragrostis curvula</i></td> <td>8 kg / ha</td> </tr> <tr> <td><i>Eragrostis tef</i></td> <td>3 kg / ha</td> </tr> <tr> <td><i>Chloris gayana</i></td> <td>2 kg / ha</td> </tr> <tr> <td><i>Digitaria eriantha</i></td> <td>5 kg / ha</td> </tr> </tbody> </table>						Species	Rate (Kg/Ha)	<i>Eragrostis curvula</i>	8 kg / ha	<i>Eragrostis tef</i>	3 kg / ha	<i>Chloris gayana</i>	2 kg / ha	<i>Digitaria eriantha</i>	5 kg / ha
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						<i>Cynodon dactylon</i>	3 kg / ha
						<b>Total</b>	<b>21 kg / ha</b>
			To prevent the influx and establishment of alien invasive vegetation.	Alien Invasive Management Plan.	Non-compliant	The mine indicated that inspections of the rehabilitated areas are undertaken by mine employees (Environmental Department) and are further undertaken by Hydromulch. However, no proof was provided to determine compliance of this condition.	
		Surface Water	To rehabilitate the area to an adequate state, thereby preventing sustained potential impacts from occurring.	Rehabilitation Plan	Compliant	In accordance with Zibulo Colliery's Annual Rehabilitation Plan 2021 compiled by Shangoni Management Services (Pty) Ltd, the post-mining Digital Terrain Model (DTM) with drainage plan indicates that all areas are free-draining and that drainage lines report to identified target natural wetlands/watercourse. The design is based on achieving the Mine's EMPR requirements, and to achieve a free draining post mining topography.	
		Groundwater	To prevent and minimise groundwater contamination.	Rehabilitation Plan Groundwater Monitoring Programme	Compliant	A formalised water-monitoring programme is in place as documented in the Zibulo Water Monitoring Procedure (AATC016632). Groundwater sampling and analyses are performed by Aquatico, a SANAS accredited laboratory and results interpretation is performed by Groundwater Complete. Water monitoring boreholes are strategically placed to account for the impact from rehabilitated areas, zones of surface water pollution and external borehole users (regional boreholes).	
		Noise	To prevent the noise emanating from rehabilitation machinery and vehicles impacting on surrounding sensitive receptors.	Regular Vehicle Inspections.	Compliant	Vohe conducts vehicle inspections. The LDV service job card was available for review.	
		Groundwater	Drilling and testing of monitoring boreholes targeting the backfilled areas.	Groundwater Monitoring Programme	Compliant	A formalised water-monitoring programme is in place as documented in the Zibulo Water Monitoring Procedure (AATC016632). Groundwater sampling and analyses are performed by Aquatico, a SANAS accredited laboratory and results interpretation is performed by Groundwater Complete. Water monitoring boreholes are strategically placed to account for the impact from rehabilitated areas, zones of surface water pollution and external borehole users (regional boreholes).	

**7 Environmental Authorisation for the development of an activity, including structures and infrastructure, where the total area of the developed area is, or is intended to be, 20 hectares or more on portions 12, 19, 39, 40 and 41 of the farm Oogiesfontein 4 I, Ogies, Mpumalanga, approved 30 April 2010, with reference no.: 17/2/2/2 NK-1**

Condition no.	Condition	Compliance	Findings/observation
<b>2</b>	<b>ACTIVITIES AUTHORISED</b>		
2	Zibulo Colliery is authorised to undertake the following activity in terms of the abovementioned EA: The proposed development of an activity, including structures and infrastructure, where the total area of the developed area is, or is intended to be, 20 hectares or more on portions 12, 19, 39, 40 and 41 of the farm Oogiesfontein 4 IS, Ogies. The total extent of the mining area is approximately 350ha in extent. Coal will be trucked to the Phola coal Processing plant on the R555. Activities at the mine will include an 8000 ton silo, tipping bay, package sewage plant, bulk fuel storage, access roads, offices, workshops and a 40ML pollution control dam into which water from the pit and from the dirty water management system will be pumped: Item 2 as identified in terms of Chapter 5 of the National Environmental Management Act, 1998 and Government Notice R 387 of 21 April 2006.	Noted	The mine takes note of this condition.
<b>3 COMMENCEMENTS OF THE ACTIVITY</b>			
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 mine takes note of this condition.
3.2	The holder of the authorisation must ensure compliance with the conditions by any person acting on his or her behalf, including but not limited to, an agent, sub-contractor, employee or person rendering a service to the holder of the authorization.	Noted	The mine takes note of this condition.
3.3	The activity which is authorized may only be carried out at the property indicated above.	Noted	The mine takes note of this condition.
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 authorization in terms of the regulations.	Noted	The mine takes note of this condition.
3.5	This activity must commence within a period of two (2) 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	The opencast activities at Zibulo Colliery commenced mid-2009. Assessment of the Google Earth images has indicated that mining activities on was already in operation mid-2010. This is proof that the mine was operational within two years of issuance of the authorization, which was in April 2010.
<b>APPEAL OF THE AUTHORISATION AND NOTIFICATIONS TO INTERESTED AND AFFECTED PARTIES</b>			
3.7	The holder of the authorisation must notify every registered interested and affected party, in writing and within 10 (Ten) calendar days, of receiving notice of the Department's decision to authorize the activity.	Compliant	A copy of the notification to interested and affected parties dated 7 May 2010 and sent by SRK Consulting, was available for review.
3.8	The notification referred to in 3.7 must – 3.8.1 specify the date on which the authorisation was issued; 3.8.2 inform the interested and affected party of the appeal procedure provided for in Chapter 8 of the regulations; and 3.8.3 advise the interested and affected party that a copy of the	Compliant	
<b>COMMISSIONING AND OPERATION OF THE ACTIVITY</b>			
3.9	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	The mine personnel indicated that it was determined that the opencast activities at Zibulo Colliery commenced mid-2009. No proof of commencement and of any written notification to the Department of the commencement of the mine were provided, therefore, the extent of the activities undertaken and their compliance to the condition could not be determined. It was however noted that the condition was applicable during the first year of it's the operation and since the mine has been operational over ten years, this condition is regarded as no longer applicable.

Condition no.	Condition	Compliance	Findings/observation
3.10	All construction activities must be limited to the said site. No activities must be allowed on adjacent agricultural land.	Not applicable	Since construction activities have been completed, these conditions are not applicable.
3.11	Chemical toilets must be provided to be used by construction workers. These must be serviced on a regular basis and no pit latrines are allowed.	Not applicable	
3.12	Potable water must be made available for site workers.	Compliant	Potable water is provided to current site workers, which will be used for the employees at the extension areas. Several taps are available across site as well as at the Change houses and offices.
3.13	Proper waste management facilities must be provided as part of the construction camp. No dumping of any kind of waste (domestic, general, building rubble, etc) must to take place on the adjacent agricultural land.	Not applicable	Since construction activities have been completed, this condition is not applicable.
3.14	Noise must be within the environmental noise limits as prescribed by the Environment Conservation Act and other regulations.	Compliant	The Environment Conservation Act, which makes provision for the National Noise Control Regulations, has been largely superseded by the National Environmental Management Act (Act No 107 of 1998). The National Noise Control Regulations is however in place and can be used for the purpose of complying with the condition. The mine personnel indicated that an Environmental Noise Assessment was conducted between the 5th and 7th of December 2012 at Zibulo Colliery to determine the effects that the opencast mining activities could have on the adjacent farm dwellings and Ogies Town situated around the mining section. The report concluded that the impact of the opencast mining on the ambient noise environment is classified as negligible. This study is considered outdated and the mine may consider an update for the assessment.
3.15	A noise survey must be done and approved by Inspection authority and Occupational Hygienist once installation of the plant is complete.	Compliant	The baseline noise assessment survey was undertaken in 2006 (Jongens Keet Associates, 2006) and no study was conducted after the completion of the plant at the opencast mining area. Airshed Planning Professional, an independent specialist, conducted a noise assessment around the Zibulo Colliery opencast operation. The noise assessment was conducted in 2020, which was after the installation of the crushing and screening plant at the mine. Based on the summary of the noise results, none of the sites monitored close to the mine indicated excessive noise from the mining operation.
3.16	The contractor doing civil work must ensure that the disposal of the construction waste is done at the relevant registered municipal waste site and hazardous waste must be disposed of at Holfontein.	Not applicable	Since construction activities have been commenced with as yet, this condition is not applicable.
3.17	Other relevant approvals from legislations, policies and or guidelines of any sphere of the government that are applicable must be considered before construction activities.	Not applicable	Since construction activities have been completed, this condition is not applicable.
3.18	Anglo Coal is responsible for the removal and appropriate disposal at a landfill site of all maintenance waste produced during the operational phase.	Compliant	Waste Group removes domestic waste from the mine to the licensed eMalahleni Landfill site while Interwaste removes hazardous waste to Holfontein. Waste manifests and safe disposal certificates available for review.
3.19	A detailed waste management strategy must be established and implemented.	Compliant	Zibulo Colliery operates a waste management strategy according to the Zibulo Waste Management Procedure (AATC016633), which was made available for review.
3.20	Best waste management practices must be emphasized during the induction phase and on an ongoing basis.	Compliant	Best waste management practice is emphasized during employee and contractor induction (Environmental Contractor Induction Power Point Presentation), which was made available for review.
3.21	Waste must be removed by a licensed waste disposal company.	Compliant	The Waste Group removes domestic waste from the mine to the licensed eMalahleni Landfill site while, Interwaste (Pty) Ltd removes hazardous waste to Holfontein, which is a licensed hazardous waste disposal facility.
3.22	Once the designated areas for waste skips and the planned amounts have been finalized, the mine has to obtain a Section 20 application from the DWAF in terms of the Environmental Conservation Act (Act No. 73 of 1989).	Not applicable	Section 20 of the Environment Conservation Act 73 of 1989 ("ECA") was repealed with the commencement of the National Environmental Management: Waste Act 59 of 2008 ("NEMWA") with effect from 1 June 2009, i.e. prior to the granting of the EA on 8 March 2010. With the commencement of the NEMWA on 1 June 2009, section 4 provided that the NEMWA does not find application to "residue stockpiles" regulated in terms of the MPRDA. At the time, it was generally accepted that all waste generated at a mine was directly related to the mining operations and not regulated in terms of the NEMWA. Notwithstanding the aforesaid, even if the storage of general and hazardous waste on a mine were to be regulated in terms of the NEMWA a waste management license would have been required only if the thresholds were met. With the commencement of GN 921 of 29 November 2013 (List of Waste Management Activities that have, or are likely to have, a detrimental effect on the environment) the storage of general and hazardous waste no longer requires a waste management licence but compliance with the National Norms and Standards for the Storage of Waste published in terms of the NEMWA provided that the capacity thresholds are met. Zibulo Colliery only stores waste prior to the

Condition no.	Condition	Compliance	Findings/observation
			collection thereof by an external contractor and the capacity of the storage area is below the threshold provided for in respect of activity 5(1) and 5(2) of Category C of the List of Waste Management Activities (GN 921 of 29 November 2013) and accordingly Zibulo is not required to comply with the National Norms and Standards for the Storage of Waste.
3.23	Anglo Coal must ensure that the material generated during the decommissioning phase is cleared from the site and disposed of at a registered landfill site.	Not applicable	The mine is in the operational phase.
3.24	Topsoil and subsoil are to be stockpiled separately in the vicinity of the source of the soil and clearly identifiable.	Compliant	Topsoil and subsoil are stripped and stockpiled separately in accordance to the Zibulo Opencast Topsoil Management Procedure (AATC000582A). During the construction of the initial boxcut, all topsoil, subsoil and overburden were separately stockpiled around the boundary of the Zibulo Colliery site so as to act as a visual shield.
3.25	Prior to the removal of the soils for stockpiling additional sampling and analysis of the soils must be undertaken, to determine their suitability for use during rehabilitation.	Compliant	Soil analysis and fertilizer were conducted by Hydromulch on 7 March 2014.
3.26	Topsoil and subsoil must be sprayed with dust allaying agent immediately after being stockpiled.	Not applicable	No dust allaying agents are sprayed on the topsoil, subsoil and overburden stockpiles during construction but were rather allowed to naturally re-vegetate. It is noted that this condition is not practical as topsoil should not be sprayed with a dust allaying agent that may impact on the quality and nutrient value of the topsoil. However, it is noted that this condition is in a process of being amended.
3.27	Rapid growth of vegetation on stockpiles must be promoted.	Compliant	Vegetated overburden and topsoil dumps have been placed around the mining area in order to minimise the visual intrusion of the mine.
3.28	The mine must ensure that all erosion control measures are included in the designs of all linear infrastructures (railway lines, power lines, conveyors, pipelines etc.) and points of water discharge.	Compliant	Measures to control erosion at the opencast mine site include: compaction of access roads, dust suppression, vegetation on sides of pollution control dams and vegetation of berms and stockpiles.
3.29	Areas where erosion control measures have been implemented must be inspected on a weekly basis to determine their effectiveness.	Compliant	Erosion control measures (channels and trenches) are inspected on a regular basis. Where any concerns are identified, such are reported and raised on Enablon for investigation, actioning and close-out.
3.30	Vegetation establishment in disturbed areas must be undertaken as soon as practically possible, with the growing season and water availability being the primary constraints.	Compliant	Hydromulch (Pty) Ltd was appointed by Anglo Coal to provide revegetation services at Zibulo Opencast. Hydromulch was established on Wed 7th April 2021 to carry said revegetation works.
3.31	An incident management system including procedures and training must be put in place in order to deal with incidents.	Compliant	The Zibulo spill handling procedure (AATC003255) are in place to deal with incidents at the Zibulo Colliery. Employees and contractors receive training on these procedures as well as undertake mandatory induction, which provides information on the manner in which incidents are reported and handled. Incidents are also reported on the ENABLON system and responsible persons assigned to address incidents.
3.32	Major spillage incidents must be reported to the DME, DWAF, MDALA and the National Department of Agriculture (NDA).	Not applicable	No incidents were reported externally during the audit period under review.
3.33	If spills do occur and soils become contaminated, the appropriate remedial measures must be identified in consultation with appropriate qualified specialists.	Compliant	Zibulo Colliery does not do any remediation, instead contaminated soils are removed from site as hazardous waste.
3.34	Contractor Lay Down Area needs to be established within designated mining areas, or where the footprint of the area will become part of the mining infrastructure (i.e. co-disposal facility area and opencast mining areas).	Compliant	The contractor's (Sentula) offices are situated within the mine's office area.
3.35	Should any rare or endangered species be found within the Expansion Project area, these must be relocated under the guidance of MDALA.	Compliant	According to Zibulo Colliery's Biodiversity and Land Management Plan and the Fauna and Flora Assessment undertaken by Digby Wells Environmental, there is potential for red data species to be found within Zibulo Colliery's mining area. Mine personnel reported that prior to stripping activities, the area is demarcated and a site inspection conducted to determine whether any red data species occur on site. To date and according to the Wetland Study provided, no red data species have been identified (especially within the wetland areas), therefore, no rescue operations have been required.
3.36	Water sprays must be used in the loading of stockpiles.	Compliant	A fire hydrant and water sprays have been installed at the coal stockpile.
3.37	All employees must be made aware of all environmental issues during induction, and must continuously be updated of all new issues.	Compliant	Induction is provided to employees and contractors and includes environmental issues that are regularly updated. The mine's Environmental Induction PowerPoint Presentation was provided available for review.
3.38	Clean and dirty water systems around all infrastructures must be implemented prior to the commencement of construction activities to mitigate and reduce impacts on the groundwater aquifers.	Compliant	Clean and dirty water management infrastructure was constructed and implemented at the Zibulo Colliery. The opencast operation operates and maintains three (3) pollution control dams: 40 MI, 9 MI and a 1 MI dam.

Condition no.	Condition	Compliance	Findings/observation
3.39	All pollution control dams and other dirty water infrastructure must be lined with a HDPE liner.	Compliant	All pollution control dams are lined with HDPE liner.
3.40	All pollution control dams must be maintained regularly to ensure their effectiveness (i.e. removal of silt).	Compliant	The mine was removing the silt/reeds that accumulated in the pollution control dams during the auditing period.
3.41	No activities associated with hydrocarbons and or chemicals (i.e. wash bays etc.) must be undertaken outside of an effectively designed and contained area.	Compliant	No activities associated with hydrocarbons are undertaken outside of a contained area. This was confirmed during site visit.
3.42	Spill cleanup kits must be made available at each area where hydrocarbons are being utilized.	Compliant	Spill kits where hydrocarbons are being utilized are made available.
3.43	The construction of borrow pits, stockpiles and pollution control dams must be done within the mining rights area and be within designated areas.	Compliant	Through analysis of the recent aerial imagery and the approved Mining Right boundary of the Zibulo Colliery, it was identified that all infrastructure is located within the Mining Rights boundary.
3.44	Ongoing ambient and PM10 monitoring must be implemented with dust monitors concentrated of the west of the site.	Compliant	Reporting of dust fallout and PM10 concentrations are conducted on a monthly basis. Dust fallout is monitored at eight locations at the Zibulo Colliery, consisting of eight single dust fallout units.
3.45	All vehicles must use the limited speed of 40km per hour, especially during the high-risk periods of high winds; high temperature and low humidity.	Compliant	A speed limit of 40 Km/h is enforced throughout the mining area.
3.46	Consultation and cooperation with local law enforcement agencies must be established to ensure that legal and regulatory compliance on the roads is adhered to.	Compliant	The mine indicated that consultation and cooperation with local enforcement is continuously undertaken at Zibulo Colliery. Mine personnel further indicated that Zibulo Underground has established an annual road safety campaign in Collaboration with the roads department.
3.47	Gravel roads, topsoils and subsoils must be sprayed with a dust allaying agent immediately after being stockpiled.	Compliant	Dust suppression (using water carts and Dustex) is undertaken on all haul / access and gravel roads. However, this was confirmed during site visit.
	Topsoils and subsoils must be sprayed with a dust allaying agent immediately after being stockpiled.	Compliant	Dust allaying agent cannot be applied to topsoil and subsoil, as it will prevent vegetation. Overburden and topsoil dumps have been vegetated around the mining area in order to minimise dust. In view of the above, an application for the amendment of this condition must be submitted to the competent authority. It is noted that this non-compliance is not material and Zibulo Colliery has taken reasonable measures to rectify the non-compliance.
3.48	Should any graves or other sites with potential historical and/or cultural importance be identified, all activities in that vicinity must cease immediately.	Compliant	According to the approved EIA and EMPr titled: Oogiesfontein Opencast Mine EIA and EMP Volume 1, dated December 2009 and compiled by SRK Consulting, several graves were located within the mining area and were relocated in accordance with SAHRA on commissioning of the mine. Furthermore, the mine indicated that some graves are still located within close proximity of the mine, along with old farmsteads that are in ruin.
3.49	Graveyards must be demarcated with brick walls or with fences and the mine must remain responsible for their future unaffected existence.		
3.50	A forensic archaeologist or reputable undertaker who is acquainted with the administrative procedures and relevant legislation must be involved whenever human remains are exhumed and relocated.		
3.51	If there are any land claims submitted to the Department of Land Affairs, in terms of the Restitution Act commencement of mining activities must cease until the claim is resolved or finalise, and proper procedures and processes of the legislation must be followed when dealing with the claim.	Noted	The mine takes note of the requirements of this condition and is not aware of any land claims for the properties on which the mine is located.
3.52	Surrounding property owners must be informed of the blasting procedures and schedules and blasting times must be planned in advance and must be clearly indicated on the mining area.	Compliant	The mine sends out notifications (SMS's) to the adjacent landowners when blasting is to take place. The mine has also implemented a consultation process known as the "Farmer day meetings" during which the farmers are informed of the mining activities being conducted as well as providing the opportunity for the attendees to raise any concerns. It was further indicated by the mine that blasting is a topic at the farmer's day meetings and the attendees are notified at the meeting on the proposed schedule of blasting. A siren system was also implemented to announce the commencement of blasting activities.
3.53	Employees and outside contractors must be informed of the blasting procedures and the associated safety measures during induction.	Compliant	Blasting procedures and associated safety measure is included in mine's induction and training Courses provided to all employees and contractors. The mine's Environmental Induction PowerPoint Presentation was provided available for review.
3.54	During construction and operation, haulage roads must be treated with Dust-aside or a similar product to reduce water usage and dust creation.	Compliant	Dust suppression with a dust-allaying agent (Dustex), is conducted on all gravel and access /haul roads on the mine.
3.55	Before construction commences, representatives from the local authority and community-based organizations, as well as neighboring residents must be informed of the details of the construction company, size of the workforce and construction schedules.	Noted	Construction activities have been completed; this condition is noted for any future construction activities.
3.56	Construction workers must be easily identified as part of the construction team by wearing the specific clothing and/or name tags.		

Condition no.	Condition	Compliance	Findings/observation
3.57	Pro-active measures must be put in place by the Emalaheni Local Municipality and DCM to minimize negative impacts associated with the influx of construction workers and potential job seekers to the area.		
3.58	The local municipality and local residents must be pro-actively informed of any road closures and diversions.	Compliant	The mine sends out notifications (SMS's) to the adjacent landowners when blasting is to take place. The mine has also implemented a consultation process known as the "Farmer day meetings" during which the farmers are informed of the mining activities being conducted as well as providing the opportunity for the attendees to raise any concerns. It was further indicated by the mine that blasting is a topic at the farmer's day meetings and the attendees are notified at the meeting on the proposed schedule of blasting. A siren system was also implemented to announce the commencement of blasting activities.
3.59	The Expansion Project must link with the Integrated Development Plan (IDP) of the Emalaheni Local Municipality especially with regards to the planning processes to ensure adequate water supply and other programmes.	Not applicable	The mine did not have an expansion project at the time of issuance of this EA, therefore, this condition was rated as not applicable.
3.60	Provide opportunities for local businesses to become involved at the start of the procurement process and by allowing them to form part of the tender process.	Compliant	According to the mine's Social and Labor Plan ("SLP"), Social and Labor Plan Progress Report, Zibulo Colliery, 2014, the following is discussed in terms of procurement process: "At Anglo American, BEE companies are given preferred supplier status. Thermal Coal & Inyosi Coal shall through its Supply Chain continue to increase partnership with BEE companies/suppliers. Zibulo Colliery further sets targets for operation in respect of purchases from Local BEE companies.
3.61	The recruitment process and policy of the mine must be widely communicated to also limit the influx of potential job seekers.	Compliant	As per the SLP of the mine, a "Group Talented Management" strategy is in place that doesn't only rely on recruitment but also on retention and development of its current employees. Furthermore, hard to fill vacancies (such as: Geologists, Electrical engineers, Mechanical engineers, Mining Engineers, Surveyors, Tradesmen and Technicians) are addressed through bursary allocation programmes, study assistance schemes and the provision of learner ships and skills programmes. Employees are also encouraged to study in fields where there is a scarcity of skills.
3.62	A skills development programme must be embarked upon before the mine is fully operation to ensure that local people are "employed".		
3.63	Access roads and entrances to the mining area must be carefully planned to limit any intrusion, impacts, noise and dust pollution, as well as to limit any risks of accidents	Compliant	The entrance to the mine is located on the R545 approximately 2.2 km from the N12 / R545 off-ramp. Slip lanes have also been implemented to allow for the free movement of traffic as vehicles turn off to the mine as well as to prevent accidents. Traffic signs have also been implemented to limit the risk of accidents.
3.64	Ensure access points comply with standards and are well marked and indicated.	Compliant	According to the mine's Social and Labour Plan, Anglo Coal through the Chairman's Fund has formed public private partnerships in order to encourage the youth in developing positive life skills that are aimed at reducing the spread of sexually transmitted diseases and HIV / AIDS. In August 2002, Anglo American announced its intention to make anti- retroviral treatment available to HIV positive employees who are at the stage of infection where ART is most effective. This initiative is still continuing and has been included in the mine's Social and Labour Plan.
3.65	HIV/AIDS awareness and support programmes or groups must be established and implemented with specific focus on those in and nearby the construction camps.		
3.66	Construction vehicles and those transporting materials and goods must be inspected to ensure that these are in good working conditions.	Compliant	An external contractor has been appointed for the haulage of the ROM coal to Phola Plant for treatment. The external contractor is responsible for the maintenance of these vehicles. Zibulo Colliery monitors the use of the vehicles to ensure that they are in good conditions.
3.67	An environmental Committee must be established and used as a forum to keep interested and affected parties informed of the significant environmental aspects identified through the Environmental Impact Report and Environmental Management Plans.	Compliant	Zibulo Colliery has implemented a consultation process known as the "Farmer Day meetings" during which the farmers are informed of the mining activities being conducted as well as providing the opportunity for the attendees to raise any concerns.
<b>COMMISSIONING AND OPERATION OF THE ACTIVITY</b>			
3.68	A copy of this authorization must be kept at the property where the activity will be undertaken. The authorization must be produced to any authorized 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 authorization who works or undertakes work at the property.	Compliant	The mine does keep a copy of the EA on site. However, this will be confirmed during a site visit.
3.69	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 applicant knows the new details.	Compliant	Although no specific notification was sent to the department with regards to the changes to the responsible person, Zibulo Colliery was provided with the details of the contact person during the environmental authorisation application process for the Zibulo Colliery Underground as well as during the environmental authorisation process for the proposed mining through of a relict wetland area.
3.70	The holder of the authorization must notify the Department, in writing and within 24 (twenty-four) hours, if conditions of this authorization are not adhered to. Any notification in terms of this condition must be accompanied by reasons for the non-compliance.	Noted	The mine takes note of this condition. However, the mine indicated that it would apply for an amendment of this condition in order to only notify the Department if the non-compliance is between level 3-5.

Condition no.	Condition	Compliance	Findings/observation
3.71	Non-compliance with a condition of this authorization may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the regulations.	Noted	The mine takes note of this condition.

**7 ENVIRONMENTAL AUTHORISATION FOR THE EXTENSION OF MINING OF THE FARM OOGIESFONTEIN 4 IS AND KLIPFONTEIN 3 IS, WITBANK, APPROVED 12 FEBRUARY 2020 WITH REFERENCE NUMBER 30/5/1/2/3/2/1/338 EA**

CONDITION NO.	CONDITION	COMPLIANCE	OBSERVATIONS/AUDIT EVIDENCE
<b>8.1 STANDARD CONDITIONS</b>			
8.1.1	Authorisation of the activity is subject to the conditions contained in this Authorisation, which forms part of the Environmental Authorisation and are binding to the holder of the Authorisation.	Noted	The mine takes note of this condition.
8.1.2	The holder of the Authorisation shall be responsible for ensuring compliance with the conditions by any person acting on his or her behalf, including but not limited to, an agent, sub-contractor, employee or person rendering a service to the holder of the Authorisation.	Noted	The mine takes note of this condition.
8.1.3	The activity which is authorised may only be carried out at the property indicated above (Point B:3).	Noted	The mine takes note of this condition.
8.1.4	This environmental Authorisation remains valid for the entire duration of the mining operation, however it must be noted that the holder cannot implement any activities stipulated on the Environmental Authorisation without a valid mining right.	Noted	The mine takes note of this condition.
8.1.5	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.	Noted	The mine takes note of this condition.
8.1.6	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, including the transfer of this authorisation, the applicant must in writing notify the Regional Manager of this Department, within fourteen (14) days of the above specified change.	Noted	The mine takes note of this condition.
8.1.7	A copy of this authorisation must be kept on site. The Authorisation must be produced to any Government official(s) who may requests to see it inspection purposes and must be made available to the contractor(s)/subcontractor(s) authorised to undertake work at the property.	Compliant	The mine does keep a copy of the EA on site.
8.1.8	This authorisation does not negate the holder of the Authorisation's responsible to comply with any other statutory requirements that may be applicable to the undertaking of the activity.	Noted	The mine takes note of this condition.
8.1.9	After an appeal period has expired and no good course to extent the appeal period has been submitted in accordance with chapter 2 of the National Appeal Regulations of 2014, a thirty (30) day-written notice must be given to the Department that the activity will commence. Commencement for this purpose of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence.	Not Applicable	The mine is in the operational phase.
<b>8.2 COMMISSIONING OF THE ACTIVITY</b>			
8.2.1.1	This Authorisation is solely granted for the mining of the eastern and northern area of the existing mining right area, including ramps, haul roads, coal product stockpile, soft and hard overburden dumps, topsoil stockpile, and other associated activities. The activity may not commence without the necessary permits/licences/approvals and or service agreements, where it is relevant, from or with the relevant regulatory authorities whether national, provincial or local.	Compliant	The water use license for the activities referred to in the environmental authorization was issued on 8 May 2018.
8.2.1.2	The applicant must apply the principle of best practicable environmental option for all technologies used/implemented during mining.	Compliant	The mine applies a drill and blast technique during mining.
<b>8.2.1.3 Pre-construction phase</b>			
a)	The applicant must appoint an independent Environmental Control Officer (ECO) who will monitor contractors, compliance with EMP and EA.	Compliant	Geovicon Environmental (Pty) Ltd was appointed as the independent ECO to conduct this inspection/ audit. It must be noted that no pre-construction phase conditions were observed within the approved EMP. The conditions within this table are from the EA.

CONDITION NO.	CONDITION	COMPLIANCE	OBSERVATIONS/AUDIT EVIDENCE
b)	The applicant must provide all contractors and sub-contractors with a copy of Environmental Management Programme and Environmental Authorisation prior to the mining activities.	Compliant	A copy of the EMP and EA was given to all of the contractors and sub-contractors before the commencement of mining activities related to the opencast extensions.
c)	All pre-construction phase mitigation measures as outlined in the Environmental Management Programme attached in Environmental Impact report must be adhered to at all times.	Not Applicable	As mentioned in condition a), no pre-construction conditions/ mitigation measures are present in the EMP attached in the EIR. Activities at the opencast extension are conducted in line with Anglo's various environmental policies and procedures.
d)	In order to ensure safety, all employees must be given the necessary personnel protective equipment (PPE).	Compliant	All employees have been presented with the correct and necessary PPE. This was observed during the site visit. Employees (contractors and subcontractors) sign a register when receiving PPE.
e)	Appropriate notification sign must be erected at the construction site, warning the public (residents, visitors etc) about the hazard around the construction site and presence of heavy vehicles and machinery.	Compliant	Notification signs are in place at the entrance of Zibulo Colliery as well as along the access/ haul roads and the entrances to the opencast operations.
f)	Construction must include design measures that allow surface and subsurface movement of water along the drainage lines so as to impede natural surface and subsurface water flow, and drainage measures must promote the dissipation of storm water runoff.	Compliant	The opencast extension has been licensed in terms of the National Water Act 1998 (NWA) under Water Use License (WUL) 06/B20G/C1/7532. Designs have thus been presented and approved that will allow surface and subsurface move of water as needed. Berms have been constructed around the opencast pits to ensure that clean surface runoff is diverted into the clean environment. Water from inside the opencasts is pumped to PCD's and reused.
g)	Construction areas (e.g material lay down areas), topsoil and subsoil must be protected from contamination or pollution. Stockpiling must not take place in drainage lines or areas where it will impede surface water runoff.	Compliant	No additional construction areas are needed as the existing infrastructure and contractor areas are utilised. Topsoil and subsoil are stockpiled as per the approved mine layout plan. No stockpiles are placed in drainage lines and/ or areas that will impede surface water flow/ runoff.
h)	If any soil contamination is noted at any phase of the proposed activity (ies), the contaminated soil must be removed to a licensed waste disposal facility and the site must be rehabilitated to the satisfaction of this office, and the Department of Water and Sanitation. The opportunity for the onsite remediation and re-use of contaminated soil must be investigated prior to the disposal and this Department must be informed in this regard.	Compliant	No soil contamination was noted during the ECO audit/ site inspection. Zibulo Colliery has procedures in place to deal with any form of contamination, which includes soil contamination. Oil spill kits are present of site for any hydrocarbon spills. In the case of soil contamination, a certified contractor is in place to remove the contaminated material and take it to an approved waste disposal site.
<b>8.2.1.4 ACCESS ROADS AND TRAFFIC IMPACT</b>			
a)	Necessary signage and traffic measures must be implemented for safe and convenient access to the site from adjacent roads.	Compliant	Notification signs are in place at the entrance of Zibulo Colliery as well as along the access/ haul roads and the entrances to the opencast operations.
b)	Access roads must be well maintained throughout the mining operation.	Compliant	Existing access roads are well maintained.
<b>8.2.1.5 AIR QUALITY MANAGEMENT</b>			
a)	Proper measures must be put in place to suppress dust in order to minimize nuisance conditions.	Compliant	Dust suppression with mine affected water is conducted using water tankers. This was confirmed during a site visit.
b)	A speed restriction of 40km/hr must be enforced and monitored on site for all mine vehicles.	Compliant	A speed restriction of 40km/hr must be enforced. A detail trip report (car track) which enforces the speed limit at the mine was available for review.
<b>8.2.1.6 PROLIFERATION OF ALIEN SPECIES</b>			
a)	All construction/mining equipment and vehicles must be cleaned before entering and leaving the site to reduce the chances of spreading weeds and invasive species.	Compliant	Mining equipment and vehicles are cleaned before entering and leaving.
<b>8.2.1.7 Noise</b>			
a)	Construction/mining activities must be limited to normal working hours (7h00-17h00), unless the mine is allowed to work 24 hours.	Compliant	Zibulo Colliery is allowed to work 24 hours.
b)	Mine vehicles must be fitted with standard silencers prior to beginning of construction.	Not-applicable	The mine is in the operational phase.
<b>8.2.1.8 EROSION CONTROL MEASURES</b>			
a)	All soil surface compacted as a result of mining/construction activities must be ripped, and imported materials must be removed.	Not-applicable	The mine is still in the operational phase.
b)	Any erosion channel developed during mining/construction period during vegetation establishment must be restored to a proper condition.	Not-applicable	No erosion channel developed was noted during the site observation.
<b>8.2.1.9 EXCAVATION ACTIVITIES</b>			
a)	Topsoil must be stripped and stockpiled prior to excavation in a designated area.	Compliant	In accordance to the ECO report dated February 2021, subsoil and topsoil have been stockpiled in the correct areas.
b)	Under no circumstances should stockpiles be disposed of outside the boundary of the mine area.		
<b>8.2.1.10 WASTE MANAGEMENT</b>			

CONDITION NO.	CONDITION	COMPLIANCE	OBSERVATIONS/AUDIT EVIDENCE
a)	General waste must be kept in containers which are wind and scavenger proof, and disposed of at a permitted landfill site. No temporary dumping and littering of waste is allowed on site.	Compliant	The current waste management at the mine will continue to be used for the expansion area. Waste Group removes domestic waste from the mine to the licensed eMalahleni Landfill site while, Interwaste (Pty) Ltd removes hazardous waste to Holfontein, which is a licensed hazardous waste disposal facility.
b)	No waste must be disposed of through burying and burning.		
c)	All hazardous waste must be disposed of at an official registered site, or be removed by registered hazardous waste contractors.	Compliant	The current waste management at the mine will continue to be used for the expansion area. Waste Group removes domestic waste from the mine to the licensed eMalahleni Landfill site while Interwaste removes hazardous waste to Holfontein. Waste manifests and safe disposal certificates available for review.
d)	An emergency preparedness plan to address any pollution incidents (i.e. such as oil spillage etc) that occur on site must be developed.	Compliant	An existing emergency preparedness plan is used for the expansion area.
<b>8.2.1.11 SURFACE AND GROUNDWATER CONTAMINATION MUST BE PREVENTED AND/OR MITIGATED BY IMPLEMENTATION OF THE FOLLOWING CONDITIONS</b>			
a)	Specific area must be demarcated for fueling and workshop services. And such area must be <u>bunded</u> to reduce the possibility of soil and water contamination.	Compliant	Existing fueling and workshop services areas are bunded. This was confirmed during a site visit.
b)	Irrespective of the nature of a spillage (whether major or minor), all spillages must be cleaned up as soon as they occur.	Compliant	Based on the site verification no spillages were noted on the unprotected ground.
c)	Spillage of petrochemical products must be avoided. In the case of accidental spillage, contaminated soil must be removed for bioremediation or disposed of at a facility for the substance concerned. Disturbed land must be rehabilitated and seeded with vegetation seed naturally occurring on site.	Compliant	Based on the site verification no spillages were noted on the unprotected ground.
d)	Untreated sewage water must not be discharged directly into the natural environment.	Compliant	No signs of untreated sewage being discharged into the environment. This was confirmed during site visit.
<b>8.2.1.12 FIRE PREVENTION AND MANAGEMENT</b>			
a)	Fire extinguishers that are in good working conditions must be made available at all times for their usage during the occurrence of accidental fires.	Compliant	Fire extinguishers that are in good working conditions are made available at all times.
b)	Workers must be adequately trained in the handling of firefighting equipment.	Compliant	Workers are trained in the handling of firefighting equipment.
c)	Open fires must strictly be prohibited.	Compliant	Open fires are strictly prohibited.
d)	Smoking must be prohibited in the vicinity of flammable substances.	Compliant	Smoking is prohibited in the vicinity of flammable substances.
e)	Cooking and heating fires must be permitted only in designated area with appropriate safety measures.	Compliant	Cooking and heating fires is permitted only in designated area with appropriate safety measures.
<b>8.2.1.13 STORM WATER MANAGEMENT</b>			
a)	Storm water management plan must be developed, and implemented on site.	Compliant	Golder Associates Africa (Pty) Ltd (Golder) has been requested by Zibulo Colliery to submit a proposal to update the Stormwater Management Plan (SWMP) and the Flood Risk Management Plan (FRMP) at Zibulo Colliery. The update will include the southern box cut and align the update with the Anglo rain readiness requirements.
<b>8.2.1.14 SAFETY</b>			
a)	Potential hazardous area must be demarcated with danger tape.	Compliant	Zibulo's Spill Management Procedure clearly describes the methodology recommended for handling hazardous chemical or material spillages that may occur. A vehicle maintenance job card was available for review.
b)	Appropriate signage must be placed to caution employees and contractors not to attempt to enter certain structures without being authorised.	Compliant	Safety signs are put in place.
<b>8.2.1.15 EMERGENCY RESPONSE PLAN</b>			
a)	An Emergency Response Plan should be available for accidental spills and firefighting during both construction and operation of the project.	Compliant	Zibulo spill handling procedure Doc No AATC 003255, describe the methodology recommended for handling of hazardous chemical or materials spillages that may occur. Trained firefighters are available onsite.
b)	In the event of emergency, the holder must notify the department within 24hrs, and contact relevant emergency services in the area.	Noted	The mine takes note of this condition.
c)	All significant pollution incidents must be reported to this Department within forty eight (48) hours of occurrences.	Noted	The mine takes note of this condition.
<b>8.2.1.16 COMPLIANCE WITH OTHER LEGISLATION</b>			
a)	The National Environmental Management Act, 1998 (Act 107 of 1998), with particular reference to the principles in Chapter 2 of the said Act.	Compliant	The application was conducted in terms of NEMA and any other environmental legislation will be complied with during the operation of the site.
b)	The National Water Act, 1998 (Act 36 of 1998), with particular reference to the sections pertaining to mining in the proximity of dams and their catchments areas, rivers, marshes, streams, pans and other water courses.	Compliant	The mining is undertaken within 500 meters from the edge of the wetland and under an existing water use license.
c)	The National Environmental Management Air Quality Act (Act 36 of 2004), with particular reference to the sections pertaining to the liberation of dust, and other emissions, created by prospecting activities, into the atmosphere.	Compliant	Zibulo Colliery Opencast ensures that emissions from their current activities complies with the standards as set in the mentioned regulation. The above measures will be extended to the expansion area.

CONDITION NO.	CONDITION	COMPLIANCE	OBSERVATIONS/AUDIT EVIDENCE
d)	The Conservation of Agriculture Resources Act, 1983 (Act 43 of 1983), with particular references to the sections pertaining to soil conservation.	Compliant	All measures pertaining to soil conservation will be adhered to.
e)	The National Heritage Resources Act, 1989 (Act No 25 of 1999), with particular reference to the protection of all historical and pre-historical cultural remains.	Not-applicable	No sites of archaeological and heritage were identified.
f)	The Mine Health and Safety Act, 1996 (Act 29 of 1996) in conjunction with the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), with particular reference to those sections and regulations pertaining to health and safety at mines, mining within 100 m from structures that must be protected, as well as those sections pertaining to rehabilitation of the surface.	Compliant	Requirements in terms of the Mine Health and Safety Act are adhered to at the current mine and measures used will be extended to the expansion area.
g)	All provisions of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and any other applicable legislation must be adhered to by the holder of this Authorisation.	Compliant	Relevant provisions of the Occupational Health and Safety Act are adhered to in the current mining area and these will be extended to the expansion area.
h)	The National Environmental Management: WASTE Act (Act No.59 of 2008)	Compliant	Requirements in terms of the National Environmental Management: Waste Act are adhered to at the current mining site and these will be extended to the expansion area.
<b>8.2.1.17 LIABILITY OF THE HOLDER OF THIS AUTHORISATION</b>			
a)	The competent authority shall not be held responsible for any damages or losses suffered by the holder or his/her successor in title in any instance where mining/construction or operation subsequent to construction are to be temporarily or permanently stopped for reasons of non-compliance by the holder with conditions of approval as set out in the documents or any other subsequent document emanating from this Authorisation. The holder shall be responsible for all costs necessary to comply with the above condition unless otherwise specified.	Noted	The mine takes note of this condition.
b)	Any complaint from the public during the life of mine must be attended to by the holder of this Authorisation as soon as possible to the satisfaction of parties concerned.	Noted	No complaints received from the public during this auditing period.
c)	The contractor must ensure that serviceable ablution facilities are available for employees. It is the responsibility of the holder of the Authorisation to see to it that this condition is adhered to.	Compliant	Existing ablution facilities are used. This was confirmed during a site visit.
<b>8.2.2 MANAGEMENT OF THE ACTIVITY</b>			
a)	A copy of an Environmental Authorisation and EMP must always be available on site so as to monitor compliance with conditions outlined in both the documents. Both documents must be used as on-site reference document during the life of mine.	Compliant	EA is kept on site at the current mine offices.
b)	The Environmental Management Plan (EMP) prepared by Licebo Environmental and Mining (Pty) Ltd, (attached to the EIA Report) must be adhered to during the life of the mine.	Compliant	Proof whether or not the EMP is being adhered to conducted through the environmental audits.
c)	All duties and responsibilities as outlined in the EMP attached are binding throughout the life of the mine.	Noted	The mine takes note of this condition.
<b>8.2.3 APPOINTMENT OF ENVIRONMENTAL CONTROL OFFICER</b>			
8.2.3.1	An Environmental Control Officer must be appointed, who will monitor and ensure compliance and correct implementation of all mitigation measures and provisions as stipulated in the Environmental Authorization and Environmental Management Programme, prior to any commencement of mining activities on site.	Compliant	Geovicon Environmental (Pty) Ltd was appointed as the independent ECO to conduct this inspection/ audit. It must be noted that no pre-construction phase conditions were observed within the approved EMP. The conditions within this table are from the EA.
8.2.3.2	The Environmental Control Officer appointed must monitor the construction of the infrastructure to ensure that the layout plans are in accordance to the designs and record important findings of the site inspection.		
8.2.3.3	The Environmental Control Officer must also monitor the implementation of specific elements of the Environmental Management Programme by contractors.		
8.2.3.4	All duties and responsibilities as outlined in the Environmental Management Programme attached are binding throughout of the life of the mine.	Noted	The mine takes note of this condition.
<b>SITE CLOSURE AND DECOMMISSIONING</b>			

CONDITION NO.	CONDITION	COMPLIANCE	OBSERVATIONS/AUDIT EVIDENCE
8.2.4.1	The commissioning and decommissioning of individual activity within the overall listed mining activity must take place within the phrases and time frames as set out in the EMPr.	Noted	The mine takes note of this condition.
8.2.4.2	The holder of the EA must apply for a closure certificate in terms of section 43 of Minerals and Petroleum Resources and Development Act (Act 28 of 2002), as amended within 180 days of occurrence of lapsing, abonnement, cancellation, cessation, relinquishment and completion of the operation	Noted	The mine takes note of this condition.
8.2.4.3	The application for closure indicated above must be submitted together with all relevant documents as indicated in section 43 of Minerals and Petroleum Resources and Development Act (Act 28 of 2002), as amended.	Noted	The mine takes note of this condition.
<b>8.3 MONITORING</b>			
8.3.1	This department reserves the right to monitor and audit the activity to ensure compliance with legislation and the conditions stipulated in this authorisation.	Noted	The mine takes note of this condition.
8.3.2	It is the holder of this Authorization's responsibility to ensure that an ongoing management and monitoring of the impacts of the activity on the environment throughout the life of the mine put in practise.	Noted	The mine takes note of this condition.
<b>8.4 RECORDING AND REPORTING TO THE DEPARTMENT</b>			
8.4.1	Records of monitoring and/or auditing must be made available for inspection to this Department and any other relevant authority inspecting the development activities.	Noted	The mine takes note of this condition.
8.4.2	Records relating to compliance and non-compliance with the conditions of this authorisation must be kept in good order. Such records shall be made available to this Department within seven (7) days of receipt of a written request by the Department. Environmental compliance will further be monitored through complaints received from the public.	Noted	The mine takes note of this condition.
8.4.3	All records relating to the implementation of the Environmental Management Programme must be kept in the office where it is safe and can be retrievable.	Noted	The mine takes note of this condition.
<b>8.5 NON-COMPLIANCE</b>			
8.5.1	In the event of non-compliance by any contractor during the construction/mining the authorized activity, the holder of this Authorization will be liable.	Noted	The mine takes note of this condition.
8.5.2	The holder shall be responsible for all costs necessary to comply with the above conditions unless otherwise specified.	Noted	The mine takes note of this condition.
8.5.3	The holder must in the event of non-compliance with any condition of this Authorisation inform the Regional Manager of Mpumalanga region of this Department, in writing, within forty eight (48) hours.	Noted	The mine takes note of this condition.
8.5.4	Non-compliance to this authorisation is an offence as provided for in terms of the National Environmental Management Act, 1998, Section 49(a) and Regulation 48. Any conviction of such offence may result in Section 49(a) being enforced.	Noted	The mine takes note of this condition.
<b>9. APPEAL OF AUTHORISATION</b>			
9.1	The holder of the authorization must notify every registered interested and affected party, in writing and within fourteen (14) days, of receiving the Department's decision.	Not-applicable	The environmental authorization was sent to Anglo Operations instead of environmental consultant that undertook the application. The environmental consultant did not receive the environmental authorization within the 14-day period and hence the notices could not be sent to the registered interested and affected parties. However, Licebo Environmental and Mining (Pty) Ltd was appointed by Zibulo Colliery to place the newspaper advert on the Witbank Newspaper on the 12th of March 2021 and the registered I&APs were notified by means of Bulk SMS and Email Notification and No Appeal has been received from the I&APs.
9.2	The notification referred to in 9.1 must-		
9.2.1	Inform the registered interested and affected parties of the appeal procedure provided for in Chapter 2 of the National Appeal Regulations 2014.		
9.2.2	Specify the date on which the Authorisation was issued.		
9.2.3	Advise the interested and affected parties that a copy of the Authorisation and reasons for the decision will be furnished on request.		
9.2.4	An appeal against the decision must be lodged in terms of Chapter 2 of the National Appeal Regulations of 2014.		

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## **8 DELIBERATIONS**

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### **8 ADEQUACY AND COMPLIANCE WITH THE MAIN EMPR**

#### **8.1.1 ADEQUACY OF THE MAIN EMPR**

An assessment was conducted for the determination of the ability of the EMPr to adequately address the impacts that are arising from the Zibulo colliery opencast operations. Several inadequacies were identified such as the EMPr not addressing impacts arising from the workshop and the plant areas, the mine must apply for an amendment to address these impacts and the identified non-compliances.

#### **8.1.2 COMPLIANCE WITH THE MAIN EMPR COMMITMENTS**

The following non-compliances were identified during the audit:

- It could not be determined whether a charge balance is undertaken at 6 monthly intervals for all metals.
- Monitoring reports did consist of several requirements stipulated in the EMPR i.e.: status of monitoring system; Data audit and the compliance protocols used; Water quality trends and the comparative protocols used; Water quality comparison and verification of analytical quality (ion balances); Hydrochemical image comparison and variation protocol used; Ground water level data trends and comparative protocols used; Upgrading of ground water monitoring system; Conclusions on the monitoring system efficiency; Recommendations on gaps/shortcomings of the current system.
- Inspections of the rehabilitated areas could not be determined.
- Areas covered by the virtual cone of depression could not be determined.

### **8 ADEQUACY AND COMPLIANCE WITH THE OPENCAST EXTENSION EMPR**

#### **8.2.1 ADEQUACY OF THE OPENCAST EXTENSION EMPR**

Assessment of the EMPr indicated that the EMPr is adequate for the management of environmental impacts from the opencast extension.

#### **8.2.2 COMPLIANCE WITH THE OPENCAST EXTENSION**

The following non-compliance was identified during the audit:

- Inspections of the rehabilitated areas could not be determined.

### **8 COMPLIANCE WITH THE ENVIRONMENTAL AUTHORIZATION**

#### **8.3.1 ENVIRONMENTAL AUTHORISATION FOR THE DEVELOPMENT OF AN ACTIVITY, INCLUDING STRUCTURES AND INFRASTRUCTURE, WHERE THE TOTAL AREA OF THE DEVELOPED AREA IS, OR IS INTENDED TO BE, 20 HECTARES OR MORE ON PORTIONS 12, 19, 39, 40 AND 41 OF THE FARM OOGIESFONTEIN 4 I, OGIES, MPUMALANGA, APPROVED 30 APRIL 2010, WITH REFERENCE NO.: 17/2/2/2 NK-1**

No non-compliances were identified during the audit:

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### **8.3.2 ENVIRONMENTAL AUTHORISATION FOR THE EXTENSION OF MINING OF THE FARM OOGIESFONTEIN 4 IS AND KLIPFONTEIN 3 IS, WITBANK, APPROVED 12 FEBRUARY 2020 WITH REFERENCE NUMBER 30/5/1/2/3/2/1/338 EA**

No non-compliances were identified during the audit:

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## **9 CONCLUSION**

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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 EMPs and EAs. 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, Zibulo Colliery Opencast, 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 Zibulo Colliery Opencast develop action plans to address non-compliances to the EMP commitments, and EA conditions, reported in this audit report and the actions be implemented to ensure compliance.

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## **10 DISCLAIMER**

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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.

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## **11 DECLARATION**

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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 environmental audit.



Signed: \_\_\_\_\_

Date: 06/12/2022

O.T. Shakwane

Managing Director

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