ZIBULO COLLIERY (Pty) Ltd

(Opencast)

Environmental External Audit Report 2022/ 2023

Submitted as contemplated in section 24N(7)(d) of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) and Regulation 34 and Appendix 7 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

DMRE Reference No: MP 30/5/1/1/2/338 EA

DMRE Reference No: 17/2/2/2 NK-1

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ACRONYMS

AIPs	Alien Invasive Plant (s)
Anglo	Anglo American Thermal Coal
AOPL	Anglo Operations Proprietary Limited
DMRE	Department of Mineral Resources and Energy
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
EA	Environmental Authorisation
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
EO	Environmental Officer
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMC	Environmental Management/Monitoring Committee
HDPE	High Density Polyethylene
MDEDET	Mpumalanga Department of Economic Development, Environment and Tourism
ML/day	Megalitre per Day
WUL	Water Use License
NWA	National Water Act
SABS	South African Bureau of Standards

1. Introduction

1.1. Background

Zibulo Colliery Opencast Mine (Zibulo Opencast Colliery) is owned by Thungela Operations (Pty) Limited (Thungela) situated on Portions 19/12, 39, 40, 41 of Farm Oogiesfontein 4 IS and Portion 12 of Klipfontein 3 IS in the Mpumalanga Province. The mine is located about 2 km from the Ogies town, 25 km from Emalahleni town, and 40 km from Delmas town. The mine is conveniently located in close proximity to the N12 freeway and the R545 and the Johannesburg-Ogies Railway line. The Locality Map is presented on Figure 1.

Zibulo Colliery Opencast was established in 2007 and comprise of large underground bord and pillar operation, a contractor-run opencast pit and the Phola Coal Processing Plant (Zibulo Colliery Social and Labour Plan 2021-2025). The mine is supplying thermal coal to local and export markets, and metallurgical coal for exports, for which the exported coal is transported via the Richards Bay Coal Terminal (RBCT).

Zibulo Colliery Opencast is currently extracting ore reserves from Seams 2 and 4 of the 5 Zibulo Colliery seams producing about one (1) million tonnes of coal annually. Zibulo Colliery Opencast employs strip mining method, making use of dragline, truck and shovel, after which the ores are transported to the Phola Coal Processing Plant by road. Electricity is supplied from the Phola Coal Processing Plant as part of the agreement between Anglo Coal Limited and South 32. Water is also obtained from the Phola Coal Processing Plant.

Zibulo Colliery Opencast has a mining right valid for 14 years, with DMRE Reference No. MP 30/5/1/2/2/ 338 MR, issued by Department of Mineral Resources and Energy (DMRE). As part of the environmental legal requirements stated 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 as amended) the components of Zibulo Colliery Opencastare authorised as follows:

- Environmental Management Programme Report Oogiesfontein Colliery, dated January 2010 with Reference No.: MP/30/5/1/2/2/338 MR;
- Oogiesfontein Colliery Environmental Authorisation for the mining activities on Portions 12, 19, 39, 40, and 41 of the Farm Oogiesfontein 4IS granted on 30 April 2010 with Reference No. 17/2/2/2 NK-1;
- Environmental Authorisation for the Expansion of the mining activities on Portions 19,21,41 and 55 of the Farm Oogiesfontein and the Remaining Extent of the portion 12 of the Farm Klipfontein 3 IS granted on 12 February 2020 with Reference No. 30/5/1/2/3/2/1/338 EA; and

- Environmental Management Programme Report for the Expansion of the mining activities on Portions 19,21,41 and 55 of the Farm Oogiesfontein and the Remaining Extent of the portion 12 of the Farm Klipfontein 3 IS granted on 12 February 2020 with Reference No. 30/5/1/2/3/2/1/338 EA

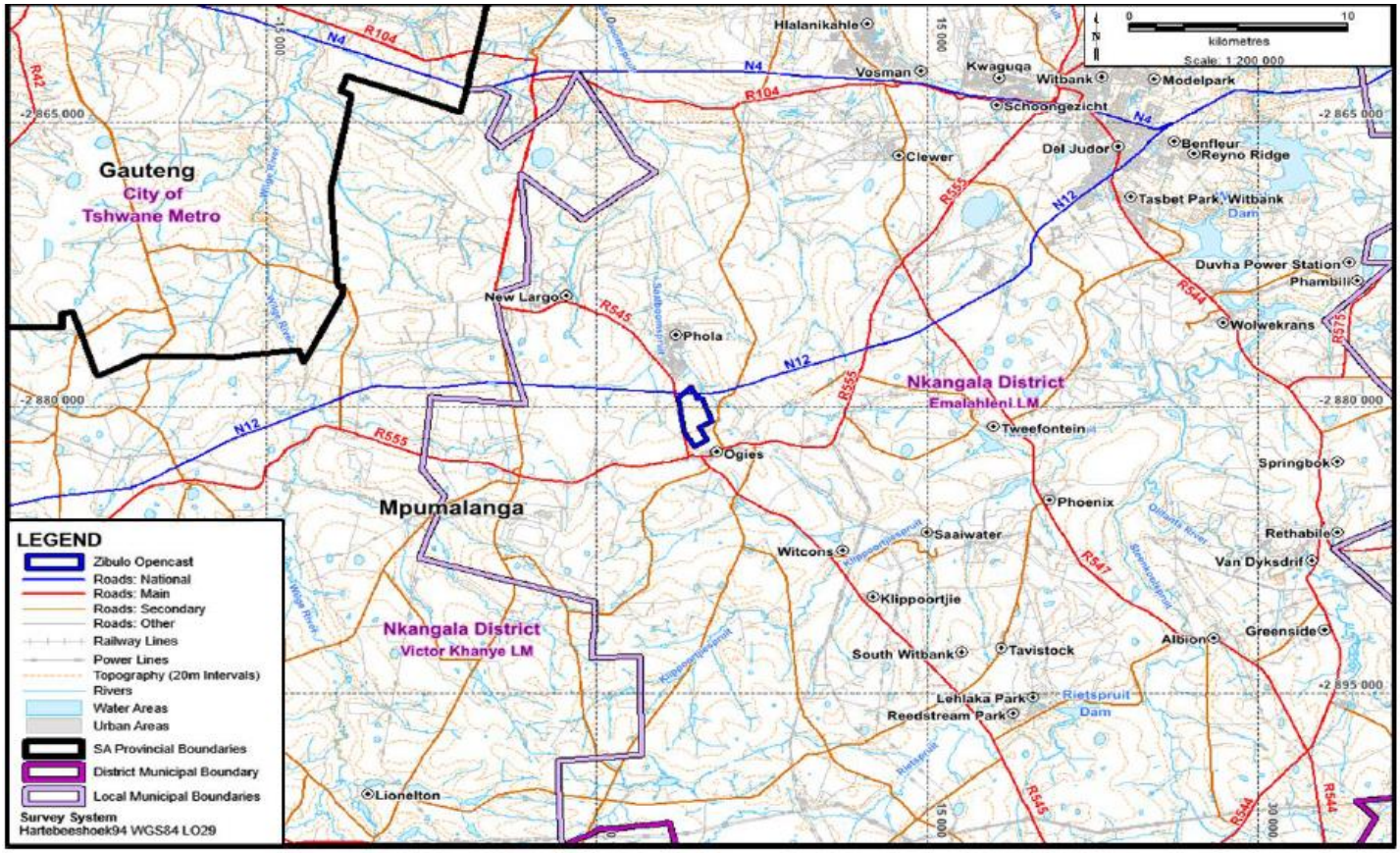

Figure 1: **ZIBULO COLLIERY LOCALITY MAP (EXTRACTED FROM ZIBULO COLLIERY OPENCAST EASTERN AND SOUTHERN PITS)**

The NTC Group (Pty) Ltd was appointed by Thungela as the independent auditor Environmental Auditor to undertake the 2023 External Annual Environmental Authorisation and Environmental Management Programme Compliance Assessment Audits for Zibulo Opencast Colliery. This report presents the methodologies and findings thereof and fulfils the compliance assessment requirement for June 2022 - June 2023 period

1.2. Terms of Reference

Section 24N(7)(d) of NEMA requires that the holder and any person issued with an environmental authorisation (EA) must monitor and audit compliance with the requirements of the EMPr or environmental management plan. Furthermore, Regulation 34 of the NEMA EIA Government Notice Regulation (GNR) 982 effected 2014 (as amended) states amongst others, that the holder of an EA must, for the period during which the EA, EMPr and the closure plan, in the case of a closure activity remain valid must:

a) ensure that the compliance with the conditions of the Environmental Authorisation, the EMPr, and the closure plan is audited; and
b) submit the environmental audit report to the relevant Competent Authority.

Additionally, the audit findings must be verifiable, in a structured and systematic manner on the level of performance against and compliance of the organisation's EA, it further states that the recommendations to amend the EMPr for rectification of the shortcomings must be subjected to Public Participation for approval by the Competent Authority.

As a result of the above, the Environmental Authorisation and Environmental Management Plan or Programme is required to undergo regular auditing in accordance with NEMA EIA Regulations, 2014 as amended and Appendix 7 as amended in the current EIA Regulations. Notwithstanding the regulations stipulations, the audit frequency as stipulated in the EA, is annually.

Following from the above, compliance assessments on the approved EMPrs for Zibulo Colliery Opencast were assessed and include:

- Environmental Management Programme Report Oogiesfontein Colliery, dated January 2010 with Reference No.: MP/30/5/1/2/2/338 MR;
- Oogiesfontein Colliery Environmental Authorisation for the mining activities on Portions 12, 19, 39, 40, and 41 of the Farm Oogiesfontein 4IS granted on 30 April 2010 with Reference No. 17/2/2/2 NK-1;
- Environmental Authorisation for the Expansion of the mining activities on Portions 19,21,41 and 55 of the Farm Oogiesfontein and the Remaining Extent of the portion 12 of the Farm Klipfontein 3 IS granted on 12 February 2020 with Reference No. 30/5/1/2/3/2/1/338 EA; and
- Environmental Management Programme Report for the Expansion of the mining activities on Portions 19,21,41 and 55 of the Farm Oogiesfontein and the Remaining Extent of the portion 12 of the Farm Klipfontein 3 IS granted on 12 February 2020 with Reference No. 30/5/1/2/3/2/1/338 EA.

The compliance assessments on the approved EAs and EMPrs as stated above for Zibulo Colliery Opencastwere assessed and findings are detailed in Section 5.

1.3. Assumptions and Limitations

As indicated in Section 1, the issued EAs and approved EMPrs provisioned for activities to be undertaken during the construction, operational and decommissioning and rehabilitation phases. The mine is currently in the operational phase with the construction activities concluded. As such, the scope of the compliance assessment was to assess the environmental management practices being implemented during operational phase of the Zibulo Colliery Opencastoperations, in accordance with the approved EMPr and issued EA.

The objective of the audit was to review the data, documents, reports, and many others, stated under Section 3, undertake site inspection and interview personnel with an aim to determine Zibulo Opencast Colliery's operations' compliance with the issued EAs and the approved EMPrs. Data validation and verification was undertaken to test the alignment of the intended outcome conditions as well as various plans which were designed to comply with the conditions versus actual implementation of those plans on site.

The following assumptions and/or limitations will be applicable to the audit process and findings:

- This audit is a snap-shot representation of the Zibulo Opencast Colliery's operations and the audit period assessed includes June 2022 - June 2023. Anything occurring prior to this period is assumed to have been audited previously and was thus not included herein. Therefore, such items were determined to be "Not Applicable";
- It should be noted that some of the audited conditions were extracted from the 2021/2022 Audit Reports compiled by Geovicon Environmental (Pty) Ltd because some of the EAs and EMPrs were not provided;
- Due to the nature and extent of the operation, not all areas were visited during the site assessment undertaken on 29 June 2023. Instead, specific areas representative of the operation and assessment period were selected to provide a demonstration of the site operations.
- The Zibulo Opencast Colliery's activities are under the operational phase and rehabilitation is underway on some of the sections. As such, decommissioning, and/or closure and rehabilitation that may have occurred on site during the audit period will be deemed applicable.
- Procedures developed by Zibulo Colliery Opencastspecifically, are deemed to be appropriately implemented by site personnel as part of the Integrated Management System.
- Outdated/repealed legislation or referenced guideline documents in the EA and EMPr will be substituted for current/relevant legislation and referenced guideline documents.

- It is only assumed that all documentation and evidence provided, either physically or verbally, was accurate, credible, and non-fraudulent in nature. It is as such assumed that the information contained in the reports is true and verified. It is further assumed that the evidence contained within the audit report will be received in good faith, as was intended, and not be utilised in a malicious manner towards neither the site nor the auditors.
- This is a performance and compliance assessment audit and as such there were no specialists' investigations that were conducted or validation of the accuracy of the provided monitoring results. The accreditation and competency of the facilities and resources used to compile the audit data were assumed to be competent and where applicable the competency registration documents were provided by the auditee.

2. Auditors

NTC was established in 2005. It is 100% female black owned with a Level 1 Broad Based Black Economic Empowerment (BBBEE) Rating. We undertake our services with professional integrity and have built good reputations with stakeholders in the environmental management field including regulatory authorities and government departments. We undertake all our services within the requirements of applicable South African legislation, as well as acceptable international best practices, norms and standards. The details of the specific environmental consultants who completed and/or assisted with the Compliance Assessment are provided in Table 1 (Curriculum Vitae in Appendix B).

TABLE 1: AUDIT TEAM CONTACT DETAILS

Role	Responsible Person	Contact Details
Quality Control	Tebogo Mapinga (Pr. Sci. Nat) is an Environmental Auditor (Peer Reviewer) at NTC Group (Pty) Ltd. She has over 16 years' experience in the Environmental Management field including extensive experience within the mining sector. Tebogo provided quality assurance during the audit preparations and report compilations.	Tel: +27 11 462 2022 Fax: +27 86 665 1864 Email: admin@ntcgroup.co.za
Auditor	Babalwa Fatyi (MSc) is a Registered Lead Environmental Auditor. She has over 23 years' experience in the Environmental Management space. As a lead Auditor, she has undertaken performance assessment audits, ISO 14001 and ISO 9001 implementation as well as undertaking legal reviews, compliance assessments and environmental auditing within the mining, and private sectors.	Tel: +27 11 462 2022 Fax: +27 86 665 1864 Email: admin@ntcgroup.co.za
Auditor	Lynn Madziwanzira is an Environmental Consultant at NTC Group (Pty) Ltd. She poses over six (6) years of experience working on environmental sustainability and compliance projects across sectors. Her role in the project was to do document reviews, undertake site assessment and compilation of the audit report.	Tel: +27 11 462 2022 Fax: +27 86 665 1864 Email: lyn@myezo.co.za
Auditor	Konanani Nelushi is the Environmental Compliance Manager at NTC Group (Pty) Ltd. He has over 8 years' experience in the Environmental Management field including extensive experience within the mining sector. Authorisations and undertook the audit preparations, site assessment, as well as compilation of the audit report.	Tel: +27 11 462 2022 Fax: +27 86 665 1864 Email: konanani@ntcgroup.co.za

2.1. Declaration of Independence

The Environmental Assessment Practitioner General declaration:

I, Konanani Nelushi, declare that –

- I act as the independent environmental practitioner in this Audit;
- I have performed the work relating to the audit in an objective manner, even if this results in views and findings that are not favourable to the auditee;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental compliance audits, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have not and will not engage in, conflicting interests in the undertaking of the activity;
- I will provide the competent authority with access to all information at my disposal regarding the audit, whether such information is favourable to the auditee or not; will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest:

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

Signature: _____

Company: NTC Group (Pty) Ltd

Date: December 2023

3. Disclaimer

This report has been produced by NTC Group (Pty) Ltd, with the skill and care normally exercised by a reasonable Independent Environmental Consultant during the rendering of the service. The service provided by NTC Group (Pty) Ltd should not be considered as a legal opinion of any kind, but it is a representation of the audit 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.

NTC Group (Pty) Ltd 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, NTC Group (Pty) Ltd reserves the right to amend its findings accordingly.

4. Audit Methodology

4.1. Information Collation and Review

The NTC reviewed the approved EMPr Reports and the EAs (as detailed in Section 1) as well as other relevant permits and compiled a checklist that contained the conditions that required compliance assessment. The audit evidence will be made available to the respective authorities by Thungela. The information verified during the audit includes inter alia:

- Environmental Management Programme Report Oogiesfontein Colliery in respect of mining activities on Portions 12, 19, 39, 40, and 41 of the Farm Oogiesfontein 4IS dated January 2010 with Reference No.: MP/30/5/1/2/2/338 MR;
- Oogiesfontein Colliery Environmental Authorisation for the mining activities on Portions 12, 19, 39, 40, and 41 of the Farm Oogiesfontein 4IS granted on 30 April 2010 with Reference No. 17/2/2/2 NK-1;
- Environmental Authorisation for the Expansion of the mining activities on Portions 19,21,41 and 55 of the Farm Oogiesfontein and the Remaining Extent of the portion 12 of the Farm Klipfontein 3 IS granted on 12 February 2020 with Reference No. 30/5/1/2/3/2/1/338 EA;
- Environmental Management Programme Report for the Expansion of the mining activities on Portions 19,21,41 and 55 of the Farm Oogiesfontein and the Remaining Extent of the portion 12 of the Farm Klipfontein 3 IS granted on 12 February 2020 with Reference No. 30/5/1/2/3/2/1/338 EA;
- Water Monitoring Reports;
- Integrated Waste and Water Management;
- Groundwater Monitoring Report;
- Zibulo North Internal WUL audit report and 2023 Q2 Water Quality Monitoring Report;
- Thungela: Zibulo North Shaft Project Final Integrated Water Use License (IWUL)Internal Audit Report (May 2023);
- Thungela: Zibulo North Shaft Water Quality Monitoring Report (Q2: April - June 2023);
- Louw, Ntshagovhe.2023 Zibulo North Internal WUL audit report and 2023 Q2 Water Quality Monitoring Report;
- Louw, Ntshagovhe.2023 Zibulo North Q3 Water Quality Report;
- EcoElementum Environmental& Engineering: Thungela Resources Limited - Zibulo North Shaft Project Monthly Air Quality Monitoring gravimetric Dust Fallout Report (April 2023 Report);
- EcoElementum Environmental& Engineering: Thungela Resources Limited - Zibulo North Shaft Project Monthly Air Quality Monitoring gravimetric Dust Fallout Report (August 2023 Report);

- EcoElementum Environmental& Engineering: Thungela Resources Limited - Zibulo North Shaft Project Monthly Air Quality Monitoring gravimetric Dust Fallout Report (March 2023 Report);
- Gouws, Louw & Sibeko. (2023) Gravimetric Dust Fallout Monitoring Report – March 2023;
- Gouws, Louw. (2023) Gravimetric Dust Fallout Monitoring Report – March 2023;
- Gouws, Louw. (2023) Gravimetric Dust Fallout Monitoring Report – September 2023;
- Gouws, Louw. (2023) Gravimetric Dust Fallout Monitoring Report – October 2023;
- Minnaar, Louw & Marina. (2023) Elders and Zib North status – August 2023;
- Minnaar, Louw. (2023) Zibulo North - Gravimetric Dust Fallout Monitoring report – January 2023;
- Gouws, Louw & Sibeko. (2023) Zibulo North Dust Fallout Monitoring Reports;
- Mineral Resources: Appeal to The Department of Forestry, Fisheries Environment: (March 2023);
- Thungela: Final, Environmental Impact Report (EIR) and Environmental Management Programme (EMPr) For Zibulo North Shaft Project - DMRE Reference No.: MP 30/5/1/2/2/305 MR (06/2023)
- Water and Sanitation: Water license -04/B11E/CGIJ/692(12/2022);
- Water and Sanitation: General Authorization in terms of Section 39 of the National Water Act (10/03/2017): Olifants Proto-CMA;
- Water and Sanitation: General Authorization in terms of Section 39 (11/2018): Provincial Head of Mpumalanga;
- Water and Sanitation: Registration of Water Use in terms of Section 39 of The National Water Act, No 36 of 1998: for Anglo Operations (Pty) Ltd: Ventilation Shaft No 4 in Quaternary Catchment B20E, Olifants – Bronkhorstpruit (1/2021);
- Mineral Resources: Approval of the Environmental Management Programme for Anglo Inyosi Coal (PTY) LTD In Respect of The Farm Zondagsfotein 253 IR and others, Situated in the Magisterial Districts of Witbank and Delmas;
- Mineral Resources: Approval of Environmental Management Programme for Anglo Inyosi Coal, 253 IR and Others, Situated in the Magisterial Districts of Witbank and Delmas Mpulmalanga: Director of Environmental and Impact Management (03/2010);
- Anglo Coal: Environmental Impact Assessment & Management Programme Mining Right Application Zondagsfontein Mine (March 2008): Manager, Mining Law & Property;
- Mineral Resources: Application For Amendment to Construction Uncast Ventilation Shaft (July 2022): Anglo American Zibulo Colliery;
- Water Affairs-Anglo American Inyosi Zibulo olliery: Licence in Terms of Chapter 4 (05/2023);
- Water Sanitation: Amendment License Section 50 & 158 of National Water Act (01/2016);
- Water & Sanitation: Acknowledgement of Receipt Of Water Use License For (9/2022);
- Water & Sanitation: Licence in Terms of Chapter 4 of The National Water Act (05/2018);
- SRK Consulting: Environmental Management Programme Report, EIA , EMP (January 2010);
- SRK Consulting: Oogiesfontein Opencast Mine EIA and EMP -Volume 1 (December 2009);

- Mpumalanga Provincial Government: Application For Environmental Authorization (04/2010);
- Clean Stream: Anglocoal Zibulo Colliery Biomonitoring and Ecotoxicity Assessment Programme (Jan/2023);
- BioToxLab: Toxicity Test Report Zibulo (January 2022);
- Aquatico: Water Quality Report (Dec 2021);
- Thungela: Zibulo Colliery Opencast Final Environmental Audit Report (November 2022);
- Zibulo Colliery Opencast WUL (License no. 04/B20G/AGJ/809);
- Zibulo Colliery Opencast EMPR Audit (MP 30/5/1/2/2/ 338 MR);
- Zibulo Colliery: Environmental Internal Legal Checklist - Scope 3 (Jun 2023);
- Thungela Resources Limited: External Water Use Licences Audit Report Zibulo Colliery Opencast and Underground Operations (January 2023);
- Zibulo Colliery: Closure Report 2022 (28/2022): Shangoni Management;
- Thungela: Note for The Record – Annual Financial Statements (February 2023);
- Endress + Hauser: Maintenance Report 3020-FT0003-3 (June 2022);
- Endress + Hauser: Maintenance Report 3020-FT0001-2B (June 2022);
- Endress + Hauser: Maintenance Report 3022-FT0001-3 (June 2022);
- Endress + Hauser: Maintenance Report (June 2022): Sabelo Kanyile;
- Endress + Hauser: Verification report Promag 400;
- Endress + Hauser: Maintenance Report FT-3100 (June 2022);
- Endress + Hauser: Maintenance Report (August 2022);
- Endress + Hauser: Maintenance Report (Dec 2022);
- Endress + Hauser: Maintenance Report 980-FT0001-5 (Dec 2022);
- Thungela: Social & Labour Plan /305 MR (February 2022): Janin Olivier, Linda Dludlu, Leonore Van Vyk, Tman Phokane;
- Thungela: Social & Labour Plan /338 MR (February 2022): Janin Olivier, Linda Dludlu, Leonore Van Vyk, Tman Phokane;
- Zibulo - Monthly Data - Apr 2022;
- Zibulo - Monthly DW Report - April 2022;
- Zibulo - Opencast SW - Apr 2022;
- Zibulo - PCD - Monthly Data - April 2022;
- Zibulo - Pipeline Data - Apr 2022;
- Zibulo - Underground SW - Apr 2022;
- Zibulo - Monthly Data - Jan 2022;
- Zibulo - Monthly DW and Sewage Report - Jan 2022;
- Zibulo - Opencast SW - Jan 2022;
- Zibulo PCD - Monthly Data - Jan 2022;

- Zibulo - Pipeline Data - Jan 2022.
- Zibulo - Underground SW - Jan 2022.
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- Zibulo - Opencast SW - July 2022.
- Zibulo - PCD - Monthly Data - July 2022.
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4.2. Site Verification

The site assessment and document review at Zibulo Colliery Opencast were conducted from 28th of June 2023 to 03rd of July 2023 by Konanani Nelushi (NTC), Babalwa Fatyi (NTC), Lynn Madziwanzira (NTC), Rozwi Magoba (NTC), Kenneth Mokoena (Thungela), Luyanda Mthethwa (Thungela) ; Sarah Burford (Pinsent Masons Africa LLP), and Iman Damons (Pinsent Masons Africa LLP); Nico Joubert (Thungela) and others (refer to Appendix B: Attendance Register for a detailed list). During the site assessment, additional documents were collated, and information was verified, Zibulo Colliery Opencast personnel were interviewed and selected areas were visited i.e., verified using photographic evidence presented in Appendix C: Photo Plate.

4.3. Assessment Methodology

NTC assessed each of the EA and EMPr conditions per the criteria provided in Section 4. Only conditions in the non-compliance category were given recommendations for rectification. The audit approach was guided by the requirements of the ISO 19011:2018 Guidelines for Auditing Management Systems. The audit scope was based on Section 34 and Appendix 7 of the EIA Regulations, 2014 as amended, which defines the key objectives of an audit as follows:

- Report on the level of compliance with the conditions of the EAs and the EMPr s and the extent to which the avoidance, management and mitigation measures provided for in the EMPrs.
- To identify and assess any new impacts and risks because of undertaking the activity;
- To evaluate the effectiveness of the EMPrs;
- To identify shortcomings in the EMPrs; and

- To identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPrs.

TABLE 2: ASSESSMENT CRITERIA

Criteria	Acc	Description
Compliant	C	Full Compliance is when the construction or operational activities comply with the EA/EMPr conditions. No mitigation measures are required where operations comply and are adequate.
Non-Compliant	NC	Non-Compliance is when construction or operational activities are in contravention with the EA/EMPR conditions and have the potential to impact on the environment in a detrimental manner. Non-compliance may also be associated with activities breaching legislation. Non-Compliance findings have a high priority and mitigation measures are mandatory.
Not Applicable	N/A	Not Applicable is assigned to EA/EMPr conditions which no longer occur, that do not apply to current activities that may be incorrect and require amendment, fall outside the audit period and/or are duplicates of existing conditions. It is also applicable to conditions that must be noted by the site personal.

5. Audit Findings

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

Where findings of the Environmental Audit Report indicate:

- *insufficient mitigation of environmental impacts associated with the undertaking of activity;*
- *insufficient levels of compliance with the EAs or Approved EMPrs and where applicable the closure plan; the holder 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 of the audit, no recommendation for the amendment of the Approved EMPr is proposed. The full audit details are included in Table 4, 5,6 & 7.

5.1. EMPr Recommendations

Regulation 34(4) of the EIA Regulations, 2014 (as amended) states:

"Where the findings of the environmental audit report contemplated in subregulation 1 indicate-

(a) insufficient mitigation of environmental impacts associated with the undertaking of the activity; or

(b) insufficient levels of compliance with the environmental authorisation, EMPr or closure plan;

the holder must, when submitting the environmental audit report to the competent authority in terms of subregulation (1), submit recommendations to amend the EMPr or closure plan in order to rectify the shortcomings identified in the environmental audit report.

TABLE 3: 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 4IS GRANTED ON 30 APRIL 2010 WITH REFERENCE NO. 17/2/2/2 NK-1

EA Ref No.	Condition	Compl	Finding
Activities Authorised			
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 Ogiesfontein 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.	C	Thungela is undertaking the mining activities on the listed properties making use of the specified mining methods and processes. Thungela has noted the condition and will further comply with the condition.
8 Scope of Authorisation			
5.2.	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.	C	The condition has been noted by the holder of the authorisation (Thungela). The authorisation was issued in accordance with the requirements of NEMA and applicable regulations thereto.
5.3.	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.	C	Thungela appointed Luyanda Mthethwa as the Environmental Control Officer responsible for onsite daily monitoring ensuring compliance with the environmental authorisation conditions including compliance by subcontractors and stakeholders.
5.4.	The activity which is authorized may only be carried out at the property indicated above.	C	The current Zibulo Colliery Opencast Operations are taking place on Portions 12, 19, 39, 40, and 41 of the Farm Oogiesfontein 4IS as licenced under this environmental authorisation. In 2020, an expansion environmental authorisation was sought for activities being undertaken on Portions 19,21,41 and 55 of the Farm Oogiesfontein and the Remaining Extent of the portion 12 of the Farm Klipfontein 3 IS. As such, all operations at Zibulo Colliery Opencast are being undertaken on licenced properties.
5.5.	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 authorization in terms of the regulations.	C	There were no deviations to the project description reported for the current audit period. Thungela acknowledge the understanding of the requirement of notifying the DMRE of any deviations prior to implementation of such.
5.6.	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.	N/A	The auditors validated that the EA was issued on 30 April 2010, as such, this condition falls outside the audit period.
Appeal of Authorisation			

EA Ref No.	Condition	Compl	Finding
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.	N/A	The auditors validated that the EA was issued on 30 April 2010 and such notification could have been done in 2010. Thus, this condition falls outside the audit period.
3.8	The notification referred to in 3.7 must:-		
3.8.1	specify the date on which the authorisation was issued;	N/A	Please refer to the finding section of Condition 3.7 above.
3.8.2	inform the interested and affected party of the appeal procedure provided for in Chapter 8 of the regulations; and	N/A	Please refer to the finding section of Condition 3.7 above.
3.8.3	advise the interested and affected party that a copy of the authorisation and reasons for the decision will be furnished on request.	N/A	Please refer to the finding section of Condition 3.7 above.
Commissioning and Operation of the Activity			
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.	N/A	The auditors validated that the EA was issued on 30 April 2010, as such, this condition falls outside the audit period.
3.10	All construction activities must be limited to the said site. No activities must be allowed on adjacent agricultural land.	N/A	Zibulo Colliery Opencast is currently in the operational phase and Thungela mentioned that there were no construction activities undertaken during the current audit period. The Auditors did not observe any construction activities during site inspection.
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.	N/A	Zibulo Colliery Opencast is currently in the operational phase and Thungela mentioned that there were no construction activities undertaken during the current audit period. The Auditors did not observe any construction activities during site inspection.
3.12	Potable water must be made available for site workers.	N/A	Zibulo Colliery Opencast is currently in the operational phase and Thungela mentioned that there were no construction activities undertaken during the current audit period. As part of ground truthing and verification, Auditors did not observe any construction activities during site inspection.
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 take place on the adjacent agricultural land.	NC	Waste management on site is done as provisioned within the Waste Management Procedure: Doc No ZIB-ENV-PRO-083 that specifies that waste segregation is done at Zibulo Opencast Colliery. However, during inspection, the Auditors observed mixed waste in the dustbins.
3.14	Noise must be within the environmental noise limits as prescribed by the Environment Conservation Act and other regulations.	NC	Thungela mentioned that an Environmental Noise Impact Assessment was done, in terms of the National Environmental Management Act (Act No 107 of 1998) and the National Noise Control Regulations. Further, the auditors verified the Zibulo Colliery Noise and Vibration Monitoring Procedure (ZIB-ENV-PRO-0823) dated 30 November 2021 and due for review on 08 November 2024. Based on the Zibulo Colliery Ground Vibration and Air Blast monitoring reports prepared by Blast and Management Consulting for February, April, August, and December 2022, it can be confirmed that the mine conducts monitoring. The reports were reviewed, and the following findings were noted: In February 2022, one (1) of the matched ground vibration events recorded at the residential monitors were greater than the Thungela-American Coal Good Practise limit of 5.0 mm/s at public installations. One (1) of the matched air blast events were greater than the Thungela-American Coal Good Practise limit of 128 dB at the Residential monitoring stations. In April 2022, the matched ground vibrations were within

EA Ref No.	Condition	Compl	Finding
			limits, however, three of the matched air blast events were higher than limits. In August and December 2022, the mine was compliant in that all the matched events were within limits. This does not negate the non-compliance recorded in the previous monitoring events.
3.15	A noise survey must be done and approved by Inspection authority and Occupational Hygienist once installation of the plant is complete.	N/A	The auditors validated that the EA was issued on 30 April 2010, as such, this condition falls outside the audit period.
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.	NA	Zibulo Colliery Opencast is currently in the operational phase and Thungela mentioned that there were no construction activities undertaken during the current audit period. The Auditors did not observe any construction activities during site inspection.
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.	N/A	Zibulo Colliery Opencast is currently in the operational phase and Thungela mentioned that there were no construction activities undertaken during the current audit period. The Auditors did not observe any construction activities during site inspection.
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.	C	Thungela has an existing Waste Management Procedure: Doc No ZIB-ENV-PRO-083, detailing the way waste is to be disposed that is in line with this condition. Waste disposal certificates number 3085 and 2633 from Lihle Waste Services (TL Ideas Trading) were presented to the auditing team for verification of this condition. I addition, the mine presented a sample of weigh slips 0300 and 0467 from the mine and weighbridge slips from Holfontein Landfill site. The sample of certificates and or weighbridge slips were for recyclables, and hazardous waste disposal. It should be noted though that although there is proof of appropriate disposal, littering was observed around the mine with some areas not having sufficient waste bins. This could be the reason for littering. The Waste Management Procedure was verified by the Auditors.
3.19	A detailed waste management strategy must be established and implemented.	C	Thungela has an Integrated Water and Waste Management Plan (IWWMP) dated November 2022. The IWWMP specifies that Thungela is in the process of developing a group Waste Management Strategy for the coal operations. As such, the Waste Management Strategy is included in the Waste Management Procedure: Doc No ZIB-ENV-PRO-083. .
3.20	Best waste management practices must be emphasized during the induction phase and on an ongoing basis.	C	The auditors verified the Waste Management Procedure: Doc No ZIB-ENV-PRO-083 for Zibulo Opencast Colliery. The procedure promotes best waste management practices for the Zibulo Colliery Opencast operations. The Auditors validated an Environmental Induction Document used to undertake induction on an ongoing basis. The induction details the waste streams happening at Zibulo Colliery Opencast and handling thereof.
3.21	Waste must be removed by a licensed waste disposal company.	C	Thungela mentioned that there is an appointed waste management company that has been appointed to manage the waste collection and disposal for the Zibulo Opencast Colliery. Proof of appointment of the said waste management company has not been validated by the auditors. Although the mine shared the proof of registration and the waste disposal certificates noting the mines and the waste management company (Lihle Waste Services (TL Ideas Trading).
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).	C	The Auditors noted that the Environment Conservation Act (Act No. 73 of 1989) (ECA) was repealed with the commencement of the National Environmental Management: Waste Act (Act No. 59 of 2008) (NEM:WA) promulgated on 1 June 2009. The ECA was repealed prior to the issuance of the EA granted on 20 April 2010. For their operation, Thungela is required to comply with any related legislation. The NEM:WA National Norms and Standards for the Storage of Waste were promulgated in 2013 and Thungela should comply with this legislation. However, the volumes of waste stored at Zibulo Colliery Opencast are below the threshold that could trigger the provided categories as provided within the NEM:WA 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.	N/A	Zibulo Colliery Opencast is currently in the operational phase and decommissioning activities are not yet implemented.

EA Ref No.	Condition	Compl	Finding
3.24	Topsoil and subsoil are to be stockpiled separately in the vicinity of the source of the soil and clearly identifiable.	C	The auditors were informed that Thungela manages the stripped topsoil and subsoil separately in accordance the Zibulo Colliery Opencast Rehabilitation Procedure (DOC NO ZIB-OM-PRO-0838). The Procedure was availed to the Auditors for verification, and it confirms this strategy.
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.	NC	Zibulo Colliery Opencast is in operational phase and soil stripping is taking place as part of the mining activities. The mine indicated that soil sampling and analysis was conducted as a once off events prior to mining and now the colliery is at operational phase and the sampling is not practical. The soil sampling and analysis results were not made available. The auditors were further informed that the mine does conduct testing of soil as part of seeding during rehabilitation. The testing results were not made available.
3.26	Topsoil and subsoil must be sprayed with dust allaying agent immediately after being stockpiled.	C	Thungela upholds environmental management that is guided by best practices with an aim of minimising their environmental impacts. The use of dust allying agents tends to reduce soil nutrients, as such Thungela opted not to implement the recommendations of this condition.
3.27	Rapid growth of vegetation on stockpiles must be promoted.	C	The soil stockpiles are allowed to naturally re-vegetate without the use of any chemicals. This was also validated by the Auditors during the site inspection.
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.	C	Thungela employs some erosion control measures as guided by the environmental management procedures. Thungela further mentioned that weekly erosion control inspections are done. The Auditors observed erosion at the pit backfill areas, but this will still be filled during levelling of material which is already placed inside the pits. The procedures guiding erosion control at Zibulo Colliery Opencast and proof of weekly inspections (which includes erosion) were availed for review by the Auditors. Weekly erosion management procedures, covering the linear infrastructure, along with weekly inspection reports or any proof of inspections were not made available
3.29	Areas where erosion control measures have been implemented must be inspected on a weekly basis to determine their effectiveness.	C	Thungela employs some erosion control measures as guided by the environmental management procedures. Thungela further mentioned that weekly erosion control inspections are done. The Auditors observed erosion at the pit backfill areas, but this will still be filled during levelling of material which is already placed inside the pits. The procedures guiding erosion control at Zibulo Colliery Opencast and proof of weekly inspections (which includes erosion) were availed for review by the Auditors. Weekly erosion management procedures, covering the linear infrastructure, along with weekly inspection reports or any proof of inspections were not made available
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.	C	Rehabilitation is done concurrently with the mining activities at Zibulo Opencast Colliery. This is done to ensure that disturbed areas not being worked on are rehabilitated to allow for regrowth and minimise erosion susceptibility.
3.31	An incident management system including procedures and training must be put in place in order to deal with incidents.	C	During the audit it was reported that incidences are reported according to the Zibulo Colliery Incident and Non-conformance Procedure (ZIB-ENV-PRO-0814). Non-compliances are also reported on the Enablon system and responsible persons assigned to address incidents. Incidents are raised on Job Cards on the Work Management System from where relevant responsible roles are assigned and action items towards addressing issues and close-out. Thungela mentioned that all employees and contractors receive training on these procedures as well as undertake mandatory induction, which provides information on the way incidents are reported and handled. An incident register for Zibulo Opencast and Zibulo Colliery pulled from the system on the 7th of November 2023 was presented to the auditors for verification.
3.32	Major spillage incidents must be reported to the DME, DWAF, MDALA and the National Department of Agriculture (NDA).	C	During the audit, Thungela reported that there has not been major spill reported at Zibulo Colliery Opencast for the current audit period. A minor spill was observed during site inspection at the mine. However, the ECO was not aware of the spill and an Incident Report for the spill was not available.

EA Ref No.	Condition	Compl	Finding
			An incident register for Zibulo Colliery Opencast pulled from the system on the 7th of November 2023 was presented to the auditors for verification and the majority of incidents were classified as Enviro Insignificant Level 1).
3.33	If spills do occur and soils become contaminated, the appropriate remedial measures must be identified in consultation with appropriate qualified specialists.	C	Zibulo Colliery Opencast has a spill management procedure, and all spills are also implemented as detailed in the Incident and Non-conformance Procedure (ZIB-ENV-PRO-0814). Spill management equipment was observed by the auditors during the site inspection undertaken as part of the audit.
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).	C	The Auditors observed that the Contractor site offices were located within the mine's authorised boundaries/footprint as specified within the existing licences.
3.35	Should any rare or endangered species be found within the Expansion Project area, these must be relocated under the guidance of MDALA.	N/A	On 12 February 2020, an environmental authorisation was issued for the Expansion of the mining activities on Portions 19,21,41 and 55 of the Farm Oogiesfontein and the Remaining Extent of the Portion 12 of the Farm Klipfontein 3 IS. The relocation of rare or endangered species for the expansion project could have been done during the construction phase, as such, not applicable for the current audit period.
3.36	Water sprays must be used in the loading of stockpiles.	C	Zibulo Colliery Opencast undertakes dust suppression at the mine and the stockpiling areas making use of bowsers using water from the 1 Ml PCD as well as a dust binding agent.
3.37	All employees must be made aware of all environmental issues during induction and must continuously be updated of all new issues.	C	The Auditors validated an Induction Document (ZIB ENV INDUCTION V5) used to undertake induction on environmental issues on an ongoing basis. Thungela confirmed that the induction Document was recently updated, however this could not be validated by the Auditors since the document was not dated.
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.	C	Zibulo Colliery Opencast operates on three (3) pollution control dams (PCDs); 40 Ml, 9 Ml and a 1 Ml dams. These dams are managed by the mine. In addition, the mine has implemented clean and dirty water trenches to isolate the clean and dirty water management systems. All dirty water trenches within the site directs contaminated surface water towards the main dirty water trench and towards the PCDs.
3.39	All pollution control dams and other dirty water infrastructure must be lined with a HDPE liner.	C	Thungela confirmed that all three (3) dams being utilised for the Zibulo Colliery Opencast operations are lined with a HDPE liner. Site inspection by the Auditors confirmed that the PCDs are lined.
3.40	All pollution control dams must be maintained regularly to ensure their effectiveness (i.e. removal of silt).	C	Thungela maintains the PCDs and during the audit, one of the PCDs was off and under maintenance
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.	C	During a site inspection, auditors observed that all activities associated with hydrocarbons are undertaken at the workshop, the designated area.
3.42	Spill cleanup kits must be made available at each area where hydrocarbons are being utilized.	C	Zibulo Colliery Opencast has placed spill kits at visited areas where hydrocarbons are being utilised. This was verified by the Auditors during a site inspection.
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.	C	All Thungela Infrastructure is situated within the licenced mining boundaries which is Portions 12, 19, 39, 40, and 41 of the Farm Oogiesfontein 4IS and Portions 19,21,41 and 55 of the Farm Oogiesfontein and the Remaining Extent of the portion 12 of the Farm Klipfontein 3 IS.
3.44	Ongoing ambient and PM10 monitoring must be implemented with dust monitors concentrated of the west of the site.	C	The mine is required to undertake ambient monitoring, and this is being done by the mine. Thungela mentioned that such monitoring is also done together with other surrounding two (2) mines to capture the cumulative ambient levels of the three mines. Dust fallout monitoring is done at selected points as recommended by the specialists. During site inspection, visual observations onsite indicate ambient and PM10 dust monitors concentrated on the west of the site due to current open pit area which is on the western side. In addition, Thungela confirmed that atmospheric emissions are reported on the National Atmospheric Emission Inventory System (NAEIS). For the purposes of the audit, a sample of four Zibulo Colliery Air Quality Monitoring Reports for the months of May, June, July and August 2022 were made available for the auditors to verify. The submission thereof on the NAEIS is yet to be shared with the Auditors for verification.

EA Ref No.	Condition	Compl	Finding
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.	C	Speed signs indication the 40km/hour limit are placed strategically around the mine. The speed limit is enforced at the mine.
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.	C	Thungela mentioned that there is constant and continual engagement between the mine and the local law enforcement engagements. Thungela further specified that before the COVID-19 Pandemic, the mine used to host annual road safety campaigns in collaboration with the local law enforcements.
3.47	Gravel roads, topsoils and subsoils must be sprayed with a dust allaying agent immediately after being stockpiled.	C	Thungela upholds environmental management that is guided by best practices with an aim of minimising their environmental impacts. The use of dust allying agents tends to reduce soil nutrients, as such Thungela opted not to implement the recommendations of this condition.
	Topsoils and subsoils must be sprayed with a dust allaying agent immediately after being stockpiled.	C	Thungela upholds environmental management that is guided by best practices with an aim of minimising their environmental impacts. The use of dust allying agents tends to reduce soil nutrients, as such Thungela opted not to implement the recommendations of this condition.
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.	C	Zibulo Colliery UG has undertaken a Heritage Impact Assessment as part of the mining right application process (Oryx Environmental, 2001). A fenced graveyard is present at the old farmhouse used for mine meetings. However, no further graveyards are located within the mine's surface area.
3.49	Graveyards must be demarcated with brick walls or with fences and the mine must remain responsible for their future unaffected existence.	C	Thungela acknowledge their understanding of this condition.
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.	C	Thungela acknowledge their understanding of this condition.
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.	C	There are no known Land Claims that are known to the mine. Thungela acknowledge their understanding of this condition.
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.	C	Thungela confirmed that the surrounding landowners and occupants are notified of any planned blasting. Notification id done through SMS', during meetings and written on the Blasting Notification Boards strategically located in the area. Thungela further clarified that there is an existing Blasting Procedure that guiding the undertaking of blasts, including the notification of adjacent landowners and occupants, at the mine.
3.53	Employees and outside contractors must be informed of the blasting procedures and the associated safety measures during induction.	C	Thungela mentioned that Blasting Procedures are included in mine's induction and Training Courses provided to all employees and contractors. Thungela provided the Auditors with Induction Document (ZIB ENV INDUCTION V5). The induction manual does detail the blasting procedures.
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.	C	Zibulo Colliery Opencast undertakes dust suppression at the mine and the stockpiling areas making use of bowsers using water from the 1 Ml Dam PCD as well as a dust binding agent.
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.	N/A	Zibulo Colliery Opencast is currently in the operational phase and Thungela mentioned that there were no construction activities undertaken during the current audit period. The Auditors did not observe any construction activities during site inspection.
3.56	Construction workers must be easily identified as part of the construction team by wearing the specific clothing and/or name tags.	N/A	No applicable recommendation.

EA Ref No.	Condition	Compl	Finding
3.57	Pro-active measures must be put in place by the Emalahleni Local Municipality and DCM to minimize negative impacts associated with the influx of construction workers and potential job seekers to the area.	N/A	This condition is not applicable to the Zibulo Colliery Opencast operations.
3.58	The local municipality and local residents must be pro-actively informed of any road closures and diversions.	C	The Zibulo Colliery Opencast Operations does not necessitate any road closures. Furthermore, there are no diversions are done at the mine during the current audit period. However, Thungela takes note of the condition.
3.59	The Expansion Project must link with the Integrated Development Plan (IDP) of the Emalahleni Local Municipality especially with regards to the planning processes to ensure adequate water supply and other programmes.	N/A	Zibulo only had an expansion environmental authorisation issued on 12 February 2020, for the Expansion of the mining activities on Portions 19,21,41 and 55 of the Farm Oogiesfontein and the Remaining Extent of the Portion 12 of the Farm Klipfontein 3 IS. As such, this condition is not applicable for the current audit period.
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.	C	Thungela mentioned that BEE companies are given preferred supplier status. In 2014 Thermal Coal (including AAIC) alone spent a total of R7.8 billion with B-BBEE companies, attaining a B-BBEE spend of 68%. This represents a 12% rise against the previous year's percentage of 56%. Thermal Coal & Inyosi Coal shall through its Supply Chain continue to increase partnership with B-BBEE companies/suppliers beyond legislative compliance. Zibulo Colliery further sets targets for operation in respect of purchases from local B-BBEE companies, located within the 50 km radius of their operation.
3.61	The recruitment process and policy of the mine must be widely communicated to also limit the influx of potential job seekers.	C	The Zibulo Colliery Social and Labour Plan 2021-2025 specify that junior and senior positions at the mine are to be filled by historically disadvantaged persons (HDP). The mine encourages the locals to participate in the learnership, community scholarships and bursar training programmes being offered by the mine. Employees are also encouraged to study in "hard to find" skills.
3.62	A skills development programme must be embarked upon before the mine is fully operation to ensure that local people are "employed".	C	The Zibulo Colliery Social and Labour Plan 2021-2025 details that the mine has a Skills Development Programme in place. The Skills Development Plan involves the advancement of skills of the mine employees and local communities. The skills development provide offer learnership, career progression and mentoring and coaching, bursaries and internships; community scholarships; experiential learning; and Adult learning centre opportunities to employees and local communities.
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	C	Slip lanes were implemented to allow for the free movement of traffic as vehicles turn off to the mine as well as to prevent accidents. Traffic signs were also implemented to limit the risk of accidents. Relevant signages are on display along the R545 provincial road and height restriction signages are placed where powerlines cross the road.
3.64	Ensure access points comply with standards and are well marked and indicated.	C	Finding on 3.63 above applies.
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.	C	Thungela mentioned that their employees and contractors are made aware of the issues surrounding the spread of HIV and AIDS in the area. The Zibulo Colliery Social and Labour Plan 2021-2025 specifies that the mine runs a "Be Well Program", for which the main purpose is to support the Optimum wellbeing of its employees.
3.66	Construction vehicles and those transporting materials and goods must be inspected to ensure that these are in good working conditions.	C	Zibulo Colliery Opencast makes use of the services of an external contractor for the maintenance of the mine vehicles. In addition, the coal is hauled, to Phola Plant, making use of private trucks. Zibulo Colliery Opencast monitors the use of these 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.	NC	Thungela mentioned that there is an established Environmental Committee that has implemented a consultatative process known as the "Farmer's Day meetings" during which the farmers are informed of the mining and provided with an opportunity to raise any concerns and issues regarding the mine's activities. However, Thungela highlighted that the last "Farmer's Day" was held was in 2019 due to the COVID-19 restrictions.

EA Ref No.	Condition	Compl	Finding
			However, the existence of the Environmental Committee could not be verified by the Auditors. No evidence to the existence of any committee was provided.
Commissioning and Operation of the Activity			
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.	C	A copy of the Environmental Authorisation is kept with the Environmental Superintendent of the Environmental Department.
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.	C	The mine communicated via a letter to the DWS on 7 June 2021 regarding the demerger from Anglo Operations (Pty) Ltd as well as company address changes. The DWS acknowledged the same in a letter dated 23 June 2021 (Ref no: 04/B11E/CI/3886).
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.	C	During the audit it was reported that incidences are reported according to the Zibulo Colliery Incident and Non-conformance Procedure (ZIB-ENV-PRO-0814). Non-compliances are also reported on the Enablon system and responsible persons assigned to address incidents. Incidents are raised on Job Cards on the Work Management System from where relevant responsible roles are assigned and action items towards addressing issues and close-out. Zibulo Opencast and Zibulo Colliery incidents summary based on the Enablon system was provided to the auditors for verification and there were no major incidents that warranted reporting to the Department.
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.	C	Thungela acknowledges understanding of this condition.

TABLE 6: ENVIRONMENTAL MANAGEMENT PROGRAMME OOGIESFONTEIN COLLIERY (MP/30/5/1/2/2/338 MR DATED 10 JANUARY 2010.

Management Measures	Mitigation Measures	Compl	Finding
Strip mining: Removal of overburden			
To place material optimally for rehabilitation and minimising acid generation	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. All carbonaceous/ acid generating units must be placed in the bottom of the pit, if possible. At Oogiesfontein 100% of the coal floor is flooded at decant and 42% of the pit volume is present below decant elevation (1524mamsl)	C	Thungela mentioned excavated material is placed in terms of surface rehabilitation. During a site inspection at Zibulo Opencast Colliery, the Auditors observed soil stockpiles being used for rehabilitation backfilling including subsoils, and softs.
	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.	NC	There is no evidence of the recommendation made on geological/geohydrological setting from the ongoing rehabilitation monitoring process.
	Ongoing monitoring of the rehabilitation process will be undertaken and recommendations on the geological/geohydrological setting will be made.	C	Zibulo Colliery (Opencast) undertake or monitors its rehabilitation on monthly basis. Further, the surveyors undertake surveying of the entire rehabilitated area including material moved, backfilling, levelling, and seeding.
Strip mining: Ongoing rehabilitation during the mining process			
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.	C	During a site inspection, the Auditors observed rehabilitation being undertaken at Zibulo Opencast Colliery. Visual observation by Auditors indicate that rehabilitation is being undertaken in such with an attempt to follow the natural topography.
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.	C	Rehabilitation Procedure promotes stockpiling and rehabilitation mechanisms, which avoid impacts on soil integrity. There is ongoing rehabilitation whereby topsoil material is placed on levelled prior disturbed areas, where practical, to avoid stockpiling
	Induced compaction will be reduced by limiting the access of vehicles onto the rehabilitated land.	C	Rehabilitation and backfilling of mined areas is encouraged within the existing rehabilitation procedure and is currently done. After rehabilitation, access to rehabilitated areas is restricted with the area demarcated by berms. Access to the rehabilitated will only be for maintenance purposes.
	The effects of over-compaction will be alleviated by ripping.	C	Rehabilitation is done as per the Rehabilitation procedure.
	A qualified person will carry out soil sampling to establish lime and fertilizer requirements prior to the start of the rehabilitation process.	C	Thungela indicated that a qualified professional has been appointed to undertaken soil analysis at Zibulo Opencast Colliery. This is done as part of the Rehabilitation Process. The auditors verified that Hydromulch (Pty) Ltd was appointed, and a revegetation report dated 22nd of November 2022 for revegetation services. The reports detailed the quantity of fertilizers and lime used during revegetation.
Strip mining: Vegetation and fauna			

Management Measures	Mitigation Measures	Compl	Finding
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.	C	To maintain the nutrients and soil structure, vegetation is stripped together with the topsoil during stripping. The stripped material together with the vegetation will then act as seedbanks to be used during rehabilitation.
	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.	N/A	Thungela's mining activities are localised to demarcated portions at a time. Thungela further mentioned no plant rescue was undertaken within the audit period. Further, it was reported that the baseline Biodiversity and Land Management Plan study did not find any potential of red data species.
	Stands of exotics must be cut and controlled within these areas and used as stipulated in the construction phase.	N/A	Zibulo Colliery Opencast is currently in the operational phase and no construction activities were observed on site by the Auditors.
	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.	C	The contractor hydromultch uses the following mixture: **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 ***Total 21 kg / ha***
	Once the area has been revegetated, it should be monitored for declared weeds and invasive plants.	NC	During site inspection, the Auditors observed vegetation of the stockpiling areas and berms was done at the Zibulo Opencast Colliery. Natural revegetation of the stockpiling area is promoted. However, the stockpiles are also infected with alien invasive species that might hinder the growth of indigenous vegetation among other negative impacts. The Rehabilitation Procedure which is valid from 10 November 2017 until 16 April 2024 provided does not address monitoring of declared weeds and invasive plants.
	During the initial stages, grazing animals should be kept away from the area.	C	The Zibulo Colliery Opencast Mine boundaries are fenced off for security reasons and to prevent grazing within the mining area. Grazing within the mining area pose a risk to the animals since opencast mining is being undertaken.
	Veld fires should be controlled.	C	Thungela confirmed that there are established firebreaks around the mine, and these are used to control veld fires. In addition, Thungela specified that the mine make use of a system that would alert personnel in the control room of fires when the fire is starting,

Management Measures	Mitigation Measures	Compl	Finding
			and the personnel will then raise this with the responsible persons. The mine confirmed that there is a fire control team, however, there was no documented proof of the fire control measures made available to the auditors for verification. During a site inspection, the Auditors observed evidence of a fire on the northwest side of the mine boundary. The incident was recorded on Enablon on the 13th of June 2023 and was managed accordingly.
Strip mining: Surface water management			
To minimise 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 requirement** **To ensure the downstream water quality objectives are both understood and compiled with by relevant mine personnel in terms of the mine's**	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.	C	The IWWMP Update (2022) specifies that there has been erosion on Site ZC 7B and the bank of the Saalklaspruit were severely eroded aggravated by the construction activities and vegetation removal in the upper catchment. This has resulted in the conversion of diffuse seepage through the soil profile accelerating overland flows. However, these impacts in the wetland and Saalklaspruit does not emanate from Zibulo Colliery Opencast activities. The specialists recommended that Zibulo Colliery Opencast must ensure that rehabilitation be done in a manner that improves water quality, enhances flow quality and the biodiversity support functions. During a site inspection, the Auditors visited the wetland, and it was dry. No drainage issues were observed.
	Ensuring the rehabilitated spoils levels line up with the natural topography, including some allowance for settlement.	C	Thungela mentioned that the rehabilitation plan focuses on ensuring that the topography of the rehabilitated mined areas represents that of the pre-developed status as practically possible.
	Stripping the full depth of available soft soils to limit the long-term recharge to the mined-out area.	C	During a site inspection, the Auditors did not observe any shortcomings on the rehabilitation being done. The Annual Rehabilitation Plan was not verified by the Auditors. A Rehabilitation Procedure which is valid from 10 November 2017 until 16 April 2024 was provided to the auditor as evidence.
	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.	C	Thungela indicated that a qualified professional has been appointed to undertaken soil analysis at Zibulo Opencast Colliery. This is done as part of the Rehabilitation Process. The auditors verified that Hydromulch (Pty) Ltd was appointed, and a revegetation report dated 22nd of November 2022 for revegetation services. The reports detailed the quantity of fertilizers and lime used during revegetation.
	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.	N/A	Zibulo Colliery is still under operational phase.
	Manage the dirty water make.	C	Zibulo Colliery Opencast has three (3) licenced pollution control dams namely the 40 Ml Dam, the 9 Ml Dam and the 1 Ml Dam. All dewatered pit water is pumped to the 40 Ml Dam and when required, the water is pumped to the 9 Ml Dam (balancing dam). These PDCs are used for the collection and storage of dirty water. The water from the dams is used for dust suppression at the Zibulo Colliery Opencast and surplus water is pumped to Phola Coal Processing Plant for re-use in the plan. Additional surplus water is discharged to Emalahleni Water Reclamation Plant (EWRP).
	The water balance should be easily managed for this site, provided there are adequate water tankers to allow the water to make to be reused for dust suppression, and adequate pumping capacity back to Phola Coal Processing Plant. Once the water balance model has	C	Dust suppression at the mine is done making use from the 1 Ml PCD making use of water tankers. Adequate surplus water is pumped to Phola Coal Processing Plant with additional surplus water discharged to EWRP.

Management Measures	Mitigation Measures	Compl	Finding
potential impact on the environment **To ensure adequate monitoring so that the objectives of the water management system can be met**	been calibrated, adequate storage space will be provided to prevent spilling during extreme wet years.		Thungela reported that there was an overflow of the PCD in 2019 and there has not any overspills reported since then. The PCD is equipped with level sensors installed to ensure the mine is at 80% dam safety levels and this is monitored through the SCADA system. As such, there were no dam spills for the current audit period.
	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.	NC	Zibulo Colliery Opencast has implemented SCADA, a real-time system that is used to monitor water reticulation, among other functions. Information from the flow meters, with the records of all volumes of water pumped, abstracted, and disposed of, is then transmitted to the SCADA system. Thungela reported that water pumping is within the 150 l/s and below threshold. Nonetheless, the Auditors could not validate the information because SCADA system results were not provided.
	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.	C	Thungela has appointed Aquatico Scientific, as service provider to undertake water monitoring at Zibulo Opencast Colliery. The IWWMP (2022) lists the six (6) sampling points for the January 2021 and December 2021 as: ZC 4, ZC 7, ZC 8, ZC PC 1, ZC PC 2 and 1ML Dam. The 1ML Dam is sampled as a dirty water containment facility to assess the impacts of the mine's activities on the receiving surface water resources. Zibulo Colliery Opencast has a water use licences with Reference No. 04/B20G/AGJ/809. Compliance is also monitored in terms of this WUL conditions. An Annual Water Quality Assessment Report for the period of January 2022 to December 2022 was submitted to the Department of Water and Sanitation (DWS) where the graphic presentation was done on the reported variables.
	Electrical Conductivity, pH, TDS, SS, Cl, SO4, Na, F, Fe, Al, Mn, Zn, Total Alkalinity, Ca, Mg, K, Total Hardness will be measured monthly.	C	Monthly monitoring is done at Zibulo Colliery OpencastElectrical Conductivity, pH, TDS, SS, Cl, SO4, Na, F, Fe, Al, Mn, Zn, Total Alkalinity, Ca, Mg, K, Total Hardness, among other variables. Monitoring results for the period of January 2022 to March 2023 were verified by the Auditors. Monitoring results for the period of April 2023 to June 2023 were not shared with the Auditors. Despite not having the April 2023 to June 2023, the January 2022 to March 2023 monitoring results were considered sufficient by the Auditors because the monitoring results are applicable for the current audit period.
	Analyses to 95% charge balance will be undertaken at 6 monthly intervals, including all metals.	NC	The IWWMP (2022) mentions that Zibulo Colliery Water and Salt Balance Report was last updated 2020 and another update was expected in December 2023. The annual 2022 water balance report was not made available.
Strip mining: Groundwater management			
The objective of Groundwater management will be to restrict the impact of	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-	C	Zibulo Colliery Opencast is undertaking rehabilitation as stipulated in the Rehabilitation Procedure and the Mine Rehabilitation Plan. Backfilling and rehabilitation are being done concurrently with the mining activities and this is the preferred option being implemented by the mine to reduce impacts during the operational phase. A Rehabilitation Plan which is valid from 10 November 2017 until 16 April 2024 was provided to the auditor as evidence.

Management Measures	Mitigation Measures	Compl	Finding
polluted groundwater to the mining area and mitigate the loss of groundwater experienced as a result of mining activities.	vegetated areas. Continuous, optimal rehabilitation will effectively minimize recharge to areas disturbed by strip mine mining.		
	The increased influx of ground water into the strip mine during the operational phase will be managed as part of the total water balance.	NC	The IWWMP (2022) mentions that Zibulo Colliery Water and Salt Balance Report was last updated 2020 and another update was expected in December 2022. An updated water balance was not provided during this audit period.
	Mine planning personnel must determine the extent of strip mine mining for any given time during the operational phase.	C	Thungela showed the Auditors the extent of Zibulo Opencast Colliery's strip mine extend as presented in the updated mine plan and schedule.
	These areas, together with the additional areas covered by the virtual cone of depression, must be identified as the areas of potential depletion	NC	The Zibulo Colliery Annual Ground Water Quality Assessment Report for the period of January 2022 to December 2022 was reviewed by the Auditors. The reports do not consider areas of potential depletion for the Zibulo Opencast Colliery.
	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.	C	The Zibulo Colliery Opencast require quarterly groundwater monitoring to be conducted. As such, Thungela appointed a service provider to undertake groundwater monitoring to comply with the WUL conditions and the reports are submitted to DWS as required. For the period of March 2022 to December 2022, groundwater monitoring to determine the impacts of Zibulo Colliery Opencast activities on the environment was done on the following boreholes: BSW03, BSW04, BSW05, BSW10, BSW11, BSW12, BSW18. Sampling was not done on BSW06, which was demolished and BSW07 which was dry. The above listed sampling localities are listed in the existing WUL.
	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.		Zibulo Colliery Opencast has a water use licences with Reference No. 04/B20G/AGJ/809. The mine is abstracting the water volumes as provisioned within the issued WUL. The Groundwater Monitoring Report indicating the yield capacity of the boreholes was submitted to the DWS.
	All external users' boreholes within a 1 km radius of any mining activities must be monitored for water level response.		The monitoring of points for Zibulo Opencast Colliery, both opencast and underground, as provided in the 2022 Ground Water Monitoring Report includes the sampling of boreholes that are not within the mining boundaries of the mine. The 2022 Groundwater Monitoring Report shows that some of the sampled boreholes are located within the 1km radius from the mining boundaries.
	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.	C	The Zibulo Colliery Complaints and Grievance Procedure (ZIB-INV-PRO-0804) details the steps that can be followed in lodging complaints with the mine and the responsible portfolios who should respond to such complaints. Thungela mentioned that there were no formal complaints pertaining to yield capacity of surrounding boreholes received for the current audit period.

Management Measures	Mitigation Measures	Compl	Finding
	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.	C	Zibulo Colliery Opencast conducts monthly ground water monitoring as specified within the existing WUL, as such monthly ground water monitoring is done as per the applicable monitoring required as published by the Department of Water and Sanitation, the custodian of water resources within the republic. Quarterly Groundwater Monitoring Reports are submitted to the DWS as stipulated within the WUL, an no non-compliance with the applicable monitoring requirements or guidelines has been received from the DWS.
	A formalised and documented ground water monitoring system must be commissioned, according to the requirements outlines in the DWAF 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.	C	Thungela appointed Aquatico Laboratories (Pty) Ltd, to undertake groundwater monitoring for Zibulo Colliery. Aquatico Laboratories (Pty) Ltd is accredited by the South African National Accreditation System and this was verified by the Auditors. Thus, a formal groundwater monitoring system is in place. The 2022 Groundwater Monitoring Report shows the monitoring localities including internal boreholes and external boreholes within the 1km radius from the mine boundaries. These boreholes are provisioned within the existing WUL, issued in terms of the National Water Act (Act 36 of 1998). Thus, the monitoring and reporting requirements complies with the minimum requirements.
	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.	C	Zibulo Colliery Opencast undertakes monthly, quarterly, and annual groundwater monitoring as provisioned within the mine's WUL. Quarterly and annual Groundwater Monitoring Reports are submitted to the DWS. As such, Zibulo Colliery Opencast is undertaking monitoring at a frequency that surpasses the required the six-month frequency, thus compliant. The Auditors are of the opinion that the monitoring requirements as provisioned within the WUL are sufficient. Zibulo Colliery Opencast should consider revising this condition during the EMPr revision.
Strip mining: Stockpiling of overburden			
To reduce the visual impact of the mine	All spoils must be rehabilitated.	C	Thungela mentioned excavated material is placed in terms of surface rehabilitation.
	The absolute minimum area of vegetation and topsoil will be removed from the mining area at any one time.	C	

Management Measures	Mitigation Measures	Compl	Finding
	Spoils will be rehabilitated on an ongoing basis to leaving a maximum of 4 strips of unrehabilitated spoils behind the active pit.	C	A Rehabilitation Plan which is valid from 10 November 2017 until 16 April 2024 was provided to the auditor as evidence. Further, the auditors were provided with Zibulo Rehabilitation Performance 2023 which details the hectares were topsoil was seeded, voids filled, dump to be loaded and shaping and levelling.
	An indigenous tree screen will be planted around the mine and infrastructure areas.	C	During site inspection, the Auditors observed that indigenous trees were planted around the mine infrastructure that includes, but not limited to, the office areas, overburden and topsoil dumps, PCD area and around the mine boundary next to gate the entrance to Zibulo Opencast Colliery.
Strip mining: Truck and shovel operations			
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.	C	Zibulo Colliery Opencast undertakes dust suppression as guided by the Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) which identifies the sources of dust within the mine and the management controls to be adopted. Dust suppression is conducted at the parking areas, truck waiting areas and the haul roads making use of bowsers. Water from the 1 Ml PCD and Dustex, a chemical binder, are used to suppress dust at the specified areas. During a site inspection, the Auditors observed dust suppression that was being conducted at the mine.
	The revegetation of idle stockpiles and berms.	C	During site inspection, the Auditors observed vegetation of the stockpiling areas was done at the Zibulo Opencast Colliery.
	Constant watering (with water trucks) in areas where materials removal, placement or manipulation is occurring.	C	Zibulo Colliery Opencast undertakes dust suppression at the mine. Dust suppression is done with water from the 1 Ml PCD and Dustex. During a site inspection, the Auditors observed dust suppression that was being conducted at the mine.
	On-going dust fallout monitoring using the current network to assess the effectiveness of dust control measures.	C	Thungela has appointed a consultant to undertake Dust fallout Monitoring at Zibulo Opencast Colliery. The Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) specifies that single dust buckets are strategically installed in accordance with the specifications of the American Society for testing and materials standard method for collection and analysis of Dust Fallout (ASTM D1739). The mine is required to undertake ambient monitoring, and this is being done by the mine. Thungela mentioned that such monitoring is also done together with other surrounding two (2) mines to capture the cumulative ambient levels of the three mines. Dust fallout monitoring is done at selected points as recommended by the specialists. In addition, Thungela confirmed that atmospheric emissions are reported on the National Atmospheric Emission Inventory System (NAEIS). However, the auditors could not validate the undertaking of the Dust Fallout Monitoring Reports and the submission thereof on the NAEIS. For the purposes of the audit, a sample of four Zibulo Colliery Air Quality Monitoring Reports for the months of May, June, July and August 2022 were made available for the auditors to verify.
	Under very windy conditions, management on the mine will decide whether haulage should be reduced or stopped altogether until conditions improve.	C	The Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) specifies that the Section Manager: Mining is assigned with the task to manage the mine activities under windy conditions.
	Vehicles should not be left idling when not in use.	C	Thungela mentioned that no vehicles are left idling when not in use. During the site inspection, the Auditors did not observe any idling vehicles that were not in use. However, the Environmental Impacts and Aspects Register as well as other procedures guiding the management of vehicles were not verified by the Auditors.

Management Measures	Mitigation Measures	Compl	Finding
	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.	C	There was no observed spontaneous combustion on site. Concurrent rehabilitation is practiced on site.
	An air emissions inventory will be developed.	C	Thungela confirmed that Zibulo Colliery Opencast has an air quality management plan in place. Atmospheric emissions are reported on the National Atmospheric Emission Inventory System (NAEIS). However, an Air Quality Management Plan, an updated Air Quality Monitoring Report and proof of NAEIS submission were validated by the auditors. Air emissions inventory certificate was not shared with the Auditors.
	Strict speed control (30km/h) will be implemented, and the shortest haul routes will be used.	C	Zibulo Opencast Mine has implemented a 40km/hour limit as provisioned within the issued EA. Signages pertaining to the maximum speed limits are strategically placed around the mine. Thungela mentioned that the shortest haul roads are used as an environmental management measure and for cost-effectiveness.
Soil handling: Ongoing rehabilitation during the mining process			
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.	C	During a site inspection, the Auditors observed rehabilitation being undertaken at Zibulo Opencast Colliery. Visual observation by Auditors indicate that rehabilitation is being in such with an attempt to follow the natural topography.
	Soil will be stripped in accordance with the soil stripping plan which provides the minimum stripping depths.	C	Thungela mentioned that soil stripping is done detailed in the Zibulo Opencast Rehabilitation Procedure which specifies the topsoil stripping depth as 1.5. During document audit, the Auditors observed some posters and parts of the Zibulo Opencast Rehabilitation Procedure placed at the mine's notice board. A Rehabilitation Plan which is valid from 10 November 2017 until 16 April 2024 was provided to the auditor as evidence.
	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.	C	Rehabilitation and backfilling of mined areas is encouraged within the existing rehabilitation procedure and is currently done. After rehabilitation, access to rehabilitated areas is restricted with the area demarcated by berms. Access granted to the rehabilitated spaces will only be for maintenance purposes.
	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.	C	Rehabilitation and backfilling of mined areas is encouraged within the existing rehabilitation procedure and is currently done. After rehabilitation, access to rehabilitated areas is restricted with the area demarcated by berms. Access to the rehabilitated will only be for maintenance purposes.
Soil handling: Ongoing rehabilitation during the mining process			

Management Measures	Mitigation Measures	Compl	Finding
To re-establish the indigenous vegetation cover in the mining area during steady	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.	C	To maintain the nutrients and soil structure, vegetation is stripped together with the topsoil during stripping. The stripped material together with the vegetation will then act as seedbanks to be used during rehabilitation
	A mixture of the grasses Eragrostis curvula (8kg/ha), E. tef (3kg/ha), Chloris gayana (2kg/ha), Digitaria eriantha (5kg/ha) and Cynodon dactylon (3kg/ha) is recommended for revegetation.	C	The contractor hydromulch uses the following mixture: **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 ***Total 21 kg / ha***
	Once the area has been revegetated, it should be monitored for declared weeds and invasive plants.	NC	During a site inspection, the Auditors observed topsoil that was infested with alien species. Thungela confirmed that alien species control is done prior to revegetation. During site inspection, the Auditors observed some weed species around the areas that are being rehabilitated. The current Alien Invasive Management Plan was not shared with the Auditors for verification.
	During the initial stages, grazing animals should be kept away from the area. Veld fires should be controlled.	C	The Zibulo Colliery Opencast Mine boundaries are fenced off for security reasons and to prevent grazing within the mining area. Grazing within the mining area pose a risk to the animals since opencast mining is being undertaken.
Soil handling: Surface water management			
To minimise 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**	Stripping the full depth of available soft soils to limit the long-term recharge to the mined-out area.	C	Thungela mentioned that soil stripping is done detailed in the Zibulo Opencast Rehabilitation Procedure which specifies the topsoil stripping depth as 1.5. During document audit, the Auditors observed the Zibulo Opencast Rehabilitation Procedure pasted at the mine's notice board. The actual Rehabilitation Procedure was shared for verification, Rehabilitation Procedure which is valid from 10 November 2017 until 16 April 2024 was provided to the auditor as evidence.
	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.	C	Thungela mentioned excavated material is placed in terms of surface rehabilitation. A Rehabilitation Plan which is valid from 10 November 2017 until 16 April 2024 was provided to the auditor as evidence. Further, the auditors were provided with Zibulo Rehabilitation Performance 2023 which details the hectares were topsoil was seeded, voids filled, dump to be loaded and shaping and levelling.

Management Measures	Mitigation Measures	Compl	Finding
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 **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**	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.	C	Rehabilitation activities at Zibulo Colliery Opencast are being done concurrently with the mining activities. During site assessment, the Auditors observed some posters and parts of the Zibulo Opencast Rehabilitation Procedure placed at the mine's notice board. The Rehabilitation Procedure which is valid from 10 November 2017 until 16 April 2024 was provided and it covers this condition requirement.
	Managing the dirty water make.	C	Zibulo Colliery Opencast has three (3) licenced pollution control dams namely the 40 Ml Dam, the 9 Ml Dam and the 1 Ml Dam. All dewatered pit water is pumped to the 40 Ml Dam and when required, the water is pumped to the 9 Ml Dam (balancing dam). These PDCs are used for the collection and storage of dirty water. The water from the dams is used for dust suppression at the Zibulo Colliery Opencast and surplus water is pumped to Phola Coal Processing Plant for re-use in the plan. Additional surplus water is discharged to eMalahleni Water Reclamation Plant (EWRP).
	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.	C	Dust suppression at the mine is done making use from the 1 Ml PCD making use of water tankers. Adequate surplus water is pumped to Phola Coal Processing Plant with additional surplus water discharged EWRP. Thungela reported that there was an overflow of the PCD about two (2) years back and there has not any overspills reported since then. As such, there were no dam spills for the current audit period.
	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.	NC	Zibulo Colliery Opencast has implemented SCADA, a real-time system that is used to monitor water reticulation, among other functions. Information from the flow meters, with the records of all volumes of water pumped, abstracted, and disposed of, is then transmitted to the SCADA system. Thungela reported that water pumping is within the 150 l/s and below threshold. Nonetheless, the Auditors could not validate the information because SCADA system results were not provided. This condition could be changed to compliant once the SCADA system results are validated.
	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.	C	Thungela has appointed Aquatico Scientific, as service provider to undertake water monitoring at Zibulo Opencast Colliery. The IWWMP (2022) lists the six (6) sampling points for the January 2021 and December 2021 as: ZC 4, ZC 7, ZC 8, ZC PC 1, ZC PC 2 and 1ML Dam. The 1ML Dam is sampled as a dirty water containment facility to assess the impacts of the mine's activities on the receiving surface water resources. Zibulo Colliery Opencasthas a water uses licences with Reference No. 04/B20G/AGJ/809. Compliance is also monitored in terms of this WUL conditions. An Annual Water Quality Assessment Report for the period of January 2022 to December 2022 was submitted to the Department of Water and Sanitation (DWS) where the graphic presentation was done on the reported variables. .
Soil handling: Truck and shovel operations			

Management Measures	Mitigation Measures	Compl	Finding
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.	C	Zibulo Colliery Opencast undertakes dust suppression as guided by the Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) which identifies the sources of dust within the mine and the management controls to be adopted. Dust suppression is conducted at the parking areas, truck waiting areas and the haul roads making use of bowsers. Water from the 1 Ml PCD and Dustex, a chemical binder, are used to suppress dust at the specified areas. During a site inspection, the Auditors observed dust suppression that was being conducted at the mine.
	The revegetation of idle stockpiles and berms.	C	During site inspection, the Auditors observed vegetation of the stockpiling areas and berms was done at the Zibulo Opencast Colliery. Natural revegetation of the stockpiling area is promoted.
	Constant watering (with water trucks) in areas where materials removal, placement or manipulation is occurring.	C	Zibulo Colliery Opencast undertakes dust suppression at the mine. Dust suppression is done with water from the 1 Ml PCD and Dustex. During a site inspection, the Auditors observed dust suppression that was being conducted at the mine.
	Ongoing dust fallout monitoring using the current network to assess the effectiveness of dust control measures.	C	Thungela has appointed a consultant to undertake Dust fallout Monitoring at Zibulo Opencast Colliery. The Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) specifies that single dust buckets are strategically installed in accordance with the specifications of the American Society for testing and materials standard method for collection and analysis of Dust Fallout (ASTM D1739). The mine is required to undertake ambient monitoring, and this is being done by the mine. Thungela mentioned that such monitoring is also done together with other surrounding two (2) mines to capture the cumulative ambient levels of the three mines. Dust fallout monitoring is done at selected points as recommended by the specialists. In addition, Thungela confirmed that atmospheric emissions are reported on the National Atmospheric Emission Inventory System (NAEIS). However, the auditors could not validate the undertaking of the Dust Fallout Monitoring Reports and the submission thereof on the NAEIS. For the purposes of the audit, a sample of four Zibulo Colliery Air Quality Monitoring Reports for the months of May, June, July and August 2022 were made available for the auditors to verify. The submission thereof on the NAEIS is yet to be shared with the Auditors for verification.
	Under very windy conditions, management on the mine will decide whether haulage should be reduced or stopped altogether until conditions improve.	C	The Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) specifies that the Section Manager: Mining is assigned with the task to manage the mine activities under windy conditions. As such, the Section Manager directs the activities at the mine including the haulage activities. For the current period, there were no incidences that prompted the suspension of activities due to windy conditions.
	Vehicles should not be left idling when not in use.	C	Thungela mentioned that no vehicles are left idling when not in use. During the site inspection, the Auditors did not observe any idling vehicles left unattended.
	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.	C	During a site inspection at Zibulo Opencast Colliery, the Auditors observed soil stockpiles of contaminated with visible carbonaceous material as a result of fly rock. Rehabilitation activities are being done concurrent to the mining activities were mined-out areas are rehabilitated as soon as possible.

Management Measures	Mitigation Measures	Compl	Finding
	An air emissions inventory will be developed.	C	Thungela confirmed that Zibulo Colliery Opencast has an air quality management plan in place. Atmospheric emissions are reported on the National Atmospheric Emission Inventory System (NAEIS). Annual inventory certificate was provided for verification.
	Strict speed control (30km/h) will be implemented and the shortest haul routes will be used.	C	Zibulo Colliery Opencast has implemented a 40km/hour limit as provisioned within the issued EA. Signages pertaining to the maximum speed limits are strategically placed around the mine. Thungela mentioned that the shortest haul roads are used as an environmental management measure and for cost-effectiveness.
Drilling and blasting: Blasting			
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.	C	Blasting at Zibulo Colliery Opencast is done as provisioned within the Zibulo Colliery Noise and Vibration Monitoring Procedure (ZIB-INV-PRO-0823). The procedure details actions involved in the monitoring of noise and vibration resulting from blasting operations. The key receptors were identified, and four (4) Instantel Seismographs are permanently fitted on the property and surrounding areas. The Instantel Seismographs are placed in such a way that monitoring covers all the identified receptors. Information pertaining to blasting designs was not availed to the Auditors. The Blasting Report was provided and validated.
	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. Mining closer than 500 m to the southern perimeter of the mine should, therefore, be carried out using 165 mm holes.	C	Based on the Zibulo Colliery Ground Vibration and Air Blast monitoring reports prepared by Blast and Management Consulting for February, April, August, and December 2022, it can be confirmed that the mine conducts monitoring. The reports were reviewed, and the following findings were noted: In February, one (1) of the matched ground vibration events recorded at the Residential monitors were greater than the Thungela-American Coal Good Practise limit of 5.0 mm/s at public installations. One (1) of the matched air blast events were greater than the Thungela-American Coal Good Practise limit of 128 dB at the Residential monitoring stations. In April, the matched ground vibrations were within limits, however, three of the matched air blast events were higher than limits. In August and December, the mine was compliant in that all the matched events were within limits. This does not negate the non-compliance recorded in the previous monitoring events.
	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.	C	The Zibulo Colliery Noise and Vibration Monitoring Procedure (ZIB-INV-PRO-0823) specifies that a Service Provider is used for ground vibration and air blasts level monitoring at the Mine. There are four (4) Instantel Seismographs that are permanently fitted on the property and surrounding areas and data is retrieved monthly in the form of a report. The Zibulo Colliery Ground Vibration and Air Blast monitoring reports prepared by Blast and Management Consulting for February, April, August, and December 2022 were reviewed by the Auditors.
	Monitoring of air blast and vibration for every surface blast using blasting seismographs located at sensitive positions.	C	Blasting at Zibulo Colliery Opencasti s done as provisioned within the Zibulo Colliery Noise and Vibration Monitoring Procedure (ZIB-INV-PRO-0823). The procedure actions involved in the monitoring of noise and vibration resulting from blasting operations. The key receptors are identified as:

Management Measures	Mitigation Measures	Compl	Finding
			Ogies Community • Oil Office – eastern boundary of the opencast • N12 highway • Ogies Mill – Southern boundart of the opencast. Seismographs are permanently fitted on the property and surrounding areas. The Instantel Seismographs are placed is such a way that monitoring covers all the identified receptors.
	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.	NC	The Zibulo Colliery Noise and Vibration Monitoring Procedure (ZIB-INV-PRO-0823) and the February, April, August, and December 2022 Zibulo Colliery Ground Vibration and Air Blast monitoring reports were reviewed by the Auditors. Some of the Air blasts limits for these months exceeded the Thungela limits at the following locations: • Ogies Mill • Ref Church • N12 Highway • Eastern Perimeter
	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.	NC	The Zibulo Colliery Noise and Vibration Monitoring Procedure (ZIB-INV-PRO-0823) does not detail traffic management and the mine's partners in terms of traffic management during blasting. Thungela did not provide the Auditors with documentation detailing road closure and the processes taken to obtain such permissions from the relevant authorities.
	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.	NC	The Zibulo Colliery Noise and Vibration Monitoring Procedure (ZIB-INV-PRO-0823) was availed to the Auditors. However, the procedure does not detail the type of explosives being utilised by the mine. The Zibulo Colliery Opencast did not provide the quality control documented proof for verification.
Coal removal and transport: Surface water management			
To minimise the impact on catchment yield **To prevent floods up to the 1:100-year recurrence interval** **To prevent floods up to**	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	C	The IWWMP Update (2022) specifies that there has been erosion on Site ZC 7B and the bank of the Saalklaspruit were severely eroded aggravated by the construction activities and vegetation removal in the upper catchment. This has resulted in the conversion of diffuse seepage through the soil profile accelerating overland flows. As indicated in the IWWMP, these impacts in the Saalklaspruit does not emanate from Zibulo Colliery Opencast activities but rather upper catchment activities. The IWWMP Update (2022) recommended that Zibulo Colliery Opencast must ensure that rehabilitation be done in a manner that improves water quality, enhances flow quality and the biodiversity support functions. Thungela mentioned that stripped wetland topsoil is stockpiled separately and shall be used to rehabilitated about 13 ha of land once mining activities are done. The method to be followed when rehabilitating the wetland to maximise the feature's return to the original state is specifies within the Baseline Wetland Study Report and the Zibulo Opencast Rehabilitation Procedure.

Management Measures	Mitigation Measures	Compl	Finding
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.** **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**	Ensuring the rehabilitated spoils levels line up with the natural topography, including some allowance for settlement.	C	Thungela mentioned that the rehabilitation plan focuses on ensuring that the topography of the rehabilitated mined areas represents that of the pre-developed status as practically possible. During a site inspection, the Auditors did not observe any shortcomings on the rehabilitation being done.
	Stripping the full depth of available soft soils to limit the long-term recharge to the mined-out area.	C	Thungela mentioned that soil stripping is done detailed in the Zibulo Opencast Rehabilitation Procedure which specifies the topsoil stripping depth as 1.5. During document audit, the Auditors observed some posters and parts of the Zibulo Opencast Rehabilitation Procedure placed at the mine's notice board. The actual Rehabilitation Procedure was made available for verification. A Rehabilitation Procedure which is valid from 10 November 2017 until 16 April 2024 was provided to the auditor as evidence.
	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.	C	A Rehabilitation Plan which is valid from 10 November 2017 until 16 April 2024 was provided to the auditor as evidence. Further, the auditors were provided with Zibulo Rehabilitation Performance 2023 which details the hectares were topsoil was seeded, voids filled, dump to be loaded and shaping and levelling.
	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.	C	A Rehabilitation Plan which is valid from 10 November 2017 until 16 April 2024 was provided to the auditor as evidence. Further, the auditors were provided with Zibulo Rehabilitation Performance 2023 which details the hectares were topsoil was seeded, voids filled, dump to be loaded and shaping and levelling.
	Managing the dirty water make.	C	Zibulo Colliery Opencasthas three (3) licenced pollution control dams namely the 40 Ml Dam, the 9 Ml Dam and the 1 Ml Dam. All dewatered pit water is pumped to the 40 Ml Dam and when required, the water is pumped to the 9 Ml Dam (balancing dam). These PDCs are used for the collection and storage of dirty water. The water from the dams is used for dust suppression at the Zibulo Colliery Opencastand surplus water is pumped to Phola Coal Processing Plant for re-use in the plan. Additional surplus water is discharged to eMalahleni Water Reclamation Plant (EWRP).
	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.	C	Dust suppression at the mine is done making use from the 1 Ml PCD making use of water tankers. Adequate surplus water is pumped to Phola Coal Processing Plant with additional surplus water discharged EWRP. Thungela reported that there was an overflow of the PCD about two (2) years back and there have not been any overspills reported since then. As such, there were no dam spills for the current audit period.
	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.	NC	Zibulo Colliery Opencast has implemented SCADA, a real-time system that is used to monitor water reticulation, among other functions. Information from the flow meters, with the records of all volumes of water pumped, abstracted, and disposed of, is then transmitted to the SCADA system. Thungela reported that water pumping is within the 150 l/s and below threshold. Nonetheless, the Auditors could not validate the information because SCADA system results were not provided. This condition could be changed to compliant once the SCADA system results are validated.

Management Measures	Mitigation Measures	Compl	Finding
management system can be met.	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.	C	Thungela has appointed Aquatico Scientific, as service provider to undertake water monitoring at Zibulo Opencast Colliery. The IWWMP (2022) lists the six (6) sampling points for the January 2021 and December 2021 as: ZC 4, ZC 7, ZC 8, ZC PC 1, ZC PC 2 and 1ML Dam. The 1ML Dam is sampled as a dirty water containment facility to assess the impacts of the mine's activities on the receiving surface water resources. Zibulo Colliery Opencast has a water use licences with Reference No. 04/B20G/AGJ/809. Compliance is also monitored in terms of this WUL conditions. An Annual Water Quality Assessment Report for the period of January 2022 to December 2022 was submitted to the Department of Water and Sanitation (DWS) where the graphic presentation was done on the reported variables.
Coal removal and transport: Truck and shovel operations			
To maximise 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	C	Zibulo Colliery Opencast undertakes dust suppression as guided by the Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) which identifies the sources of dust within the mine and the management controls to be adopted. Dust suppression is conducted at the parking areas, truck waiting areas and the haul roads making use of bowsers. Water from the 1 Ml PCD and Dustex, a chemical binder, are used to suppress dust at the specified areas. During a site inspection, the Auditors observed dust suppression that was being conducted at the mine.
	The revegetation of idle stockpiles and berms.	C	During site inspection, the Auditors observed vegetation of the stockpiling areas was done at the Zibulo Opencast Colliery.
	Constant watering (with water trucks) in areas where materials removal, placement or manipulation is occurring.	C	Zibulo Colliery Opencast undertakes dust suppression at the mine. Dust suppression is done with water from the 1 Ml PCD and Dustex. During a site inspection, the Auditors observed dust suppression that was being conducted at the mine.
	Ongoing dust fallout monitoring using the current network to assess the effectiveness of dust control measures.	C	Thungela has appointed a consultant to undertake Dust fallout Monitoring at Zibulo Opencast Colliery. The Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) specifies that single dust buckets are strategically installed in accordance with the specifications of the American Society for testing and materials standard method for collection and analysis of Dust Fallout (ASTM D1739). The mine is required to undertake ambient monitoring, and this is being done by the mine. Thungela mentioned that such monitoring is also done together with other surrounding two (2) mines to capture the cumulative ambient levels of the three mines. Dust fallout monitoring is done at selected points as recommended by the specialists. In addition, Thungela confirmed that atmospheric emissions are reported on the National Atmospheric Emission Inventory System (NAEIS). However, the auditors could not validate the undertaking of the Dust Fallout Monitoring Reports and the submission thereof on the NAEIS. For the purposes of the audit, a sample of four Zibulo Colliery Air Quality Monitoring Reports for the months of May, June, July and August 2022 were made available for the auditors to verify.

Management Measures	Mitigation Measures	Compl	Finding
	Under very windy conditions, management on the mine will decide whether haulage should be reduced or stopped altogether until conditions improve.	C	The Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) specifies that the Section Manager: Mining is assigned with the task to manage the mine activities under windy conditions.
	Vehicles should not be left idling when not in use.	C	Thungela mentioned that no vehicles are left idling when not in use. During the site inspection, the Auditors did not observe any idling vehicles that were 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.	C	During a site inspection at Zibulo Opencast Colliery, the Auditors observed soil stockpiles contaminated by visible carbonaceous material from fly rock. There was no spontaneous combustion observed on site.
	An air emissions inventory will be developed.	C	Thungela confirmed that Zibulo Colliery Opencast has an air quality management plan in place. Atmospheric emissions are reported on the National Atmospheric Emission Inventory System (NAEIS). However, an Air Quality Management Plan, Air Quality Monitoring Report and proof of NAEIS submission were validated by the auditors. The annual inventory certificate was not availed to the auditors for verification.
	Strict speed control (30km/h) will be implemented and the shortest haul routes will be used.	C	Zibulo Opencast Mine has implemented a 40km/hour limit as provisioned within the issued EA. Signages pertaining to the maximum speed limits are strategically placed around the mine. Thungela mentioned that the shortest haul roads are used as an environmental management measure and for cost-effectiveness.
Water handling: Removal of overburden			
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.	C	Thungela mentioned excavated material is stockpiled as provisioned within the Zibulo Opencast Rehabilitation Procedure. During a site inspection at Zibulo Opencast Colliery, the Auditors observed soil stockpiles being used for rehabilitation backfilling material including subsoils, and softs. The material was contaminated by visible carbonaceous material as a result of fly rock.
	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	C	
	Ongoing monitoring of the rehabilitation process will be undertaken and recommendations on the geological/geohydrological setting will be made.	C	
Water handling: Ongoing rehabilitation during the mining process			

Management Measures	Mitigation Measures	Compl	Finding
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.	C	To maintain the nutrients and soil structure, vegetation is stripped together with the topsoil during stripping. The stripped material together with the vegetation will then act as seedbanks to be used during rehabilitation
	A mixture of the grasses Eragrostis curvula (8kg/ha), E. tef (3kg/ha), Chloris gayana (2kg/ha), Digitaria eriantha (5kg/ha) and Cynodon dactylon (3kg/ha) is recommended for revegetation.	C	The contractor hydromultch uses the following mixture: **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 ***Total 21 kg / ha***
	Once the area has been revegetated, it should be monitored for declared weeds and invasive plants.	NC	During a site inspection, the Auditors observed topsoil that was infested with alien species. Thungela confirmed that alien species control is done prior to revegetation. However, no alien species were observed on the rehabilitated areas on the day of the audit. The Rehabilitation Plan for the current audit period was not verified by the Auditors.
	During the initial stages, grazing animals should be kept away from the area. Veld fires should be controlled.	C	The Zibulo Colliery Opencast Mine boundaries are fenced off for security reasons and to prevent grazing within the mining area. Grazing within the mining area pose a risk to the animals since opencast mining is being undertaken.
Water handling: surface water management			
To minimise 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	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.	C	The IWWMP Update (2022) specifies that there has been erosion on Site ZC 7B and the bank of the Saalklaspruit were severely eroded aggravated by the construction activities and vegetation removal in the upper catchment. This has resulted in the conversion of diffuse seepage through the soil profile accelerating overland flows. However, these impacts in the wetland and Saalklaspruit does not emanate from Zibulo Colliery Opencast activities. The specialists recommended that Zibulo Colliery Opencast must ensure that rehabilitation be done in a manner that improves water quality, enhances flow quality and the biodiversity support functions. During a site inspection, the Auditors visited the wetland, and it was dry. No drainage issues were observed.

Management Measures	Mitigation Measures	Compl	Finding
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** **can be met.**	Ensuring the rehabilitated spoils levels line up with the natural topography, including some allowance for settlement.	C	Thungela mentioned that the rehabilitation plan focuses on ensuring that the topography of the rehabilitated mined areas represents that of the pre-developed status as practically possible. Visual observations during site inspection noted that the condition is being observed and implemented although there were alien infested stockpiles were used for backfilling.
	Stripping the full depth of available soft soils to limit the long-term recharge to the mined-out area.	C	Thungela mentioned that soil stripping is done detailed in the Zibulo Opencast Rehabilitation Procedure which specifies the topsoil stripping depth as 1.5. During document audit, the Auditors observed the Zibulo Opencast Rehabilitation Procedure pasted at the mine's notice board. A Rehabilitation Plan which is valid from 10 November 2017 until 16 April 2024 was provided to the auditor as evidence.
	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.	C	Thungela indicated that a qualified professional has been appointed to undertaken soil analysis at Zibulo Opencast Colliery. This is done as part of the Rehabilitation Process. The auditors verified that Hydromulch (Pty) Ltd was appointed, and a revegetation report dated 22nd of November 2022 for revegetation services. The reports detailed the quantity of fertilizers and lime used during revegetation.
	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.	C	Rehabilitation activities at Zibulo Colliery Opencast are being done concurrently with the mining activities. During site assessment, the Auditors observed some posters and parts of the Zibulo Opencast Rehabilitation Procedure placed at the mine's notice board. The Rehabilitation Procedure was availed for verification.
	Managing the dirty water make.	C	Zibulo Colliery Opencast has three (3) licenced pollution control dams namely the 40 Ml Dam, the 9 Ml Dam and the 1 Ml Dam. All dewatered pit water is pumped to the 40 Ml Dam and when required, the water is pumped to the 9 Ml Dam (balancing dam). These PDCs are used for the collection and storage of dirty water. The water from the dams is used for dust suppression at the Zibulo Colliery Opencast and surplus water is pumped to Phola Coal Processing Plant for re-use in the plan. Additional surplus water is discharged to EMalahleni Water Reclamation Plant (EWRP).
	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.	C	Dust suppression at the mine is done making use from the 1 Ml PCD making use of water tankers. Adequate surplus water is pumped to Phola Coal Processing Plant with additional surplus water discharged EWRP. Thungela reported that there was an overflow of the PCD about two (2) years back and there has not any overspills reported since then. As such, there were no dam spills for the current audit period.

Management Measures	Mitigation Measures	Compl	Finding
	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.	NC	Zibulo Colliery Opencast has implemented SCADA, a real-time system that is used to monitor water reticulation, among other functions. Information from the flow meters, with the records of all volumes of water pumped, abstracted, and disposed of, is then transmitted to the SCADA system. Thungela reported that water pumping is within the 150 l/s and below threshold. Nonetheless, the Auditors could not validate the information because SCADA system results were not provided.
	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.	C	Thungela has appointed Aquatico Scientific, as service provider to undertake water monitoring at Zibulo Opencast Colliery. The IWWMP (2022) lists the six (6) sampling points for the January 2021 and December 2021 as: ZC 4, ZC 7, ZC 8, ZC PC 1, ZC PC 2 and 1ML Dam. The 1ML Dam is sampled as a dirty water containment facility to assess the impacts of the mine's activities on the receiving surface water resources. Zibulo Colliery Opencast has a water use licences with Reference No. 04/B20G/AGJ/809. Compliance is also monitored in terms of this WUL conditions. An Annual Water Quality Assessment Report for the period of January 2022 to December 2022 was submitted to the Department of Water and Sanitation (DWS) where the graphic presentation was done on the reported variables.
Water handling: Groundwater management			
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.	C	Zibulo Colliery Opencast is undertaking rehabilitation as stipulated in the Rehabilitation Procedure and the Mine Rehabilitation Plan. Backfilling and rehabilitation are being done concurrently with the mining activities.
	The increased influx of ground water into the strip mine during the operational phase will be managed as part of the total water balance.	C	The IWWMP (2022) mentions that Zibulo Colliery Water and Salt Balance Report was last updated 2020 and another update was expected in December 2022. The mine indicated that the influx of water into the pit is managed by dewatering to the 40ML dam.
	Mine planning personnel must determine the extent of strip mine mining for any given time during the operational phase.	C	Thungela showed the Auditors the extent of Zibulo Opencast Colliery's strip mine extend as presented in the updated mine plan and schedule.
	These areas, together with the additional areas covered by the virtual cone of depression, must be identified as the areas of potential depletion.	NC	The Zibulo Colliery Annual Ground Water Quality Assessment Report for the period of January 2022 to December 2022 was reviewed by the Auditors. The reports do not consider areas of potential depletion for the Zibulo Opencast Colliery.

Management Measures	Mitigation Measures	Compl	Finding
	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.	C	The Zibulo Colliery Opencast require quarterly groundwater monitoring to be conducted. As such, Thungela appointed a service provider to undertake groundwater monitoring to comply with the WUL conditions and the reports are submitted to DWS as required. For the period of March 2022 to December 2022, groundwater monitoring to determine the impacts of Zibulo Colliery Opencast activities on the environment was done on the following boreholes: BSW03, BSW04, BSW05, BSW10, BSW11, BSW12, BSW18. Sampling was not done on BSW06, which was demolished and BSW07 which was dry. The above listed sampling localities are listed in the existing WUL.
	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.	C	Zibulo Colliery Opencast has a water use licences with Reference No. 04/B20G/AGJ/809. The mine is abstracting the water volumes as provisioned within the issued WUL. The Groundwater Monitoring Report indicating the yield capacity of the boreholes was submitted to the DWS.
	All external users' boreholes within a 1 km radius of any mining activities must be monitored for water level response.	C	The monitoring of points for Zibulo Opencast Colliery, both opencast and underground, as provided in the 2022 Ground Water Monitoring Report includes the sampling of boreholes that are not within the mining boundaries of the mine. The 2022 Groundwater Monitoring Report shows that some of the sampled boreholes are located within the 1km radius from the mining boundaries.
	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.	C	The Zibulo Colliery Complaints and Grievance Procedure (ZIB-INV-PRO-0804) details the steps that can be followed in lodging complaints with the mine and the responsible portfolios who should respond to such complaints.
	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.	C	Zibulo Colliery Opencast conducts monthly ground water monitoring as specified within the existing WUL, as such monthly ground water monitoring is done as per the applicable monitoring required as published by the Department of Water and Sanitation, the custodian of water resources within the republic. Quarterly Groundwater Monitoring Reports are submitted to the DWS as stipulated within the WUL, an no non-compliance with the applicable monitoring requirements or guidelines has been received from the DWS.
	A formalised and documented ground water monitoring system must be commissioned, according to the requirements outlines in the DWAF 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	C	Thungela appointed Aquatico Laboratories (Pty) Ltd, to undertake groundwater monitoring for Zibulo Colliery. Aquatico Laboratories (Pty) Ltd is accredited by the South African National Accreditation System and this was verified by the Auditors. Thus, a formal groundwater monitoring system is in place. The 2022 Groundwater Monitoring Report shows the monitoring localities including internal boreholes and external boreholes within the 1km radius from the mine boundaries. These boreholes are provisioned within the existing WUL, issued in terms of the National Water Act (Act 36 of 1998). Thus, the monitoring and reporting requirements complies with the minimum requirements.

Management Measures	Mitigation Measures	Compl	Finding
	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.		
	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.	C	Zibulo Colliery Opencast undertakes monthly, quarterly and annual groundwater monitoring as provisioned within the mine's WUL. Quarterly and annual Groundwater Monitoring Reports are submitted to the DWS. However, the mine does not conduct Six monthly monitoring reports as required under this condition. The Auditors are of the opinion that the monitoring requirements as provisioned within the WUL are sufficient. Zibulo Colliery Opencast should consider revising this condition during the EMPr revision.
Operational personnel: Labor			
Enhance local employment and awarding of contracts to local businesses.	No housing of staff on-site.	C	There is no staff that is housed at Zibulo Opencast Colliery.
	Facilitating local business participation in provision of mine service.	C	According to the Zibulo Colliery Social and Labour Plan 2021-2025 (SLP), Thungela plays an important role in facilitating economic development within the district and local contexts with representatives on the Emalahleni Local Municipality's Local Economic Development and Integrated Development Plan Forums. The SLP aims to promote employment and social advancement of internal and external stakeholders, communities included.
	Sourcing labor, goods and services in the surrounding area, where feasible with a transparent, well planned recruitment process with maintenance of open communication.	C	The Zibulo Colliery SLP was reviewed. Zibulo Colliery is working towards preparing its employees and contractors towards closure and no job opportunities are anticipated at the mine. The mine has a human resources development programme that aim to develop human potential and create opportunities for self-sustenance during and after the life of mine. Zibulo Colliery operates a training centre that leverage the mine's expertise in sourcing, drafting and presenting key competences and development courses for the workforce. To capacitate communities, Zibulo operates an Adult Education and Training (AET) centre in Phola. Thungela mentioned that Zibulo Colliery employs 30 % of its workforce from Phola, Ogies Kriel and Leandra, which are the surrounding communities.

Management Measures	Mitigation Measures	Compl	Finding
			Furthermore, Zibulo Colliery has developed a database of local service providers, and this is used for procumbent purposes. Thungela further indicated that there is constant engagement with the local businesses in terms of procurement. In addition, a database of Information regarding the recruitment process and the sourcing of good and services from the local communities was not included within the SLP. The Procurement Procedure or Policy and proof of engagement with communities regarding recruitment and business opportunities was not availed to the Auditors for verification.
	Working with local agencies to combat HIV/aids.	C	Thungela ensures that their employees and contractors are made aware of the issues surrounding the spread of HIV and AIDS in the area. This awareness is promoted by initiatives such as training and development, peer education, community interventions and visual awareness campaigns, to name but a few. The Zibulo Colliery Social and Labour Plan 2021-2025 specifies that the mine runs a “Be Well Program”; for which the main purpose is to support the Optimum wellbeing of its employees.
	Co-operation in security aspects.	C	Thungela confirmed that Zibulo Colliery is part of the local Community Policing Forum.
Operational personnel: Mine traffic			
Traffic on R545. Highe 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.	C	During site inspection, the Auditors observed that slip lanes have been established to allow the free movement of traffic on the Provincial Road R545.
	Speed limits will be set and the lighting in the area will be improved.	C	Speed limit signs were observed within the mining boundaries and on the R555 and at the junction between the R555 and the R545.
	All traffic management measures will be done in conjunction with the Traffic Authorities.	C	Thungela mentioned that there is constant and continual engagement between the mine and the local law enforcement engagements.

TABLE 4: ENVIRONMENTAL AUTHORISATION FOR THE EXTENSION OF MINING ACTIVITIES ON PORTIONS 19, 21, 41 AND 55 OF THE FARM OOGIESFONTEIN 4 IS AND THE REMAINING EXTENT OF PORTION 12 OF THE FARM KLIPFONTEIN 3 IS ISSUED ON 12 FEBRUARY 2020 WITH REFERENCE NUMBER 30/5/1/2/3/2/1/338 EA.

EA No	Condition	Compl	Findings
8 Conditions			
8.1. STANDARD CONDITIONS			
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 on the holder of the Authorisation,	C	The condition has been noted by the holder of the authorisation (Thungela). The authorisation was issued in accordance with the requirements of the National Environmental Management Act (Act 107 of 1998) (NEMA and applicable regulations thereto.
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.	C	Thungela appointed Luyanda Mthethwa as the Environmental Control Officer responsible for onsite daily monitoring ensuring compliance with the environmental authorisation conditions including compliance by subcontractors and stakeholders.
8.1.3	The activity which is authorised may only be carried out at the property indicated above (Point B: 3).	C	The activities for the Zibulo Colliery Opencast expansion project are being undertaken on Portions 19,21,41 and 55 of the Farm Oogiesfontein and the Remaining Extent of the portion 12 of the Farm Klipfontein 3 IS. This was in addition to the activities, for which an EA was issued on 30 April 2010, to undertake mining activities on Portions 12, 19, 39, 40, and 41 of the Farm Oogiesfontein 4IS as licenced under this environmental authorisation.
	This Environmental Authorization 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 Authorization without a valid mining right.	C	The condition has been noted by Thungela.
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 effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the Authorisation to apply for further Authorisation in terms of the Regulations.	C	There were no deviations to the project description reported for the current audit period. Thungela acknowledge the understanding of the requirement of notifying the DMRE of any deviations prior to implementation of such.
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 authorization, the applicant must in writing notify the Regional Manager of this Department, within fourteen (14) days of the above specified change.	C	Thungela communicated via a letter to the DWS on 7 June 2021 regarding the demerger from Anglo Operations (Pty) Ltd as well as company address changes. The DWS acknowledged the same in a letter dated 23 June 2021 (Ref no: 04/B11E/CI/3886).

EA No	Condition	Compl	Findings
8.1.7	A copy of this authorisation must be kept on site. The Authorisation must be produced to any Governmental official(s) who may requests to see it for inspection purposes and must be made available to the contractor(s) /subcontractor(s) authorised to undertake to undertake work at the property.	C	A copy of the Environmental Authorisation is kept with the Environmental Superintendent of the Environmental Department.
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.	C	The condition has been noted by Thungela. The Auditors request for Zibulo Opencast Colliery's Legal Register for verification.
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. The notice must include a date on which it is anticipated that the activity will commence.	N/A	Zibulo Colliery Opencast is currently in the operational phase and such communication is not applicable for the current audit period.
8.2	**SPECIFIC CONDITIONS**		
8.2.1	**COMMISSIONING OF THE ACTIVITY**		
8.2.1.1	This Authorization is hereby 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/licenses/approvals and/or service agreements, where it is relevant, from or with the relevant regulatory authorities whether national, provincial or local.	C	A WUL for the Zibulo Colliery Opencast expansion project, with activities being undertaken on Portions 19,21,41 and 55 of the Farm Oogiesfontein and the Remaining Extent of the portion 12 of the Farm Klipfontein 3 IS, 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.	C	Zibulo Colliery Opencast applies best practicable environmental principles for waste management, dust and noise, management, biodiversity management. In addition, the mine had adopted ISO standards and activities and equipment used onsite is compliant with the SANS standards.
8.2.1.3 Pre-construction Phase			
	a) The applicant must appoint an independent Environmental Control Officer (ECO) who will monitor contractors, compliance with EMP and EA	N/A	Zibulo Colliery Opencast is currently in the operational phase, past the construction phase. As such, this condition is not applicable for the current audit period
	b) The applicant must provide all contractors and sub-contractors with a copy of Environmental Management Programme and Environmental Authorization prior to the mining activities.	N/A	Zibulo Colliery Opencast is currently in the operational phase, past the construction phase. as such, this condition is not applicable for the current audit period

EA No	Condition	Compl	Findings
	c) All pre-construction phase mitigation measures as outlined in the Environmental Management Programme attached in Environmental Impact Assessment report must be adhered to at all times	N/A	Zibulo Colliery Opencast is currently in the operational phase, past the construction phase. As such, this condition is not applicable for the current audit period
	d) In order to ensure safety, all employees must be given the necessary personnel protective equipment (PPE).	N/A	Zibulo Colliery Opencast is currently in the operational phase, past the construction phase. As such, this condition is not applicable for the current audit period.
	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.	N/A	Zibulo Colliery Opencast is currently in the operational phase, past the construction phase. As such, this condition is not applicable for the current audit period.
	f) Construction must include design measures that allow surface and subsurface movement of water along the drainage lines so as not to impede natural surface and subsurface water flow, and drainage measures must promote the dissipation of storm water runoff.	N/A	Zibulo Colliery Opencast is currently in the operational phase, past the construction phase. As such, this condition is not applicable for the current audit period.
	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.	N/A	Zibulo Colliery Opencast is currently in the operational phase, past the construction phase. As such, this condition is not applicable for the current audit period.
	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.	N/A	Zibulo Colliery Opencast is currently in the operational phase, past the construction phase. as such, this condition is not applicable for the current audit period
8.2.1.4 Access roads and traffic impact			
	a) Necessary signage and traffic measures must be implemented for safe and convenient access to the site from adjacent roads.	C	Zibulo Opencast Mine has implemented a 40km/hour limit. Signages pertaining to the maximum speed limits are strategically placed around the mine including the site access from the R555 road.
	b) Access roads must be well maintained throughout the mining operation	C	During site inspection, the Auditors observed that access roads are well maintained throughout the mine.
8.2.1.5 Air quality management			
	a) Proper measures must be put in place to suppress dust in order to minimize nuisance conditions.	C	Zibulo Colliery Opencast undertakes dust suppression at the mine and the stockpiling areas making use of bowsers using water from the 1 Ml PCD as well as a dust binding agent.
	b) A speed restriction of 40km/h must be enforced and monitored on site for all mine vehicles.	C	Speed signs indication the 40km/hour limit are placed strategically around the mine. The speed limit is enforced at the mine.

EA No	Condition	Compl	Findings
8.2.1.6 Proliferation of alien species			
	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.	NC	Zibulo Opencast Mine has wash bay where mining equipment and vehicles are cleaned before entering and leaving the mine. However, Thungela indicated that it is the Contractors responsibility to wash the trucks transporting coal from Zibulo Opencast Mine to Phola Coal Processing Plant. No records of truck cleaning were produced by Thungela.
8.2.1.7 Noise			
	a) Construction/ mining activities must be limited to normal working hours (7h00 - 17h00), unless the mine is allowed to work 24 hours	C	Zibulo Colliery Opencast operates for 24 hours, and it was indicated that the mine is allowed to work for the provisioned times. Proof of the authorisations provisioning Zibulo Colliery Opencast to operate for a period of 24 hours could not be verified.
	b) Mine vehicles must be fitted with standard silencers prior to beginning of construction.	N/A	Zibulo Colliery Opencast is currently in the operational phase, past the construction phase. as such, this condition is not applicable for the current audit period
8.2.1.8 Erosion control measures			
	a) All soil surfaces compacted as a result of mining/construction activities must be ripped, and imported materials must be removed.	C	Thungela mentioned that rehabilitation is done as per the Rehabilitation Procedure and the current Rehabilitation Plan. The Rehabilitation Procedure was availed for verification.
	b) Any erosion channel developed during mining/construction period or during vegetation establishment must be restored to a proper condition.	NC	Thungela employs some erosion control measures as guided by the environmental management procedures. Thungela further mentioned that weekly erosion control inspections are done. The Auditors observed erosion at the pit backfill areas but thus will be filled during levelling of material which is already placed inside the pits. The procedures guiding erosion control at Zibulo Colliery Opencast and proof of weekly erosion inspections were not availed for review by the Auditors.
8.2.1.9 Excavation activities			
	a) Topsoil must be stripped and stockpiled prior to excavation in a designated area.	C	Rehabilitation procedure to this effect was availed for verification and was deemed sufficient if applied accordingly.
	b) Under no circumstances should material stockpiles be disposed of outside the boundary of the mine area.	C	The Zibulo Colliery Opencast Rehabilitation Procedure (DOC NO ZIB-OM-PRO-0838) was reviewed by the Auditors and no material stockpile was observed outside the mine area.
8.2.1.10 Waste management			

EA No	Condition	Compl	Findings
	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.	NC	Zibulo Colliery has an existing Waste Management Procedure: Doc No ZIB-ENV-PRO-083, detailing the way waste is to be disposed. The procedure was reviewed by the Auditors. During site inspection, the Auditors observed that waste segregation is done at Zibulo Opencast Colliery, with colour coded bins placed at the office areas. Littering was observed around the mine with some areas not having sufficient waste bins. This could be the reason for littering.
	b) No waste must be disposed of through burying and burning.	C	
	c) All hazardous waste must be disposed of at an official registered site, or be removed by registered hazardous waste contractors.	C	Zibulo Colliery appointed TL Ideas to manage hazardous waste at the mine. Hazardous waste is disposed at Holfontein Landfill.
	d) An emergency preparedness plan to address any pollution incidents (e.i such as oil spillage etc) that occur on site must be developed.	C	The Zibulo Colliery Emergency Preparedness Procedure (ZIB-ENV-PRO-0808) identifies the potential emergency situations that could be encountered by the mine, details management measures and assigns roles and responsibilities of action in the event of an emergency.
8.2.1.11 Surface and groundwater contamination must be prevented and/or mitigated by implementation of the following conditions			
	a) Specific area must be demarcated for fuelling and workshop services. And such area must be bunded to reduce the possibility of soil and water contamination.	C	Zibulo Colliery Opencast has a demarcated bunded workshop area. During a site inspection, Auditors observed that all activities associated with hydrocarbons are undertaken at the workshop, the designated area.
	b) Irrespective of the nature of a spillage (whether major or minor), all spillages must be cleaned up as soon as they occur.	NC	Zibulo Colliery Opencast has a spill management procedure, and all spills are also implemented as detailed in the Incident and Non-conformance Procedure (ZIB-ENV-PRO-0814). Spill management equipment was observed by the auditors during the site inspection undertaken as part of the audit. During the audit, Thungela reported that there has not been major spill reported at Zibulo Colliery Opencast for the current audit period. A minor spill was observed during site inspection at the mine and the mine environmental control officer was not aware of this spill. Thus, the spillage was not immediately attended to.
	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.	C	
	d) Untreated sewage water must not be discharged directly into the natural environment.	C	Thungela mentioned that there were no discharges of untreated sewage on the natural environment that was reported at Zibulo Opencast Colliery. During a site inspection, no signs of untreated sewage being discharged into the environment was observed.
8.2.1.12 Fire prevention and management			
	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		Fire extinguishers that are in good working condition were observed onsite during a site inspection.
	b) Workers must be adequately trained in the handling of firefighting equipment.	C	According to the Zibulo Colliery Emergency Preparedness Procedure (ZIB-ENV-PRO-0808), the mine has contracted an emergency team (fire and proto) which is responsible for handling relevant emergencies. These contractors are trained to handle fire equipment
	c) Open fires must strictly be prohibited.	C	Open fires are strictly prohibited at Zibulo Opencast Colliery.
	d) Smoking must be prohibited in the vicinity of flammable substances.	C	Smoking is done at demarcated areas that close vicinity of flammable substances.

EA No	Condition	Compl	Findings
	e) Cooking and heating fires must be permitted only in designated areas with appropriate safety measures	C	Cooking and heating fires are prohibited at Zibulo Opencast Colliery
8.2.1.13 Storm water management			
	a) Storm water management plan must be developed and implemented on site.	C	Thungela confirmed that Zibulo Colliery Opencast is in possession of a Storm Water Management Plan. The existence of the Storm Water Management Plan could not be verified by the Auditors as this is yet to be shared by Thungela.
8.2.1.14. Safety			
	a) Potentially hazardous area must be demarcated with danger tape.	C	Thungela mentioned that all potentially hazardous areas are demarcated or barricaded once identified. This was confirmed by the Auditors during site inspection.
	b) Appropriate signage must be placed to caution employees and contractors not to attempt to enter certain structures without being authorised,	C	Appropriate caution signages were observed at structures that should not be entered without authorisation such as the PCD area, among others.
8.2,1.15 Emergency Response Plan			
	a) An Emergency Response Plan should be available for accidental spills and firefighting during both construction and operation of the project.	C	According to the Zibulo Colliery Emergency Preparedness Procedure (ZIB-ENV-PRO-0808) reviewed by the Auditors details the process to be followed during accidental spills and firefighting. The procedure is available at the Environmental Superintendent's office.
	b) In the event of emergency, the holder must notify the department within 24hrs, and contact relevant emergency services in the area,	C	The condition has been noted by Thungela. During the current audit period, there were no emergencies at Zibulo Opencast Colliery.
	c) All significant pollution incidents must be reported to this Department within forty eight (48) hours of occurrences	C	The condition has been noted by Thungela. Thungela mentioned that there were no significant pollution incidences that has happened during the current audit period. The mine makes use of the Enablon system to report incidences as provisioned within the Zibulo Colliery Incident and Non-conformance Procedure (ZIB-ENV-PRO-0814). Incident summary report based on Enablon Results were pulled on the 7th of November 2023 and the Auditors verified that there were no significant pollution incidents during the audit period.
8.2.1.16 Compliance with other legislation			
	a) The National Environmental Management Act, 1998 (Act 107 of 1998), with particular reference to the principles in chapter 2 of the said Act.	C	The EA being audited was conducted in terms of the NEMA and monitoring is done as provisioned within this Act.
	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,	C	Zibulo Colliery Opencast has a water use licences with Reference No. 04/B20G/AGJ/809. The WUL provisions for undertaking mining activities within 500 meters from the edge of the wetland and under an existing water use license. In addition, the licence provisions for the diversion of the wetland flow for the life of mine period and the reinstatement of the wetland on decommissioning and closure. During a site visit, the Auditors observed that the wetland deviation trench was dry with no signs of historic water flows.

EA No	Condition	Compl	Findings
	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.	C	Thungela confirmed that Zibulo Colliery Opencast has an air quality management plan in place. Atmospheric emissions are reported on the National Atmospheric Emission Inventory System (NAEIS). However, an Air Quality Management Plan, Air Quality Monitoring Report and proof of NAEIS submission were validated by the auditors.
	d) The Conservation of Agriculture Resources Act, 1983 (Act 43 of 1983), with particular references to the sections pertaining to soil conservation.	C	The auditors were informed that Thungela manages the stripped topsoil and subsoil separately in accordance the Zibulo Colliery Opencast Topsoil Management Procedure. The Procedure was not availed to the Auditors for verification. However, during a site inspection at Zibulo Opencast Colliery, the Auditors observed soil stockpiles being used for rehabilitation backfilling material including subsoils, and softs. The material was mixed containing visible carbonaceous material and as such even though there is an effort to separate topsoil, but the execution process is not compliant with this condition.
	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.	N/A	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,	C	Thungela has a mining right issued by the Department of Mineral Resources and Energy (DMRE) as such complies with the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002). The Mining Right requires that Zibulo Colliery Opencast operations comply with the Mine Health and Safety Act and the mine adheres to the requirement.
	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.	C	Zibulo Colliery Opencast complies with the relevant provisions of the Occupational Health and Safety Act (Act No.85 of 1993).
	h) The National Environmental Management: Waste Act (Act No. 59 of 2008)	C	Zibulo Colliery Opencast complies with the requirements of the National Environmental Management: Waste Act (Act No. 59 of 2008).
8.2.1.17 Liability of the holder of this Authorisation			
	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 document or any other subsequent document emanating from this Authorisation. The holder shall be responsible for all the costs necessary to comply with the above condition unless otherwise specified.	C	The condition has been noted by Thungela.
	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.	C	The Zibulo Colliery Complaints and Grievance Procedure (ZIB-INV-PRO-0804) details the steps that can be followed in lodging complaints with the mine and the responsible portfolios who should respond to such complaints.

EA No	Condition	Compl	Findings
			Thungela mentioned that there were no formal complaints received for the current audit period. It was reported that all complaint are uploaded on Enablon.
	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.	C	Zibulo Colliery Opencast has existing ablution facilities visually observed by the Auditors during a site visit.
8.2.2	**MANAGEMENT OF THE ACTIVITY**		
	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.	C	A copy of the Environmental Authorisation is kept with the Environmental Superintendent of the Environmental Department
	b) The Environmental Management Programme (EMP) prepared by Licebo Environmental and Mining (Pty) Ltd must be adhered to during the life of the mine.	C	Zibulo Colliery Opencast undertakes annual environmental audits to check compliance with the EMPr.
	c) All duties and responsibilities as outlined in the EMPr attached are binding throughout the life of the mine.	C	The condition has been noted by Thungela.
8.2.3	**APPOINTMENT OF ENVIRONMENT CONTROL OFFICER**		
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 Authorisation and Environmental Management Programme, prior to any commencement of mining activities on site.	C	Thungela appointed Luyanda Mthethwa as the Environmental Control Officer responsible for onsite daily monitoring ensuring compliance with the environmental authorisation conditions including compliance by subcontractors and stakeholders.
8.2.3.2	The Environment 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.	N/A	Zibulo Colliery Opencast is currently in the operational phase, past the construction phase. As such, this condition is not applicable for the current audit period.
8.2.3.3	The ECO must also monitor the implementation of specific elements of the Environmental Management Programme by contractors.	C	Thungela appointed Luyanda Mthethwa as the Environmental Control Officer responsible for monitoring the implementation of the EMPr by the mine contractors.
8.2.3.4	All duties and responsibilities as outlined in the EMPr attached are binding throughout the life of mine	C	The condition has been noted by Thungela.
8.2.4	**SITE CLOSURE AND DECOMMISSIONING**		

EA No	Condition	Compl	Findings
8,2,4,1	The commissioning and decommissioning of individual activity within the overall listed mining activity must take place within the phases and timeframes as set out in EMP or EMPr.	N/A	Zibulo Colliery Opencast is currently in the operational phase, and decommissioning has not been initiated. Thus, this condition is not applicable for the current audit period. The condition is however noted by Thungela.
8.2.4,2	The holder of EA must apply for a closure certificate in terms of Section 43 of Mineral and Petroleum Resources Development Act (Act 28 of 2002), as amended within 180 days of occurrence of lapsing, abandonment, cancellation, cessation, relinquishment and completion of the operation.	N/A	Zibulo Colliery Opencast is currently in the operational phase, and decommissioning has not been initiated. Thus, this condition is not applicable for the current audit period. The condition is however noted by Thungela.
8.2.4.3	The application for closure indicated above must be submitted together with all relevant documents as indicated in Section 43 of Mineral and Petroleum Resources Development Act (Act 28 of 2002), as amended.	N/A	Zibulo Colliery Opencast is currently in the operational phase, and decommissioning has not been initiated. Thus, this condition is not applicable for the current audit period. The condition is however noted by Thungela.
8.3	**MONITORING**		
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.	C	The condition has been noted by Thungela.
8.3.1	It is the holder of this Authorisation'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 is put into practice.	C	The condition has been noted by Thungela.
8.4	**RECORDING AND REPORTING TO THE DEPARTMENT**		
8.4,1	Records of monitoring and for auditing must be made available for inspection to this Department and any other relevant authority inspecting the development activities.	C	The condition has been noted by Thungela.
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.	C	The condition has been noted by Thungela.
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.	C	The condition has been noted by Thungela.
8.5	**NON-COMPLIANCE**		
8.5.1	In the event of non-compliance by any contractor during the mining/construction of the authorised activity, the holder of this Authorisation will be liable.	C	The condition has been noted by Thungela.

EA No	Condition	Compl	Findings
8.5.2	The holder shall be responsible for all costs necessary to comply with the above conditions unless otherwise specified.	C	The condition has been noted by Thungela.
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.	C	The condition has been noted by Thungela.
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.	C	The condition has been noted by Thungela.
9. APPEAL OF AUTHORISATION			
9.1	The holder of the authorisation must notify every registered interested and affected party, in writing and within fourteen (14) days of receiving the Department's decision.	N/A	The auditors validated that the EA was issued on 20 February 2020 and such notification could have been done in 2020. Thus, this condition falls outside the audit period.
9.2	The notification referred to in 9.1 must —		
9.2.1	Specify the date on which the Authorisation was issued.	N/A	Please refer to the finding section of Condition 9.1 above.
9.2.2	Inform the registered interested and affected parties of the appeal procedure provided for in Chapter 2 of the National Appeal Regulations of 2014.	N/A	Please refer to the finding section of Condition 9.1 above.
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.	N/A	Please refer to the finding section of Condition 9.1 above.
9.2.4	An appeal against the decision must be lodged in terms of Chapter 2 of the National Appeal Regulations of 2014.	N/A	Please refer to the finding section of Condition 9.1 above.

TABLE 6: ENVIRONMENTAL MANAGEMENT PROGRAMME FOR THE EXTENSION OF MINING ACTIVITIES ON PORTIONS 19, 21, 41 AND 55 OF THE FARM OOGIESFONTEIN 4 IS AND THE REMAINING EXTENT OF PORTION 12 OF THE FARM KLIPFONTEIN 3 IS ISSUED ON 12 FEBRUARY 2020 WITH REFERENCE NUMBER 30/5/1/2/3/2/1/338 EA

Mitigation Measure	Proposed Management Measure	Compl	Finding
8 Employment of workers and procurement of materials			
Ensure that recruitment strategies for the mine prioritizes the sourcing of local labour and share in gender equality.	Social and Labor Plan	C	This EMPr specifies that the expansion activities for which this EMPr was granted will not create new employment opportunities since the project is a continuation of the current Zibulo Colliery Opencast Operations. A recommendation that any available job and procurement opportunities should be sourced from local communities was made. The Zibulo Colliery SLP was reviewed. Zibulo Colliery is working towards preparing its employees and contractors towards closure. The mine has a human resources development programme that aim to develop human potential and create opportunities for self-sustenance during and after the life of mine. Zibulo Colliery operates a training centre that leverage the mine's expertise in sourcing, drafting and presenting key competences and development courses for the workforce. To capacitate communities, Zibulo operates an Adult Education and Training (AET) centre in Phola. Thungela mentioned that Zibulo Colliery employs 30 % of its workforce from Phola, Ogies Kriel and Leandra, which are the surrounding communities. Furthermore, Zibulo Colliery has developed a database of local service providers, and this is used for procurement purposes. Thungela further indicated that there is constant engagement with the local businesses in terms of procurement. In addition, a database of information regarding the recruitment process and the sourcing of goods and services from the local communities was included within the SLP.
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			
To prevent soil contamination and degradation.	Emergency Response Plan	C	Zibulo Colliery Opencast has a spill management procedure, and all spills are also implemented as detailed in the Incident and Non-conformance Procedure (ZIB-ENV-PRO-0814). Spill management equipment was observed by the auditors during the site inspection undertaken as part of the audit.
	Vehicle Maintenance Plan	C	During the audit and document review, the Vehicle Maintenance Plan was availed to the Auditors by Thungela.
To prevent the contamination of the wetland systems and aquatic ecosystems.	Stormwater Management Plan	C	Thungela confirmed that Zibulo Colliery Opencast is in possession of a Surface Water Flood Risk Management Plan and Storm Water Management Plan. The document was verified by the Auditors. The verified copy was updated in January 2021.
	Aquatic Monitoring Programme	C	A Biomonitoring and Ecotoxicity Assessment Programme dated January 2022, was done for the Zibulo Colliery. The Report identifies potential reasons for the acidic and toxic conditions at site ZC7E and ZC7B. A recommendation to have the tributary at site ZC7B rehabilitated to improve wetland function was done.

Mitigation Measure	Proposed Management Measure	Compl	Finding
To prevent and minimise negative impacts on surface water resources as a result of hydrocarbon spills.	Emergency Response Plan	C	Zibulo Colliery Opencast has a spill management procedure, and all spills are also implemented as detailed in the Incident and Non-conformance Procedure (ZIB-ENV-PRO-0814). Spill management equipment was observed by the auditors during the site inspection undertaken as part of the audit.
	Vehicle Maintenance Plan.	C	During the audit and document review, the Vehicle Maintenance Plan was availed to the Auditors by Thungela.
	Hydrocarbon Management Procedure and Emergency Preparedness and Response Plan	C	Zibulo Colliery Opencast has a Spill Management Procedure, and all spills are also implemented as detailed in the Incident and Non-conformance Procedure (ZIB-ENV-PRO-0814). Spill management equipment was observed by the auditors during the site inspection undertaken as part of the audit. The Spill Management Procedure clearly describes the methodology recommended for handling hazardous chemical or material spillages that may occur at the mine.
To prevent and minimise groundwater contamination.	Hydrocarbon Management Procedure and Emergency Preparedness and Response Plan.	C	Zibulo Colliery Opencast has a spill management procedure, and all spills are also implemented as detailed in the Incident and Non-conformance Procedure (ZIB-ENV-PRO-0814). Spill management equipment was observed by the auditors during the site inspection undertaken as part of the audit.
	Vehicle Maintenance Plan.	C	During the audit and document review, the Vehicle Maintenance Plan was not availed to the Auditors by Thungela.
	Groundwater Monitoring Programme.	C	The Zibulo Colliery Opencast require that quarterly groundwater monitoring to be conducted. As such, Thungela appointed a service provider to undertake groundwater monitoring to comply with the WUL conditions and the reports are submitted to the DWS as required. For the period of March 2022 to December 2022, groundwater monitoring to determine the impacts of Zibulo Colliery Opencast activities on the environment was done on the following boreholes: BSW03, BSW04, BSW05, BSW10, BSW11, BSW12, BSW18. Sampling was not done on BSW06, which was demolished and BSW07 which was dry. The above listed sampling localities are listed in the existing WUL. However, Thungela did not provide the Auditors with the Groundwater Monitoring Reports for the 2023 period.
	Hydrocarbon Management Procedure and Emergency Preparedness s and Response Plan	C	Zibulo Colliery Opencast has a Spill Management Procedure, and all spills are also implemented as detailed in the Incident and Non-conformance Procedure (ZIB-ENV-PRO-0814). Spill management equipment was observed by the auditors during the site inspection undertaken as part of the audit. The Spill Management Procedure clearly describes the methodology recommended for handling hazardous chemical or material spillages that may occur at the mine.
	Groundwater Monitoring Programme and monitoring results.	C	Thungela appointed Aquatico Laboratories (Pty) Ltd, to undertake groundwater monitoring for Zibulo Colliery. Aquatico Laboratories (Pty) Ltd is accredited by the South African National Accreditation System and this was verified by the Auditors. Thus, a formal groundwater monitoring system is in place. For the period of March 2022 to December 2022, groundwater monitoring to determine the impacts of Zibulo Colliery Opencast activities on the environment was done on the following boreholes: BSW03, BSW04, BSW05, BSW10, BSW11, BSW12, BSW18. Sampling was not done on BSW06, which was demolished and BSW07 which was dry. The above listed sampling localities are listed in the existing WUL. Results of the sampled boreholes were presented within the 2022 Groundwater Monitoring Report.
10. Drilling and blasting			
To minimise fugitive dust generation emanating from drilling activities.	Mine Plan	C	Zibulo Colliery Opencast undertakes dust suppression at the mine and the stockpiling areas making use of bowsers using water from the 1 Ml PCD as well as a dust binding agent.

Mitigation Measure	Proposed Management Measure	Compl	Finding
To minimise the negative visual impact caused by the removal of overburden by drilling and blasting; and	Dust Management Plan.	C	Thungela has appointed a consultant to undertake Dust fallout Monitoring at Zibulo Opencast Colliery. The Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) specifies that single dust buckets are strategically installed in accordance with the specifications of the American Society for testing and materials standard method for collection and analysis of Dust Fallout (ASTM D1739). The mine is required to undertake ambient monitoring, and this is being done by the mine. Thungela mentioned that such monitoring is also done together with other surrounding two (2) mines to capture the cumulative ambient levels of the three mines. Dust fallout monitoring is done at selected points as recommended by the specialists. During site inspection, visual observations onsite indicate ambient and PM10 dust monitors concentrated on the west of the site due to current open pit area which is on the western side. For the purposes of the audit, a sample of four Zibulo Colliery Air Quality Monitoring Reports for the months of May, June, July and August 2022 were made available for the auditors to verify. The submission thereof on the NAEIS is yet to be shared with the Auditors for verification.
To minimise the negative visual impact caused by dust from the blasting of overburden.	Dust Monitoring Programme.		
To minimise loss of geological formation	Rehab Plan	C	A Rehabilitation Plan which is valid from 10 November 2017 until 16 April 2024 was provided to the auditor as evidence. Further, the auditors were provided with Zibulo Rehabilitation Performance 2023 which details the hectares were topsoil was seeded, voids filled, dump to be loaded and shaping and levelling.
To prevent the contamination of clean water resources.	Stormwater Management Plan	C	Thungela confirmed that Zibulo Colliery Opencast is in possession of a Storm Water Management Plan. The existence of the surface Water flood Risk Management Plan and Storm Water Management Plan was verified by the Auditors.
	Surface Water Monitoring Plan	C	Thungela has appointed Aquatico Scientific as service provider to undertake water monitoring at Zibulo Opencast Colliery. The IWWMP (2022) lists the six (6) sampling points for January 2021 and December 2021 as: ZC 4, ZC 7, ZC 8, ZC PC 1, ZC PC 2 and 1ML Dam. The 1ML Dam is sampled as a dirty water containment facility to assess the impacts of the mine's activities on the receiving surface water resources. Zibulo Colliery Opencast has a water use licences with Reference No. 04/B20G/AGJ/809. Compliance is also monitored in terms of this WUL conditions. An Annual Water Quality Assessment Report for the period of January 2022 to December 2022 was submitted to the Department of Water and Sanitation (DWS) where the graphic presentation was done on the reported parameters.
To prevent the noise emanating from the blasting activities impacting on surrounding sensitive receptors.	Blasting Schedule.	C	Blasting at Zibulo Colliery Opencast is done as provisioned within the Zibulo Colliery Noise and Vibration Monitoring Procedure (ZIB-INV-PRO-0823). The procedure actions involved in the monitoring of noise and vibration resulting from blasting operations. The key receptors were identified, and four (4) Instantel Seismographs are permanently fitted on the property and surrounding areas. The Instantel Seismographs are placed in such a way that monitoring covers all the identified receptors.
To prevent ground vibrations from impacting on sensitive receptors	Ground vibration monitoring plan;	C	The Zibulo Colliery Noise and Vibration Monitoring Procedure (ZIB-INV-PRO-0823) was reviewed by the Auditors. Based on the Zibulo Colliery Ground Vibration and Air Blast monitoring reports prepared by Blast and Management Consulting for February, April, August, and December 2022, it can be confirmed that the mine conducts monitoring. The reports were reviewed, and the following findings were noted:
	Implementation of blasting buffer zones.		

Mitigation Measure	Proposed Management Measure	Compl	Finding
and from damaging the integrity of structures.			In February, one (1) of the matched ground vibration events recorded at the Residential monitors were greater than the Thungela-American Coal Good Practise limit of 5.0 mm/s at public installations. One (1) of the matched air blast events were greater than the Thungela-American Coal Good Practise limit of 128 dB at the Residential monitoring stations. In April, the matched ground vibrations were within limits, however, three of the matched air blast events were higher than limits. In August and December, the mine was compliant in that all the matched events were within limits. This does not negate the non-compliance recorded in the previous monitoring events.
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.	C	Zibulo Colliery Opencast has a Spill Management Procedure, and all spills are also implemented as detailed in the Incident and Non-conformance Procedure (ZIB-ENV-PRO-0814). Spill management equipment was observed by the auditors during the site inspection undertaken as part of the audit. The Spill Management Procedure clearly describes the methodology recommended for handling hazardous chemical or material spillages that may occur at the mine.
	Stormwater Management Plan	C	Thungela confirmed that Zibulo Colliery Opencast is in possession of a Storm Water Management Plan. A January 2021 copy of the plan was verified by the auditors. .
	Surface water Monitoring Programme	C	Thungela has appointed Aquatico Scientific as service provider to undertake water monitoring at Zibulo Opencast Colliery. The IWWMP (2022) lists the six (6) sampling points for January 2021 and December 2021 as: ZC 4, ZC 7, ZC 8, ZC PC 1, ZC PC 2 and 1ML Dam. The 1ML Dam is sampled as a dirty water containment facility to assess the impacts of the mine's activities on the receiving surface water resources. Zibulo Colliery Opencast has a water use licences with Reference No. 04/B20G/AGJ/809. Compliance is also monitored in terms of this WUL conditions. An Annual Water Quality Assessment Report for the period of January 2022 to December 2022 was submitted to the Department of Water and Sanitation (DWS) where the graphic presentation was done on the reported parameters. .
	Groundwater Monitoring	C	Thungela appointed Aquatico Laboratories (Pty) Ltd, to undertake groundwater monitoring for Zibulo Colliery. Aquatico Laboratories (Pty) Ltd is accredited by the South African National Accreditation System and this was verified by the Auditors. Thus, a formal groundwater monitoring system is in place.

Mitigation Measure	Proposed Management Measure	Compl	Finding
			For the period of March 2022 to December 2022, groundwater monitoring to determine the impacts of Zibulo Colliery Opencast activities on the environment was done on the following boreholes: BSW03, BSW04, BSW05, BSW10, BSW11, BSW12, BSW18. Sampling was not done on BSW06, which was demolished and BSW07 which was dry. The above listed sampling localities are listed in the existing WUL. Results of the sampled boreholes were presented within the 2022 Groundwater Monitoring Report. .
To minimise fugitive dust generation emanating from coal extraction activities. To minimise the negative visual impact caused by mining activities.	Dust Management Plan. Dust Monitoring Programme.	C	Thungela has appointed a consultant to undertake Dust fallout Monitoring at Zibulo Opencast Colliery. The Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) specifies that single dust buckets are strategically installed in accordance with the specifications of the American Society for testing and materials standard method for collection and analysis of Dust Fallout (ASTM D1739). The mine is required to undertake ambient monitoring, and this is being done by the mine. Thungela mentioned that such monitoring is also done together with other surrounding two (2) mines to capture the cumulative ambient levels of the three mines. Dust fallout monitoring is done at selected points as recommended by the specialists. During site inspection, visual observations onsite indicate ambient and PM10 dust monitors concentrated on the west of the site due to current open pit area which is on the western side. For the purposes of the audit, a sample of four Zibulo Colliery Air Quality Monitoring Reports for the months of May, June, July and August 2022 were made available for the auditors to verify. The NAEIS is yet to be shared with the Auditors for verification.
	Mining Plan	C	Thungela showed the Auditors the extent of Zibulo Opencast Colliery's strip mine extend as presented in the updated mine plan and schedule.
To prevent soil contamination and degradation	Emergency Response Plan	C	Zibulo Colliery Opencast has a spill management procedure, and all spills are also implemented as detailed in the Incident and Non-conformance Procedure (ZIB-ENV-PRO-0814). Spill management equipment was observed by the auditors during the site inspection.
	Vehicle Maintenance Plan.	C	During the audit and document review, the Vehicle Maintenance Plan was availed to the Auditors by Thungela. .
To prevent the loss of biodiversity and minimise impacts on floral species.	Dust Management Plan.	C	Thungela has appointed a consultant to undertake Dust fallout Monitoring at Zibulo Opencast Colliery. The Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) specifies that single dust buckets are strategically installed in accordance with the specifications of the American Society for testing and materials standard method for collection and analysis of Dust Fallout (ASTM D1739). The mine is required to undertake ambient monitoring, and this is being done by the mine. Thungela mentioned that such monitoring is also done together with other surrounding two (2) mines to capture the cumulative ambient levels of the three mines. Dust fallout monitoring is done at selected points as recommended by the specialists. During site inspection, visual observations onsite indicate ambient and PM10 dust monitors concentrated on the west of the site due to current open pit area which is on the western side. However, the auditors could not verify the undertaking of monitoring since the Dust Fallout Monitoring Reports were not availed by Thungela. .
To prevent the contamination and sedimentation of the wetland systems and aquatic ecosystems.	Stormwater Management Plan	C	Thungela confirmed that Zibulo Colliery Opencast is in possession of a Storm Water Management Plan. The existence of the Storm Water Management Plan was verified by the Auditors.
	Dust Management Plan. Dust Monitoring Programme.	C	Thungela has appointed a consultant to undertake Dust fallout Monitoring at Zibulo Opencast Colliery. The Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) specifies that single dust buckets are strategically installed in accordance with the specifications of the American Society for testing and materials standard method for collection and analysis of Dust Fallout (ASTM D1739).

Mitigation Measure	Proposed Management Measure	Compl	Finding
			The mine is required to undertake ambient monitoring, and this is being done by the mine. Thungela mentioned that such monitoring is also done together with other surrounding two (2) mines to capture the cumulative ambient levels of the three mines. Dust fallout monitoring is done at selected points as recommended by the specialists. During site inspection, visual observations onsite indicate ambient and PM10 dust monitors concentrated on the west of the site due to current open pit area which is on the western side. For the purposes of the audit, a sample of four Zibulo Colliery Air Quality Monitoring Reports for the months of May, June, July and August made available for the auditors to verify.
	Aquatic Monitoring Programme	C	A Biomonitoring and Ecotoxicity Assessment Programme dated January 2022, was done for the Zibulo Colliery. The Report identifies potential reasons for the acidic and toxic conditions at site ZC7E and ZC7B. A recommendation to have the tributary at site ZC7B rehabilitated to improve wetland function was done.
11. Coal removal, loading and stockpiling.			
To minimise fugitive dust generation emanating from coal extraction activities.	Dust Management Plan.	C	Thungela has appointed a consultant to undertake Dust fallout Monitoring at Zibulo Opencast Colliery. The Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) specifies that single dust buckets are strategically installed in accordance with the specifications of the American Society for testing and materials standard method for collection and analysis of Dust Fallout (ASTM D1739). The mine is required to undertake ambient monitoring, and this is being done by the mine. Thungela mentioned that such monitoring is also done together with other surrounding two (2) mines to capture the cumulative ambient levels of the three mines. Dust fallout monitoring is done at selected points as recommended by the specialists. During site inspection, visual observations onsite indicate ambient and PM10 dust monitors concentrated on the west of the site due to current open pit area which is on the western side. For the purposes of the audit, a sample of four Zibulo Colliery Air Quality Monitoring Reports for the months of May, June, July and August 2022 were made available for the auditors to verify.
To minimise the negative visual impact caused by mining activities.	Dust Monitoring Programme.	C	
	Mining Plan	C	Thungela showed the Auditors the extent of Zibulo Opencast Colliery's strip mine extend as presented in the updated mine plan and schedule.
To prevent soil contamination and degradation	Emergency Response Plan	C	Zibulo Colliery Opencast has a spill management procedure, and all spills are also implemented as detailed in the Incident and Non-conformance Procedure (ZIB-ENV-PRO-0814). Spill management equipment was observed by the auditors during the site inspection.
	Vehicle Maintenance Plan.		
To prevent the loss of biodiversity and minimise impacts on floral species.	Dust Management Plan.	C	Thungela has appointed a consultant to undertake Dust fallout Monitoring at Zibulo Opencast Colliery. The Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) specifies that single dust buckets are strategically installed in accordance with the specifications of the American Society for testing and materials standard method for collection and analysis of Dust Fallout (ASTM D1739). The mine is required to undertake ambient monitoring, and this is being done by the mine. Thungela mentioned that such monitoring is also done together with other surrounding two (2) mines to capture the cumulative ambient levels of the three mines. Dust fallout monitoring is done at selected points as recommended by the specialists. During site inspection, visual observations onsite indicate ambient and PM10 dust monitors concentrated on the west of the site due to current open pit area which is on the western side. For the purposes of the audit, a sample of four Zibulo Colliery Air Quality Monitoring Reports for the months of May, June, July and August 2022 were made available for the auditors to verify.

Mitigation Measure	Proposed Management Measure	Compl	Finding
To prevent the contamination and sedimentation of clean water resources.	Stormwater Management Plan	C	Thungela confirmed that Zibulo Colliery Opencast is in possession of a Storm Water Management Plan. The existence of the Storm Water Management Plan was verified by the Auditors.
	Surface Water Monitoring Plan	C	Thungela has appointed Aquatico Scientific as service provider to undertake water monitoring at Zibulo Opencast Colliery. The IWWMP (2022) lists the six (6) sampling points for January 2021 and December 2021 as: ZC 4, ZC 7, ZC 8, ZC PC 1, ZC PC 2 and 1ML Dam. The 1ML Dam is sampled as a dirty water containment facility to assess the impacts of the mine's activities on the receiving surface water resources. Zibulo Colliery Opencast has a water use licences with Reference No. 04/B20G/AGJ/809. Compliance is also monitored in terms of this WUL conditions. An Annual Water Quality Assessment Report for the period of January 2022 to December 2022 was submitted to the Department of Water and Sanitation (DWS) where the graphic presentation was done on the reported parameters.
To prevent the noise emanating from mining and vehicular activities impacting on surrounding sensitive receptors.	Regular Vehicle Inspections.	C	The Vehicle Maintenance Registers were verified by the Auditors.
To prevent and minimise the degradation of the road structures resulting in potential health and safety risks and soil erosion.	Road Maintenance Plan	C	During the site inspection, the Auditors observed roads that were maintained, and no soil erosion was observed along the road infrastructure. Further, the auditors were provided with Zibulo Colliery Haul Road Design, Construction & Maintenance Procedure for verification.
12. Dirty water management			
To prevent the contamination of the wetland systems and aquatic ecosystems.	Stormwater Management Plan	C	Thungela confirmed that Zibulo Colliery Opencast is in possession of a Storm Water Management Plan. The existence of the Storm Water Management Plan was verified by the Auditors as shared by Thungela.
	Dust Management Plan. Dust Monitoring Programme.	C	Thungela has appointed a consultant to undertake Dust fallout Monitoring at Zibulo Opencast Colliery. The Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) specifies that single dust buckets are strategically installed in accordance with the specifications of the American Society for testing and materials standard method for collection and analysis of Dust Fallout (ASTM D1739). The mine is required to undertake ambient monitoring, and this is being done by the mine. Thungela mentioned that such monitoring is also done together with other surrounding two (2) mines to capture the cumulative ambient levels of the three mines. Dust fallout monitoring is done at selected points as recommended by the specialists. During site inspection, visual observations onsite indicate ambient and PM10 dust monitors concentrated on the west of the site due to current open pit area which is on the western side. For the purposes of the audit, a sample of four Zibulo Colliery Air Quality Monitoring Reports for the months of May, June, July and August 2022 were made available for the auditors to verify.

Mitigation Measure	Proposed Management Measure	Compl	Finding
	Aquatic Monitoring Programme	C	A Biomonitoring and Ecotoxicity Assessment Programme dated January 2022, was done for the Zibulo Colliery. The Report identifies potential reasons for the acidic and toxic conditions at site ZC7E and ZC7B. A recommendation to have the tributary at site ZC7B rehabilitated to improve wetland function was done.
To prevent the contamination of clean water resources.	Stormwater Management Plan	C	Thungela confirmed that Zibulo Colliery Opencast is in possession of a Storm Water Management Plan. The existence of the Storm Water Management Plan was verified by the Auditors as shared by Thungela.
	Surface Water Monitoring Plan	C	Thungela has appointed Aquatico Scientific as service provider to undertake water monitoring at Zibulo Opencast Colliery. The IWWMP (2022) lists the six (6) sampling points for January 2021 and December 2021 as: ZC 4, ZC 7, ZC 8, ZC PC 1, ZC PC 2 and 1ML Dam. The 1ML Dam is sampled as a dirty water containment facility to assess the impacts of the mine's activities on the receiving surface water resources. Zibulo Colliery Opencast has a water use licences with Reference No. 04/B20G/AGJ/809. Compliance is also monitored in terms of this WUL conditions. An Annual Water Quality Assessment Report for the period of January 2022 to December 2022 was submitted to the Department of Water and Sanitation (DWS) where the graphic presentation was done on the reported parameters.
To prevent and minimise groundwater contamination.	Stormwater Management Plan	C	Thungela confirmed that Zibulo Colliery Opencast is in possession of a Storm Water Management Plan. The existence of the Storm Water Management Plan was verified by the Auditors as shared by Thungela.
	Groundwater Monitoring Programme	C	Thungela appointed Aquatico Laboratories (Pty) Ltd, to undertake groundwater monitoring for Zibulo Colliery. Aquatico Laboratories (Pty) Ltd is accredited by the South African National Accreditation System and this was verified by the Auditors. Thus, a formal groundwater monitoring system is in place. For the period of March 2022 to December 2022, groundwater monitoring to determine the impacts of Zibulo Colliery Opencast activities on the environment was done on the following boreholes: BSW03, BSW04, BSW05, BSW10, BSW11, BSW12, BSW18. Sampling was not done on BSW06, which was demolished and BSW07 which was dry. The above listed sampling localities are listed in the existing WUL. Results of the sampled boreholes were presented within the 2022 Groundwater Monitoring Report.
13. Operation and management of Pollution Control Dams			
To prevent the contamination of the wetland systems and aquatic ecosystems.	Stormwater Management Plan	C	Thungela confirmed that Zibulo Colliery Opencast is in possession of a Storm Water Management Plan. The existence of the Storm Water Management Plan was verified by the Auditors as shared by Thungela.
	Dust Management Plan. Dust Monitoring Programme.	C	Thungela has appointed a consultant to undertake Dust fallout Monitoring at Zibulo Opencast Colliery. The Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) specifies that single dust buckets are strategically installed in accordance with the specifications of the American Society for testing and materials standard method for collection and analysis of Dust Fallout (ASTM D1739). The mine is required to undertake ambient monitoring, and this is being done by the mine. Thungela mentioned that such monitoring is also done together with other surrounding two (2) mines to capture the cumulative ambient levels of the three mines. Dust fallout monitoring is done at selected points as recommended by the specialists. During site inspection, visual observations onsite indicate ambient and PM10 dust monitors concentrated on the west of the site due to current open pit area which is on the western side. However, the auditors could not verify the undertaking of monitoring since the Dust Fallout Monitoring Reports were not availed by Thungela.

Mitigation Measure	Proposed Management Measure	Compl	Finding
	Aquatic Monitoring Programme	C	A Biomonitoring and Ecotoxicity Assessment Programme dated January 2022, was done for the Zibulo Colliery. The Report identifies potential reasons for the acidic and toxic conditions at site ZC7E and ZC7B. A recommendation to have the tributary at site ZC7B rehabilitated to improve wetland function was done.
To prevent the contamination of clean water resources.	Stormwater Management Plan	C	Thungela confirmed that Zibulo Colliery Opencast is in possession of a Storm Water Management Plan. The existence of the Storm Water Management Plan was verified by the Auditors as shared by Thungela.
	Surface Water Monitoring Plan	C	Thungela has appointed Aquatico Scientific as service provider to undertake water monitoring at Zibulo Opencast Colliery. The IWWMP (2022) lists the six (6) sampling points for January 2021 and December 2021 as: ZC 4, ZC 7, ZC 8, ZC PC 1, ZC PC 2 and 1ML Dam. The 1ML Dam is sampled as a dirty water containment facility to assess the impacts of the mine's activities on the receiving surface water resources. Zibulo Colliery Opencast has a water use licences with Reference No. 04/B20G/AGJ/809. Compliance is also monitored in terms of this WUL conditions. An Annual Water Quality Assessment Report for the period of January 2022 to December 2022 was submitted to the Department of Water and Sanitation (DWS) where the graphic presentation was done on the reported parameters.
To prevent and minimise groundwater contamination.	Groundwater Monitoring Programme	C	Thungela appointed Aquatico Laboratories (Pty) Ltd, to undertake groundwater monitoring for Zibulo Colliery. Aquatico Laboratories (Pty) Ltd is accredited by the South African National Accreditation System and this was verified by the Auditors. Thus, a formal groundwater monitoring system is in place. For the period of March 2022 to December 2022, groundwater monitoring to determine the impacts of Zibulo Colliery Opencast activities on the environment was done on the following boreholes: BSW03, BSW04, BSW05, BSW10, BSW11, BSW12, BSW18. Sampling was not done on BSW06, which was demolished and BSW07 which was dry. The above listed sampling localities are listed in the existing WUL. Results of the sampled boreholes were presented within the 2022 Groundwater Monitoring Report.
14. Stockpile operation and maintenance.			
To minimise fugitive dust generation emanating from the operation and management of stockpiles.	Dust Management Plan.	C	Thungela has appointed a consultant to undertake Dust fallout Monitoring at Zibulo Opencast Colliery. The Zibulo Colliery Air Quality Monitoring Procedure (ZIB-ENV-PRO-0791) specifies that single dust buckets are strategically installed in accordance with the specifications of the American Society for testing and materials standard method for collection and analysis of Dust Fallout (ASTM D1739). The mine is required to undertake ambient monitoring, and this is being done by the mine. Thungela mentioned that such monitoring is also done together with other surrounding two (2) mines to capture the cumulative ambient levels of the three mines. Dust fallout monitoring is done at selected points as recommended by the specialists. During site inspection, visual observations onsite indicate ambient and PM10 dust monitors concentrated on the west of the site due to current open pit area which is on the western side. A monitoring by WSP, dated September 2022 was availed for verification by the auditors.
To minimise topography change and disruption of surface water flow.	Mining Plan	C	Thungela showed the Auditors the extent of Zibulo Opencast Colliery's strip mine extend as presented in the updated mine plan and schedule. During a site inspection, the Auditors observed rehabilitation being undertaken at Zibulo Opencast Colliery. Visual observation by Auditors indicate that rehabilitation is being in such with an attempt to follow the natural topography.

Mitigation Measure	Proposed Management Measure	Compl	Finding
To prevent soil erosion.	Stormwater Management Plan	C	Thungela confirmed that Zibulo Colliery Opencast is in possession of a Storm Water Management Plan. The existence of the Storm Water Management Plan was verified by the Auditors as shared by Thungela
	Soil Rehabilitation Plan.	C	Zibulo Spill Handling Procedure Doc No AATC003255, describe the methodology recommended for handling of hazardous chemical or material's spillages that may occur.
To prevent the contamination and sedimentation of the wetland systems and aquatic ecosystems	Aquatic Monitoring Programme	C	A Biomonitoring and Ecotoxicity Assessment Programme dated January 2022, was done for the Zibulo Colliery. The Report identifies potential reasons for the acidic and toxic conditions at site ZC7E and ZC7B. A recommendation to have the tributary at site ZC7B rehabilitated to improve wetland function was done.
To prevent the contamination and sedimentation of clean water resources.	Stormwater Management Plan	C	Thungela confirmed that Zibulo Colliery Opencast is in possession of a Storm Water Management Plan. The existence of the Storm Water Management Plan was verified by the Auditors as shared by Thungela.
	Surface Water Monitoring Plan	C	Thungela has appointed Aquatico Scientific as service provider to undertake water monitoring at Zibulo Opencast Colliery. The IWWMP (2022) lists the six (6) sampling points for January 2021 and December 2021 as: ZC 4, ZC 7, ZC 8, ZC PC 1, ZC PC 2 and 1ML Dam. The 1ML Dam is sampled as a dirty water containment facility to assess the impacts of the mine's activities on the receiving surface water resources. Zibulo Colliery Opencast has a water use licences with Reference No. 04/B20G/AGJ/809. Compliance is also monitored in terms of these WUL conditions. An Annual Water Quality Assessment Report for the period of January 2022 to December 2022 was submitted to the Department of Water and Sanitation (DWS) where the graphic presentation was done on the reported parameters.
To prevent and minimise groundwater contamination.	Groundwater Monitoring Programme	C	Thungela appointed Aquatico Laboratories (Pty) Ltd, to undertake groundwater monitoring for Zibulo Colliery. Aquatico Laboratories (Pty) Ltd is accredited by the South African National Accreditation System and this was verified by the Auditors. Thus, a formal groundwater monitoring system is in place. For the period of March 2022 to December 2022, groundwater monitoring to determine the impacts of Zibulo Colliery Opencast activities on the environment was done on the following boreholes: BSW03, BSW04, BSW05, BSW10, BSW11, BSW12, BSW18. Sampling was not done on BSW06, which was demolished and BSW07 which was dry. The above listed sampling localities are listed in the existing WUL. Results of the sampled boreholes were presented within the 2022 Groundwater Monitoring Report.
15. Waste and sewage generation and disposal.			
To minimise topography change; and	IWWMP	C	During a site inspection, the Auditors observed rehabilitation being undertaken at Zibulo Opencast Colliery. Visual observation by Auditors indicate that rehabilitation is being in such an attempt to follow the natural topography. Thungela Integrated Water and Waste Management Plan (IWWMP) dated November 2022 details waste management for the Zibulo Opencast Colliery.
To minimise the negative visual impact caused by waste stored on site.			

Mitigation Measure	Proposed Management Measure	Compl	Finding
To monitor waste generation as result of mining.		C	The IWWMP specify that all waste leaving the site is recorded and reported as part of the Enablon electronic system. Waste manifests and safe disposal certificates were availed as proof of safe disposal by Thungela.
To prevent the contamination of clean water resources.	Stormwater Management Plan	C	Thungela confirmed that Zibulo Colliery Opencast is in possession of a Storm Water Management Plan. The existence of the Storm Water Management Plan was verified by the Auditors as shared by Thungela
	Surface Water Monitoring Plan	C	Thungela has appointed Aquatico Scientific as service provider to undertake water monitoring at Zibulo Opencast Colliery. The IWWMP (2022) lists the six (6) sampling points for January 2021 and December 2021 as: ZC 4, ZC 7, ZC 8, ZC PC 1, ZC PC 2 and 1ML Dam. The 1ML Dam is sampled as a dirty water containment facility to assess the impacts of the mine's activities on the clean water resources. Zibulo Colliery Opencast has a water use licences with Reference No. 04/B20G/AGJ/809. Compliance is also monitored in terms of these WUL conditions. An Annual Water Quality Assessment Report for the period of January 2022 to December 2022 was submitted to the Department of Water and Sanitation (DWS) where the graphic presentation was done on the reported parameters.
	IWWMP	C	Thungela Integrated Water and Waste Management Plan (IWWMP) dated November 2022 details the management of clean water resource at Zibulo Opencast Colliery.
To prevent and minimise groundwater contamination.	Stormwater Management Plan	NC	Zibulo Colliery Opencast has implemented clean and dirty water trenches to isolate the clean and dirty water management systems. All dirty water trenches within the site directs contaminated surface water towards the main dirty water trench and towards the PCDs. However, the 2022 Groundwater Monitoring Report specifies there was groundwater contamination at some of the sampled boreholes.
	Groundwater Monitoring Programme	C	Thungela appointed Aquatico Laboratories (Pty) Ltd, to undertake groundwater monitoring for Zibulo Colliery. Aquatico Laboratories (Pty) Ltd is accredited by the South African National Accreditation System and this was verified by the Auditors. Thus, a formal groundwater monitoring system to monitor groundwater contamination is in place. For the period of March 2022 to December 2022, groundwater monitoring to determine the impacts of Zibulo Colliery Opencast activities on the environment was done on the following boreholes: BSW03, BSW04, BSW05, BSW10, BSW11, BSW12, BSW18. Sampling was not done on BSW06, which was demolished and BSW07 which was dry. The above listed sampling localities are listed in the existing WUL. Results of the sampled boreholes were presented within the 2022 Groundwater Monitoring Report. .
16. Concurrent rehabilitation.			
To minimise fugitive dust generation emanating from concurrent rehabilitation activities.	Dust Management Plan.	C	Zibulo Colliery Opencast undertakes dust suppression at the mine and rehabilitation areas to minimise fugitive dust emissions. Dust suppression is done by making use of bowsers with water from the 1 Ml PCD as well as a dust binding agent. The mine is required to undertake ambient monitoring, and this is being done by the mine. Thungela mentioned that such monitoring is also done together with other surrounding two (2) mines to capture the cumulative ambient levels of the three mines. Dust fallout monitoring is done at selected points as recommended by the specialists. During site inspection, visual observations onsite indicate ambient and PM10 dust monitors concentrated on the west of the site due to current open pit area which is on the western side.
	Mining Plan		
	Dust Monitoring Programme.		

Mitigation Measure	Proposed Management Measure	Compl	Finding
To rehabilitate the topography;	Rehabilitation Plan	C	During a site inspection, the Auditors observed rehabilitation being undertaken at Zibulo Opencast Colliery. Visual observation by Auditors indicate that rehabilitation is being undertaken in such an attempt to follow the natural topography.
To minimise soil erosion and topsoil loss; and		C	A Rehabilitation Plan which is valid from 10 November 2017 until 16 April 2024 was provided to the auditor as evidence. Further, the auditors were provided with Zibulo Rehabilitation Performance 2023 which details the hectares were topsoil was seeded, voids filled, dump to be loaded and shaping and levelling.
To prevent soil contamination and degradation.	Emergency Response Plan	C	Zibulo Colliery Opencast has a spill management procedure, and all spills are also implemented as detailed in the Incident and Non-conformance Procedure (ZIB-ENV-PRO-0814). Spill management equipment was observed by the auditors during the site inspection.
	Vehicle Maintenance Plan.	C	During the audit and document review, the Vehicle Maintenance Plan was availed to the Auditors by Thungela.
To prevent soil degradation and the decrease in land capability.	Soil Rehabilitation Plan; and Soil monitoring.	C	
To restore vegetation establishment; and	Rehabilitation Plan	C	During the Audit, Thungela indicated that the grass mixture being utilised for rehabilitation is as provided under this condition. Visual observations of the rehabilitated areas with grass were observed by the Auditors during site inspection. A Rehabilitation Plan which is valid from 10 November 2017 until 16 April 2024 was provided to the auditor as evidence.
To prevent the influx and establishment of alien invasive vegetation.	Alien Invasive Management Plan.	NC	During a site visit, an alien invasive infestation was observed by the Auditors. Thungela mentioned that a service provider was appointed to provide vegetation services including alien invasive species control. The appointment of the service provider could not be verified by the Auditors since it was not available for verification. In addition, an Alien Invasive Management Plan is yet to be availed to the Auditors for recommendations of possible corrective actions. In addition, the auditors observed alien species such as Thorn Apple, Buck weed, Red river gum and blackjack and Mexican Poppy.
To rehabilitate the area to an adequate state, thereby preventing sustained potential impacts from occurring.	Rehabilitation Plan	C	During the Audit, Thungela indicated that the rehabilitation is being done to ensure that the state of the mining area is restored to the pre-mining state. During a site inspection, the Auditors observed rehabilitation that was being undertaken and some vegetated areas. A Rehabilitation Plan which is valid from 10 November 2017 until 16 April 2024 was provided to the auditor as evidence.
To prevent and minimise groundwater contamination.	Rehabilitation Plan Groundwater Monitoring Programme	C	Thungela appointed Aquatico Laboratories (Pty) Ltd, to undertake groundwater monitoring for Zibulo Colliery. Aquatico Laboratories (Pty) Ltd is accredited by the South African National Accreditation System and this was verified by the Auditors. Thus, a formal groundwater monitoring system to monitor groundwater contamination is in place.

Mitigation Measure	Proposed Management Measure	Compl	Finding
			For the period of March 2022 to December 2022, groundwater monitoring to determine the impacts of Zibulo Colliery Opencast activities on the environment was done on the following boreholes: BSW03, BSW04, BSW05, BSW10, BSW11, BSW12, BSW18. Sampling was not done on BSW06, which was demolished and BSW07 which was dry. The above listed sampling localities are listed in the existing WUL. Results of the sampled boreholes were presented within the 2022 Groundwater Monitoring Report.
To prevent the noise emanating from rehabilitation machinery and vehicles impacting on surrounding sensitive receptors.	Regular Vehicle Inspections.	C	The Vehicle Maintenance Registers were verified by the Auditors.
Drilling and testing of monitoring boreholes targeting the backfilled areas.	Groundwater Monitoring Programme	C	Thungela appointed Aquatico Laboratories (Pty) Ltd, to undertake groundwater monitoring for Zibulo Colliery. Aquatico Laboratories (Pty) Ltd is accredited by the South African National Accreditation System and this was verified by the Auditors. Thus, a formal groundwater monitoring system to monitor groundwater contamination is in place. For the period of March 2022 to December 2022, groundwater monitoring to determine the impacts of Zibulo Colliery Opencast activities on the environment was done on the following boreholes: BSW03, BSW04, BSW05, BSW10, BSW11, BSW12, BSW18. Sampling was not done on BSW06, which was demolished and BSW07 which was dry. Some of the sampled boreholes are close to the rehabilitated areas.

6. Deliberations

The overall findings of this audit are an indication of Zibulo Colliery Opencast compliance to its EA/EMPr authorised conditions, and no mitigation measures are required where conditions comply. The summary of EA and EMPr findings are summarised below:

- The mine is infested with alien invasive species. The management documentation relating to the alien invasive species control were not availed to the Auditors. The implementation of any existing alien invasive species management procedures could not be verified.
- Erosion at pit backfill areas.
- Littering was observed at the mine. Waste management facilities are only available at the office areas and a few specified points. The absence of waste management points at the mine might result in littering by employees and subcontractors.
- Ponding and minor oil spill at the workshop.
- Improper waste management practices where different waste streams are mixed.
- Groundwater contamination at BSW04 and BSW18 boreholes.
- The absence of the Waste Management Strategy required as specified within the EA with reference number Reference No. 17/2/2/2 NK-1.

7.1. Adequacy and compliance of the proposed Zibulo Colliery Environmental Management Programmes

Standard Environmental Management Plans were assessed not only for the compliance towards the commitments of the respective EMPr, but also assessed for the ability of the measures contained in the EMPr to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the project activities.

6.1.1. Adequacy with the proposed Zibulo Colliery Environmental Management Programme

Based on the assessment of the proposed EMPr, we are of the opinion that the EMPr sufficiently provides for the avoidance, management and mitigation of environmental impacts associated with the operation of Zibulo Colliery. However, there are two conditions that might need revision and these are:

1. The use of dust allying agents recommended within the EMPr for which Thungela opted not to implement due to some of the dust allying agents impacts that are not environmentally beneficial.
2. The recommendation of 30km/ hour as the minimum speed within the EMPr that need to be aligned with the 40km/hour provisioned within the EA.

All identified areas for improvement have been provided with recommendations that may facilitate future compliance with EMPR commitments and improve on site environmental management.

6.1.2. Compliance with the proposed Zibulo Colliery Environmental Management Programme Non-compliances were identified during the audit for the Zibulo Opencast Colliery. The compliance summary of the audited conditions is summarised below.

- Environmental Management Programme Report Oogiesfontein Colliery, dated January 2010 with Reference No.: MP/30/5/1/2/2/338 MR.
- Environmental Management Programme Report for the Expansion of the mining activities on Portions 19,21,41 and 55 of the Farm Oogiesfontein and the Remaining Extent of the portion 12 of the Farm Klipfontein 3 IS granted on 12 February 2020 with Reference No. 30/5/1/2/3/2/1/338 EA.
- Environmental Authorisation for Oogiesfontein Colliery, dated January 2010 with Reference No.: MP/30/5/1/2/2/338 MR.
- Environmental Authorisation for the Expansion of the mining activities on Portions 19,21,41 and 55 of the Farm Oogiesfontein and the Remaining Extent of the portion 12 of the Farm Klipfontein

6.2. Adequacy and compliance of the proposed Zuibulo Colliery Environmental Authorisation

Based on the assessment of the EAs stated herein, we are of the opinion that the EA does fully and sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the operation of the mine. All identified areas for improvement noted below, have been provided with recommendations that may facilitate future compliance with the EA commitments and improve on site environmental management.

6.2.1. Compliance with Zibulo Colliery Authorisation. Non-compliances were identified during the auditing period of the Environmental Authorizations. Compliance summary of the audited EAs are illustrated as follows

- Oogiesfontein Colliery Environmental Authorisation for the mining activities on Portions 12, 19, 39, 40, and 41 of the Farm Oogiesfontein 4IS granted on 30 April 2010 with Reference No. 17/2/2/2 NK-1.
- Environmental Authorisation for the Expansion of the mining activities on Portions 19,21,41 and 55 of the Farm Oogiesfontein and the Remaining Extent of the portion 12 of the Farm Klipfontein 3 IS granted on 12 February 2020 with Reference No. 30/5/1/2/3/2/1/338 EA.

7. Conclusion

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

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

APPENDIX A: ATTENDANCE REGISTER

NTC Group (Pty) Ltd AMP Building, 17 Eaton Avenue, Bryanston 2191	NTC Group	
Tel: 011 462 2022 Fax: 0866 928 639 Email: konanani@ntcgroup.co.za	**Enquiries:**	Konanani Nelushi
	Date of Meeting:	28 June-03 July 2023 (08:00am)
	Venue:	Zibulo Colliery Site

MEETING: ZIBULO COLLIERY ENVIRONMENTAL COMPLIANCE AUDIT

ATTENDANCE REGISTER

Person	Organisation	E-mail Address	Cell phone
Konanani Nelushi	NTC Group		
Babalwa Fatyi	NTC Group		
Lyn Mudziwanzira	NTC Group		
Rozwivhona Magoba	NTC Group		
Sarah Burford	Pinsent Masons		
Iman Damons	Pinsent Masons		
Luyanda Mthethwa	Zibulo Colliery UG		
Kenneth Mokoena	**Zibulo Colliery UG**		

APPENDIX B: PHOTOGRAPHIC EVIDENCE

Photo 1: Safety Signage on the PCD

Photo 2: Technology applied at the PCD

Photo 3: Dust suppression observed at the mine

Photo 4: Dust suppression observed at the mine

Photo 5: Dirty water channelled to the PCD

Photo 6: Channelling of dirty water at the site offices

Photo 7: Backfilling as part of rehabilitation

Photo 8: Rehabilitation taking place at the mine

Photo 9: PCDs and the Seaguals observed

Photo 10: Trees planted close to the mine acess gate

Photo 11: Notices on waste management

Photo 12: Bunded waste management area

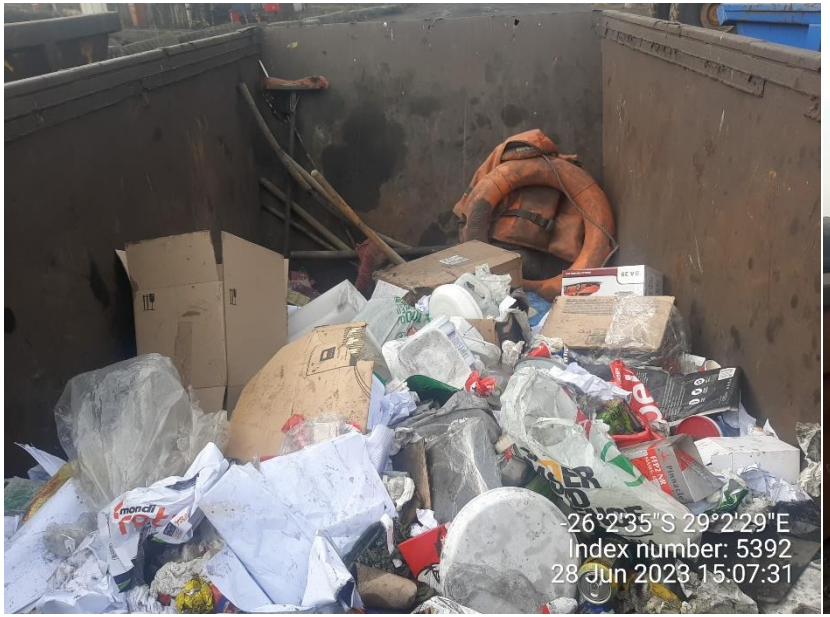

Photo 13: Mixed waste

Photo 14: Unbunded hazardous waste management area

Photo 15: Waste management information at the mine

Photo 16: Waste management information at the mine

Photo 17: Waste management information at the mine

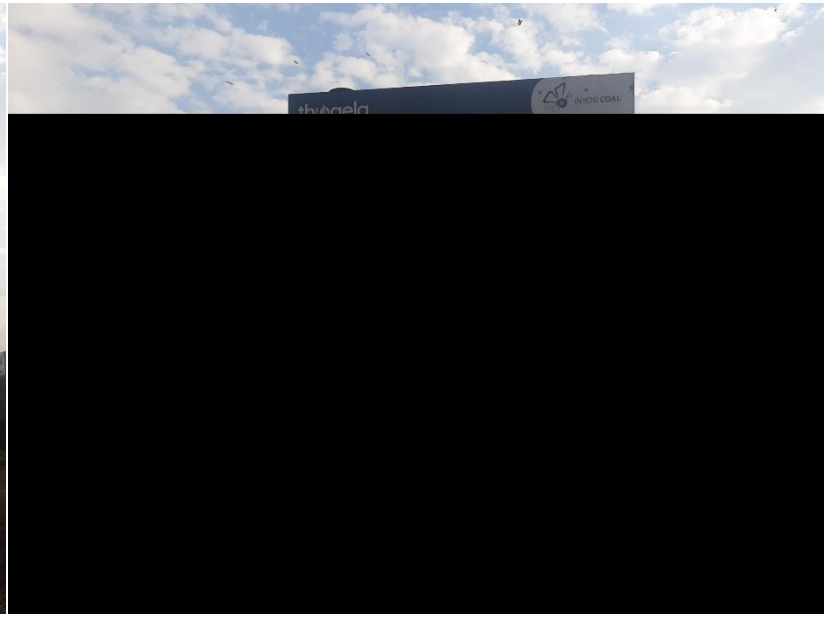

Photo 18: Waste management information at the mine

Photo 19: Water ponding at the workshop

Photo 20: Spillage at the workshop

Photo 21: Access roads well maintained

Photo 22: Signage at the mine

Photo 23: Topsoil infested with alien invasive species

Photo 24: Topsoil infested with alien invasive species that will soon be seeding

Photo 25: Open pit

Photo 26: Erosion at backfilling area

Photo 27: Speed Signs

Photo 28: Dry wetland diversion trench