TRONOX KZN SANDS

FAIRBREEZE MINE
EXTERNAL AUDIT OF EMPr and EAs
January 2024 – December 2024

Audit Findings and Summary Report

Report prepared for:

Tronox KZN Sands (Pty) Ltd
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Report prepared by:

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June 2025

DETAILS AND EXPERTISE OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

ACER (Africa) Environmental Consultants is a well-established company with wide ranging expertise in environmental management and environmental auditing processes. The roles of the primary assessor and report compiler is outlined in Table 1 and *Curriculum Vitae* are contained in Appendix 3.

Table 1 Primary assessor and report compiler

Name	Role
Giles Churchill (ACER (Africa) Environmental Consultants)	Lead Auditor and Environmental Assessment Practitioner (EAPASA Reg: 2019/1687)
Company	ACER (Africa) Environmental Consultants
Contact person/ Responsible EAPs:	Giles Churchill (EAPASA Reg: 2019/1687)
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DECLARATION OF INDEPENDENCE

Declaration of appointed Environmental Assessment Practitioner (EAP)
I, declare that this audit report has been prepared independently of any influence or prejudice as may be specified by the Department of Forestry, Fisheries and Environment (DFFE). Signed:  Date: 9 June 2025 Giles John Churchill

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1. INTRODUCTION

Tronox KZN Sands (Pty) Ltd (Tronox) appointed ACER (Africa) Environmental Consultants (ACER) as the independent auditor to undertake an external audit of the Fairbreeze Mine Environmental Management Programme (EMPr) and associated Environmental Authorisations (EA) conditions as per the requirements of the licenses issued, viz.:

- Fairbreeze EMPR- Prepared by Exigent (Pty) Ltd, dated April 2012.
- Fairbreeze Integrated Environmental Authorisation Checklist- Integrated Environmental Authorisation-KZN 30/5/1/2/2/123MR, dated 28 March 2022.
- Fairbreeze Environmental Authorisation- DC28/0036/2010, dated 13 July 2012.

2. UNDERSTANDING OF THE TERMS OF REFERENCE AND SCOPE OF WORK

A requirement of the EA's issued for the Fairbreeze Mine is that an independent service provider be appointed to undertake annual external audits of the mine. The auditing process entails a thorough examination of the conditions outlined in the EMPr and licenses to assess the degree of compliance to the approved EMPr and EAs issued for Fairbreeze Mine.

This report is a summary of the findings from the external audit for the period January 2024 - December 2024, undertaken on the 9 and 10 April 2025. The report consists of the following sections:

1. Introduction.
2. Terms of Refence and Scope of Work.
3. Auditing methodology.
4. Findings and recommendations.
5. Reportable incidents.
6. Concluding remarks.
7. Compliance Checklists (Appendix 1)
8. Photographic Report (Appendix 2)
9. Auditors Curriculum Vitae and EAPASA Registration Certificates (Appendix 3)

The ACER staff member appointed to undertake the external audit was Mr Giles Churchill (CV provided in Appendix 3) who has extensive experience in compliance monitoring and auditing.

3. AUDITING METHODOLOGY

3.1 Compliance requirements

Prior to the audit being undertaken, the external auditor identified all legislative requirements and specified conditions in the issued Licenses and EMPr to which Tronox KZN Sands must comply.

Once all potential sources of project compliance had been identified by the external auditor, the individual compliance conditions were combined into two reference documents and checklists were compiled outlining the license conditions, observed or established findings and a measure of compliance to the specified conditions. These reference documents are provided in Appendices 1 of this report.

Compliance requirements were categorised as:

C	Compliance with project requirements.
PC	Requirement showing Partial Compliance.
NV	Not Verifiable (requirement could not be verified).
NC	Non-Compliance (failure to meet or implement requirement).
N/A	Not Applicable (project requirement is currently not relevant or applicable).
Noted	Only reference information and no requirements.

3.2 Meetings and site visits

The external audit undertaken consisted of two distinct phases:

- Meetings and review of documentation.
  The first part of the audit (9 April 2025) comprised meetings with the Tronox Environmental Specialist (Mr. I. Ndhlazi) to revise the audit checklists and to enable Tronox to provide evidence of administrative compliance with the conditions of the EMPr and EAs issued for Fairbreeze Mine.

- On site auditing and verification of activities undertaken.
  The second part of the audit (10 April 2025) comprised of a site visit to assess the overall compliance of the project and to identify the rehabilitation/rectification works required to meet the conditions if non-compliance was observed.

4. FINDINGS AND GENERAL COMMENTS AND RECOMMENDATIONS

This section is intended to provide a broad overview of the compliance with the various conditions listed in the EAs and EMPr. The scope of inspection and this report are therefore related mainly to the success of the rehabilitation of construction and mining affected areas, as well as implementation of conditions relating to operational aspects of the mine.

The status of activities at the Fairbreeze Mine is as follows:

1. Primary Wet Plant (PWP).
   a) All banks have been successfully re-vegetated.
   b) Accumulated material from the pollution control dam is removed when required. The material is filtered and processed into the plant.

c) The plant is maintained by mining staff. There was no evidence of litter pollution and/or spillages.
d) Run-off gutters effectively directed storm water/ overflow into the pollution control dam.

2. Mega Sabeka Residue Storage Facility.

a) The banks of the Mega Sabeka Residue Storage Facility have been successfully re-vegetated.
b) There is a designated storage area for new and used pipelines. Used/ damaged pipelines must be removed from site and disposed of at a registered facility.

3. Bulk Raw Water Supply Pipeline: Hillendale to Fairbreeze.

a) The Bulk Raw Water Supply Pipeline has been installed and the pipeline alignment successfully rehabilitated. No further rehabilitation is required.
b) Tronox must monitor the pipeline alignment for erosion or any storm water damage on a regular basis.

4. Impedance, diversion and alteration of the Amanzimnyama River and associated wetlands by the Residue Storage Facility and Valley Return Dam.

a) The Residue Storage Facility is currently under construction and rehabilitation and stabilisation of the banks are underway.
b) Tronox must investigate ways to mitigate excess material build up associated with the Valley Return Water Dam.

5. Everglades Expansion Residue Storage Facility.

a) Construction of the Everglades Expansion Residue Storage Facility has commenced and required pipelines and walls for the storage facility are under construction.

6. Mining of C-Extension and Fairbreeze B.
a) Mining of C-Extension is nearing completion and disturbed areas are currently being rehabilitated on site.
b) Mining of Fairbreeze B ore body has commenced.

In general, the license holder appears to be actively implementing the conditions of the Licenses and EMPr. Observations on site show that the license holder has continued proactively to protect water resources and environmental sensitive areas. Other than the Mega Sabeka Residue Storage Facility and the Everglades Expansion Residue Storage Facility where construction is ongoing, rehabilitation of other construction impacted areas is now complete and no further rehabilitation is required or has been recommended.

Rehabilitation of mining areas is ongoing, and rehabilitation of previously mined areas is progressing nicely. Rehabilitation of mined out areas will take place progressively throughout the operational lifespan of the mine.

Table 1 below provides a summary of the non-compliance aspects of the approved EMPr and associated licenses at Fairbreeze Mine.

Table 2: Non – Compliance and Partial Compliance at Fairbreeze Mine.

REF No.	Condition / Requirements	Improvement Focus points	Timeframe
EMPr B3	A protocol for monitoring and measuring soil fertility and soil quality will be developed during the Rehabilitation Research Programme. These will provide soil chemical and physical measures and norms as indicators of the success of the rehabilitation process.	Existing topsoil is utilised as far as possible as a means for restoring soil fertility and soil structure. Emphasis is placed on utilising the existing topsoil in combination with the forest floor and harvesting residues (bark, branches, leaves, treetops and chipped stumps) that are available. No measuring of soil fertility is however undertaken but trials are underway to check Eucalyptus growth rates on rehabilitated areas.	This must be implemented as a matter of urgency.
EMPr 9	The maximum open, active mining area will not exceed 0.65 km² at any one time. Intermediate revegetation will be undertaken at a pace similar to mining such that the area requiring revegetation also does not exceed 0.65 km².	As per the latest records a total of 77,39 ha (C-Extension) and 51 ha (Fairbreeze B) as of 13 May 2025 was "disturbed" (open) which exceeds the allowable amount. Given that mining is taking place in multiple orebodies the threshold of 0.65 km² of active mining area at any one time is unrealistic and not achievable on site. It is for this reason that Tronox will request and amendment to the EMPr from DMR. Revegetation and rehabilitation is occurring immediately after mining is complete.	Tronox to apply to DMR for an amendment to this condition.
EMPr 70	A log will be kept of breaching events of the Siyaya Estuary, including, where possible, duration	Monitoring of the Siyaya Estuary is undertaken by JG Africa. No records of	Tronox to apply to DMR for an amendment to this condition.

REF No.	Condition / Requirements	Improvement Focus points	Timeframe
	of the breach, rainfall and flow in the Siyaya and Amanzimnyama Rivers.	breaching events of the Siyaya Estuary have however been kept by Tronox. In recent years the estuary mouth has remained open and is not anticipated to close in the foreseeable future. This is mainly due to higher water tables due to wet mining and the removal of commercial forestry which has resulted in more water within the Siyaya catchment.	
EMPr B12	Rise in water levels at the Siyaya Borehole (located at FBCX) to within 10m of the surface will trigger additional mitigation measure such as pumping or a cut-off trench.	The Siyaya borehole FBCX does not seem to be monitored based on the reporting in the Groundwater Monitoring Reports compiled by GCS. The reason for this should be investigated and if required a new borehole sunk at this location to ensure compliance to this condition.	GCS to propose a new borehole location to be installed to monitor water levels.
EMPr 127	Pre-mining occupancy statistics for Twinstreams must be obtained and compared to occupancy statistics during mining operations. Significant declines in these figures may necessitate that EXXARO provide compensation.	These records must be obtained by Tronox, and the data analysed to detect changes in occupancy statistics during mining operations.	This must be implemented as a matter of urgency.
EMPr 142	It is proposed that a Siyaya monitoring forum be established with a key focus on sustainable land use and management within the Siyaya catchment. The forum will meet quarterly to discuss progress, monitoring and issues.	A monitoring forum has not been established however the Siyaya Catchment is monitored by GCS as part of their appointment. Additionally an Offset Advisory Committee has been established and	Tronox to apply to DMR to have this condition amended.

REF No.	Condition / Requirements	Improvement Focus points	Timeframe
		meets quarterly to address biodiversity.	
Environmental Authorisation-KZN 30/5/1/2/2/123MR (Everglades Expansion), dated 28 March 2022			
1.6	Master plan which indicates the relationship the wetland delineation, the regulated area within 500m radius in the proposed area must be submitted to the Responsible Authority within twelve months of the date of approval.	A Master Plan of surface and groundwater surrounding the Everglades RSF have been compiled. At the time of the site audit no proof of submission of these masterplans to the Responsible Authority could be provided.	Master Plan to be submitted to the Responsible Authority before the end of Luly 2025.
1.7	The rehabilitation plan to prevent risks In the wetland areas and the wetland report must be submitted to the Responsible Authority within twelve months of the date of approval.	The rehabilitation plan for the Everglades Expansion project is in the process of been drafted and has yet to be submitted to the Responsible Authority. Currently the Rehabilitation Research Plan for Tronox Fairbreeze Mine is implemented on site to prevent risks in wetland areas.	Rehabilitation Plan to be finalised and submitted to the Responsible Authority as soon as possible.
2.1.3.1	The Licence Holder must drill two (2) newly recommended additional monitoring boreholes (FBR014 and FBR015) which were Identified based on the recent geophysical survey. Should these recommended monitoring activities prove insufficient, after periodic evaluation, additional boreholes must be Identified and constructed around the proposed site.	The two recommended monitoring boreholes have not been drilled yet as the Everglades RSF is still under construction.	Tronox to establish the two new monitoring boreholes as per condition 2.1.3.1 before construction of the Everglades RSF is completed.

REF No.	Condition / Requirements	Improvement Focus points	Timeframe
2.1.3.3	The Licence Holder must ensure that borehole FBRD4 is re-opened for effective monitoring of the proposed Everglades Residue Storage Facility.	This borehole was reopened for monitoring however this borehole has subsequently been inundated by the expansion of the RSF and is no longer monitored. Tronox and GCS are to identify a suitable site nearby to drill a borehole for monitoring purposes.	Tronox and GCS to identify a suitable site for a monitoring borehole to replace FBRD4 before August 2025.
2.1.3.4	Collapsed or damaged piezometers located at the south of FBC, FP0021 must be reinstated	Currently the monitoring plan only monitors 4 piezometers (FP00034, FP00020, FP00041 and FP00046) and FP0021 is not included in the monitoring plan. Tronox must reinstate FP0021.	Tronox to repair damaged piezometers as per condition 2.1.3.4 before August 2025
2.1.3.5	An audit on the monitoring network must be conducted annually, if there Is a need monitoring network must be extended over time to accommodate the migration of contaminants through the aquifer.	Although Quarterly Water Quality Monitoring Reports are submitted to DWS, no records of an audit of the monitoring network could be provided at the time of the site audit.	Tronox to undertake an audit of the monitoring network on an annual basis as per condition 2.1.3.5 before the end of December 2025.

The next external audit for the 2025 reporting period is scheduled to take place in February/March 2026.

5. REPORTABLE INCIDENTS

During the audit period under review, one incident, which had the potential to cause pollution, health and safety risks or a contravention with the conditions of any of the Licenses and the EMPr was recorded and reported.

The incident took place on the 30th October 2024 when during a routine site inspection, the environmental team noticed discoloration of the water in the Siyaya River. The team followed the river upstream and found that the return water pipeline going towards the Valley Return Water Dam (VRWD) was leaking at the flange. The leak occurred within the pipeline berm near the Siyaya River, and the discoloured water flowed through the berm to the riparian area leading into the Siyaya River. The operations team was notified immediately, the leak fixed, and the incident reported on PIVOT. Water samples from the Siyaya River were also taken upstream and downstream of the leak and sent to Umngeni-Uthukela Water Board for quality analysis. Tronox

notified DWS on the 31st October 2024 and provided DWS with photographs of the site and an incident report on the 13 November 2024..

6. RECOMMENDATIONS

The following recommendations were made to Tronox KZN Sands during the external audit to streamline future audits and to ensure that the mitigation measures suggested in the various Licenses, management plans and EMPr compiled for the mine are successfully implemented:

1. It was recommended that separate hard copy and electronic files be compiled for the monitoring programmes currently underway at Fairbreeze Mine. The monitoring files should clearly indicate the sampling being undertaken, the parameters being tested, and the reporting requirements stipulated [With numerous monitoring programmes running concurrently, it is imperative that Tronox has a clear understanding of the reporting requirements and time frames for the submission of reports to competent authorities in order to meet the conditions of the EAs and EMPr].

2. Tronox regularly inspects the various sites within the mining lease area and a photographic record is kept. It is recommended that a chronological electronic photographic report (photos taken at monthly intervals) for each mining site is kept for record purposes showing the progression from construction and mining to the rehabilitation phase at each site. These photo reports will be invaluable to Tronox and external auditors who will be able to refer back to these reports to assess the effectiveness of rehabilitation measures implemented at each site.

7. CONCLUDING REMARKS

ACER is of the opinion that this external audit adequately meets the requirements of Tronox KZN Sands for the period January 2024 – December 2024.

In addition, it is the external auditor's professional opinion that the construction, operation and rehabilitation measures that have been implemented at Fairbreeze Mine in accordance with the conditions outlined in the licenses and the EMPr, are adequate and effective.

ACER (Africa) Environmental Consultants
Mr G Churchill
Senior Environmental Consultant
9 June 2025

APPENDIX 1 – ENVIRONMENTAL AUTHORISATION-DC28/0036/2010, DATED 13 JULY 2012 (CHECKLIST)

TRONOX KZN: FAIRBREEZE MINE: ENVIRONMENTAL LEGAL COMPLIANCE AUDIT REPORT
Compliance Checklist
Audit based on Document: Environmental Authorisation-DC28/0036/2010, dated 13 July 2012

Colour Code	Compliance Level	Description
0	Non-Compliance	The absence of required systems, procedures, permits, licenses as well as not adhering to the specific requirements of the Permit issued by the Authority
1	Partial Compliance	When the systems and/or procedures are in place but are not implemented in a manner in which they can fulfil the intended purposes
2	Full Compliance	When the systems and/or procedures are in place and implemented properly in a manner which they fulfil their intended purposes
-1	Not Applicable (N/A)	Activity not yet or no longer applicable

Reference Number	Measures, criteria or principles	Compliance Rating	Findings	Follow-up Action
3.16	The construction of the Fairbreeze mine and related infrastructure must conform to the layout drawing as attached in annexure 2 and appendix B of this environmental authorization and compiled by Exxaro KZN Sands (Pty) Ltd- Mineral Asset Management. However, only the Alt RWD is approved. The entire orebody D is excluded from this plan and therefore it is not approved, mining of orebody D will be considered separately through a new application, once all information becomes available.	**2**	Tronox complied with this condition during the construction phase of the mining project.	None.
3.17	The cumulative impacts mitigation measures as specified on page 337-341 of the AFBAR, (see appendix C of this environmental authorization) must be strictly implemented.	**2**	An EMPR has been authorised and has been complied with. All cumulative impacts have been considered, and respective mitigation measures have been adopted.	None.

3.18	The decommissioning impacts mitigation measures as specified on page 334-335 of the AFBAR (see appendix D of this environmental authorization) must be strictly adhered to.	**2**	Decommissioning impacts mitigation measures will be implemented during the decommissioning phase.	None.
3.19	The Environmental Management Plan by Eskom and SANRAL both dated March 2011 must be strictly implemented.	**-1**	Not applicable as the mine has been constructed.	None.
3.20	The following biodiversity offsets must be set in place as part of the mitigation required for the establishment of the Fairbreeze mine and related infrastructure within 12 months from date of authorisation and prior to commencement of mining:	**2**	The Biodiversity Offset Plan (2016) was a conceptual biodiversity offset plan which is currently being updated for approval (The finalised Offset Management Plan was submitted to DMR on the 11 April 2025 for approval).	None.
(a)	Portion 2 of Farm Kraal Hill No 15871 or equivalent as negotiated with Ezemvelo KZN Wildlife and such land must be secured in favour of biodiversity conservation.	**2**	Two distinct biodiversity offset sites for conservation. One is situated on the Fairbreeze C extension site (FBCX), located to the west of Mtunzini town, and the other is situated near Heleza Moya situated to the east of B Ore-Body.	None.
(b)	Area referred to as Fairbreeze C Ext consisting of portion 3 and remainder of Umlalazi Lot 91 or equivalent and such land must be secured in favour of biodiversity conservation.	**2**	Two distinct biodiversity offset sites for conservation. One is situated on the Fairbreeze C extension site (FBCX), located to the west of Mtunzini town, and the other is situated near Heleza Moya situated to the east of B Ore-Body.	None.

(c)	Financial offset as proposed in the application to be held in trust to be formed for the use to secure additional offset areas as approved by an offset committee (as contemplated herein below) to be formed to secure the balance of offset required for Wetland areas.	**2**	As per the Offset Management Plan of November 2023 Tronox KZN Sands is obliged to provide the financial provisions for the management of the Fairbreeze Nature Reserve, during the operations of the mine, as well as for a period of 33 years post mine closure. Financial figures to be set for the required offsets are included in the "Fairbreeze Nature Reserve - Offset Management Plan" which was submitted for approval in January 2025.	None.
(d)	Financial offset as proposed in the application inflated by CPIX to be contributed on an annual basis to the offset trust to be formed for rehabilitation and management of the parcels of land contemplated in sub-conditions (a), (b) and any further land secured as contemplated in sub-condition (c) hereinabove. the contribution should be reviewed annually and adjusted to assure sufficient funds are available to support the implementation of the approved Offset Management Plan. The review of contributions will be approved by the offset committee (as contemplated herein below).	**2**	As per the Offset Management Plan of November 2023 Tronox KZN Sands is obliged to provide the financial provisions for the management of the Fairbreeze Nature Reserve, during the operations of the mine, as well as for a period of 33 years post mine closure. Financial figures to be set for the required offsets are included in the "Fairbreeze Nature Reserve - Offset Management Plan" which was submitted for approval in January 2025.	None.
(e)	Financial offset will be contributed annually to the trust to be formed for the specific use of rehabilitation and management. These funds will be contributed in order to provide for management for a period of 33 years post mine operation. The funds contribution will be made annually such as to make available at the end of mine operation required funds as proposed in the application which will be inflated by CPIX annually. The offset committee will annually recalculate the required funds for the 33 year maintenance period post mine operation and the contributions will be adjusted accordingly.	**2**	As per the Draft 2 Offset Management Plan of November 2023 Tronox KZN Sands is obliged to provide the financial provisions for the management of the Fairbreeze Nature Reserve, during the operations of the mine, as well as for a period of 33 years post mine closure. Financial figures have yet to be set for the required offsets.	None.

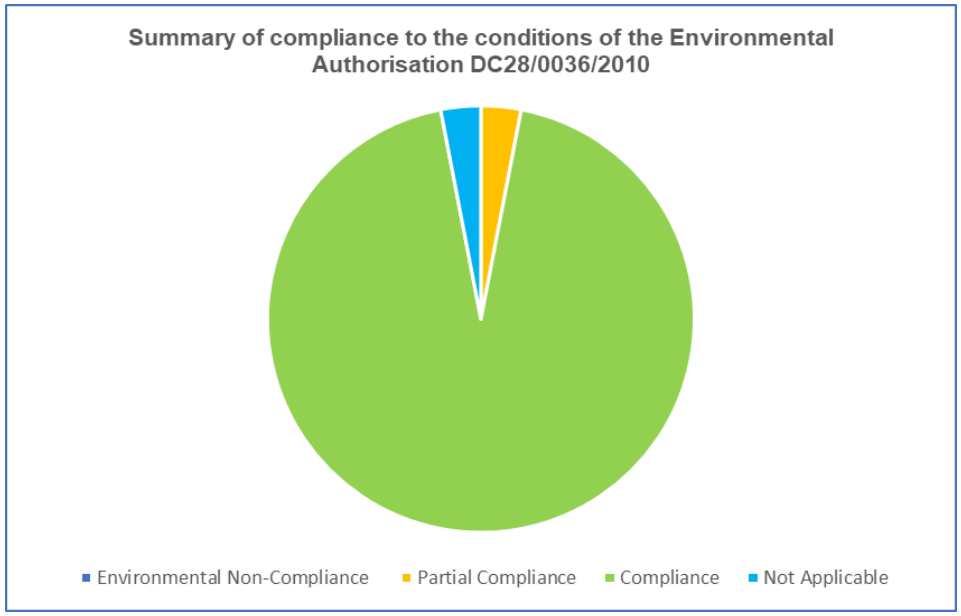
3.21	An offset steering committee must be set in place consisting of a minimum of representatives of the Department of Water Affairs, Department of Agricultural Forestry and Fisheries, KZN Agriculture and Environmental Affairs and Ezemvelo KZN Wildlife, and a representative of Exxaro KZN Sands (Pty) Ltd. The responsibility of this offset steering committee shall be to direct the use if the financial offset contemplated in condition 3,20 hereinabove.	**2**	A steering committee has been established which consists of representatives from DEDTEA, DMRE, EKZNW, DWS, and Tronox. The committee is steered by DMRE.	None.
3.22	The terms of reference, operation and duration of the offset steering committee must be determined by the committee and such terms of reference must be directed to the efficient and effective fulfilment of the biodiversity offset management plan.	**2**	Terms of reference for the Offset Advisory Committee were formalized on 5th June 2015 and essentially outline the over-arching governance arrangements for the Offset Advisory Committee.	None.
3.23	Exxaro KZN Sands (Pty) Ltd shall ensure the steering committee is established and remains operational and will be responsible for any reasonably costs thereto. Such steering committee must be established within three months of the authorisation being issued.	**2**	A steering committee has been established which consists of representatives from DEDTEA, DMRE, EKZNW, DAFF, and Tronox. The committee is steered by DMRE.	None.
3.24	An Offset Management Plan must be drawn up by Exxaro Sands (Pty) Ltd for areas contemplated in 3.20 within six months from the date of authorisation and such plans, which must include all relevant aspects relating to the environment and the impacts thereon, must be adopted by the offset steering committee and be used to guide rehabilitation and maintenance of the areas.	**2**	The Biodiversity Offset Plan (2016) was a conceptual biodiversity offset plan which is currently being updated for approval (The finalised Offset Management Plan was submitted to DMR on the 11 April 2025 for approval).	None.

3.25	The Offset Management Plan must be reviewed annually and updated if required. The updated plans need to be approved by the offset steering committee.	**2**	The Biodiversity Offset Plan (2016) was a conceptual biodiversity offset plan which is currently being updated for approval (The finalised Offset Management Plan was submitted to DMR on the 11 April 2025 for approval).	None.
3.26	Groundwater levels must be monitored monthly from both private and mine monitoring boreholes. If the water levels in boreholes hydraulically down-gradient of the mining areas has reached a maximum of 2mbgl, groundwater dewatering measures must be implemented to prevent groundwater seeps which may result in flooding down-gradient of the mining area.	**2**	Water quality is subject to monthly monitoring by GCS. Reports are available with Tronox.	None.
3.27	The groundwater quality must be monitored quarterly from both water supply boreholes of groundwater users and mine monitoring boreholes to identify the trends in chemical quality. Should there be deterioration in water quality from groundwater user's boreholes, alternative water supply must be provided to these groundwater users by Exxaro KZN Sands (Pty) Ltd.	**2**	Water quality is subject to monthly monitoring by GCS. Reports are available with Tronox.	None.
3.28	All surface hydrocarbon spills must be cleaned up immediately. Significant leaks or spills must be assessed and remedial actions taken.	**2**	The existing Hydrocarbon Spill Clean-up Plan applies. Document Reference CPDOC-40-71 and CPDOC-40-72.	None.
3.29	The recommended water management measures outlined in appendix E (page 88 to 90) of the surface water hydrological assessment and also attached in Appendix E of this environmental authorization must be complied with.	**2**	Water quality is subject to monthly monitoring by GCS. Reports are available with Tronox.	None.

3.30	Search and rescue operations of Red data species must be undertaken before construction, in areas where construction activities will unavoidably encroach into sensitive areas. Permits for the removal of any protected species must be obtained from Ezemvelo KZN Wildlife prior to the implementation of these search and rescue operations and prior to the commencement of construction.	**2**	The licensee conducted a search and rescue program for the translocation of plants from riparian areas falling within the construction footprint. These plants/trees were then translocated to other riparian areas to stimulate recruitment in these areas. Revegetation and rehabilitation of construction affected areas is considered adequate. No further rehabilitation is required.	None.
3.31	A 60m buffer must be physically delineated and enforced as set out in the EMPr.	**2**	All wetlands are considered no-go areas, and a 60 m buffer has been enforced around all wetlands by the licensee.	None.
3.32	In order to mitigate against dust and visual impacts, dense indigenous tree screens must be planted, and existing indigenous vegetation and forestry plantation (except where such conflicts with the approved Offset Management Plan, as contemplated in 3.24) must be retained, to screen the areas adjacent to the N2, Mtunzini residential area, the western and eastern extremities of the site and along all boundaries of the PWP site.	**2**	Barriers along the N2 are being maintained. The establishment of buffers and screen is an ongoing process.	None.
3.33	Security lights and floodlights must be directed downwards and away from Mtunzini residences, west of the site and also away from the Murray property.	**2**	Security lights are directed downwards to pose minimum light pollution.	None.
3.34	The Invasive Alien Plant Monitoring Programme by Exxaro must be integrated with Mondi's Invasive Alien Plant Management Plan (IAPMP) to ensure that all existing programmes in the area are sustained.	**2**	An Alien Weed Management Programme was drafted (October 2013).Tronox has employed Selby Construction who is responsible for the ongoing control of alien invasive plant species.	None.

3.35	The handling of graves and other important items of cultural heritage significance must be as specified in the heritage assessment report compiled by Umlando.	**2**	Tronox was aware of this condition during the construction of the mine. And permit applications were submitted and permits issued. Records of this is available with Tronox (Report June 2021: Excavations of Human Burial at TRON04 Fairbreeze Mine, Gavin Anderson, Umlando)	None.
3.36	Amafa AkwaZulu Natal must be contacted should graves or any items of heritage significance be discovered during earth moving activities.	**2**	Tronox was aware of this condition during the construction of the mine. And permit applications were submitted and permits issued. Records of this is available with Tronox (Report June 2021: Excavations of Human Burial at TRON04 Fairbreeze Mine, Gavin Anderson, Umlando)	None.
3.37	Noise attenuation measures such as portable noise attenuation screens must be used at all times during construction and operational phases to abate noise impacts.	**2**	Environmental noise is monitored biannually by Envass and NOSA Occupational Hygiene Services monitor occupational exposure quarterly. Reports are available with Tronox.	None.
3.38	Bottom-up bench technique must be used for ore bodies near Mtunzini and other sensitive noise receptors.	**2**	The bottom-up bench technique was used in ore bodies near Mtunzini and other sensitive noise receptors. Mining near Mtunzini is now almost complete with rehabilitation of the mining footprint underway.	None.

3.39	The air quality management plan dated February 2011 for the construction of Fairbreeze mine and related activities must be strictly implemented.	**2**	The APCS is implemented on site as per the Air Quality Management Plan (Document Reference: Air quality Monitoring Plan, January 2018, Revision 6).	None.
3.40	dust suppression measures (as stipulated in the EMPr dated February 2012) must be implemented to minimise dust impacts during the construction and operational phases.	**2**	Dust suppression measures are being implemented on the mine and includes wetting of stockpiles and roads to prevent dust.	None.
3.41	All the mined areas must be re-vegetated and backfilled after mining; this must be in accordance with the timelines as outlined in Figure 10.5 of the rehabilitation plan.	**2**	In the C extension ore body over 53 hectares have been backfilled and 9 hectares have been successfully rehabilitated to date (December 2024). in total 99 hectares will be rehabilitated once complete.	Align with the Rehabilitation Research Programme.
3.42	All the required actions for rehabilitation must be as specified in the rehabilitation plan inserted in the AFBAR dated February 2012 (page 385-416).	**1**	Rehabilitation of disturbed areas is being undertaken on site however the Research Rehabilitation Programme must be implemented in all areas.	None.
3.43	A copy of this environmental authorization must be kept on site by the authorization holder and made available to any official Department on request.	**2**	At the time of the audit, the environmental authorisation was available.	None.
		Conditions Audited	**33**	
		Compliant	**31**	**94%**
		Partially compliant	**1**	**3%**
		Non-Compliant	**0**	**0%**
		Not Applicable	**1**	**3%**
		Maximum Total	**33**	**100%**


Summary of compliance to the conditions of the Environmental Authorisation DC28/0036/2010
Environmental Non-Compliance
Partial Compliance
Compliance
Not Applicable

APPENDIX 1 – FAIRBREEZE EMPR- PREPARED BY EXIGENT (PTY) LTD, DATED APRIL 2012 (CHECKLIST)

TRONOX KZN: FAIRBREEZE MINE: ENVIRONMENTAL LEGAL COMPLIANCE AUDIT REPORT
Compliance Checklist
Audit based on Document: Fairbreeze EMPR- Prepared by Exigent (Pty) Ltd, dated April 2012

Colour Code	Compliance Level	Description
0	Non-Compliance	The absence of required systems, procedures, permits, licenses as well as not adhering to the specific requirements of the Permit issued by the Authority
1	Partial Compliance	When the systems and/or procedures are in place but are not implemented in a manner in which they can fulfil the intended purposes
2	Full Compliance	When the systems and/or procedures are in place and implemented properly in a manner which they fulfil their intended purposes
-1	Not Applicable (N/A)	Activity not yet or no longer applicable

Objectives to manage potential impacts	Reference Number	Measures, criteria or principles	Compliance Rating	Findings	Follow-up Action
Aspect: Topography					
Minimise change in topography due to mining.	1	The pre-mining landscape will be surveyed to record topography. All dunes mined will be rehabilitated to the original shaping of natural topography (slope, landform and orientation) on the basis of the pre-mining survey.	**2**	Pre-mining landscape was surveyed and served as a baseline for planning. The information is available from the following documentation. Refer to EMPR- Construction of Fairbreeze Mine and Related Activities (April 2012), Exigent.	N/A

	2	Existing farm roads will be used where possible.	**2**	The current farm roads are utilized for areas not involved in mining operations, while newly constructed service roads have been specifically designed to cater to the ore body currently under excavation, the RSF, the service corridor, and the Return Water Dam. A new service corridor has been developed in compliance with regulations to support the mining of the C-Ext ore body.	N/A
Aspect: Soil					
Minimise the loss of a soil resource.	B1	A road network will be established that conforms to the newly shaped landscape and designed with a view to minimising erosion potential by utilising retained topsoil and shaping the roads according to accepted engineering standards.	**2**	A road network has been established in accordance with engineering standards which minimises erosion.	N/A
	B2	Topsoil storage will only be carried out for the first ore body excavation and for soil removed from the RSF. After that removed topsoil and Eucalyptus harvesting residues will be moved onto backfilled areas from areas due to be mined in a sequential manner.	**2**	Topsoil storage has been carried out for the first ore body excavation and for soil removed from the RSF. Additionally areas that require backfill have been done in a sequential manner.	N/A
	3	Emphasis will be placed on preserving the topsoil for future use. Topsoil storage will be undertaken according to scientific principles and actively managed by re-vegetating and periodical tillage (ripping/ploughing) to ensure its beneficial properties are retained. The specific guidelines for this process are currently being developed by the Rehabilitation Research Programme.	**2**	Topsoil storage has been executed following established scientific principles, as detailed in Appendix 1 - Rehab Progression Map (as of August 31, 2023).	Align with the Rehabilitation Research Programme.
	4	Only areas within the ore bodies, servitudes and infrastructure footprints will be disturbed. The areas to be disturbed will be kept as small as possible. Buffer zones and no-go areas will be demarcated to prevent disturbances (see 10.3.3.2).	**2**	There were no observations of encroachment / disturbance into sensitive areas and no-go areas on site. Signs are provided indicating no-go areas on the mine.	Sensitive areas must be demarcated.
	5	Vegetation will be removed from an area no longer than 45 days prior to scheduled mining or disturbance of the area.	**2**	Tronox adheres to this condition as mining activities are continuous.	N/A

	7	Replacement of reconstituted soil and addition of topsoil will be undertaken with a view to restoring soil fertility and structure appropriate for the intended land-use. Specific guidelines for the management of this medium, including the principles of re-vegetation, reforestation and regeneration of soil fertility and structure will be guided by the Rehabilitation Research Programme and consideration of the latest mine rehabilitation technology.	**2**	The rehabilitation on the mine has been informed by the Rehabilitation Research Programme and the Research Report undertaken by Dr C. Smith (July 2017). It is important to note that rehabilitation is ongoing as mining progresses and procedures are updated as new information becomes available.	N/A
	B3	A protocol for monitoring and measuring soil fertility and soil quality will be developed during the Rehabilitation Research Programme. These will provide soil chemical and physical measures and norms as indicators of the success of the rehabilitation process.	**0**	Existing topsoil is utilised as far as possible as a means for restoring soil fertility and soil structure. Emphasis is placed on utilising the existing topsoil in combination with the forest floor and harvesting residues (bark, branches, leaves, treetops and chipped stumps) that are available. No measuring of soil fertility is however undertaken but trials are underway to check Eucalyptus growth rates on rehabilitated areas.	Regular Monitoring in accordance with the Rehabilitation Research Programme.
Prevent or minimise erosion of soils.	8	Topsoil stockpiles will be placed in suitable locations and away from within the 1:100-year flood line of any watercourse. Topsoil stockpiles will be protected from surface water flows by diversion berms.	**2**	Topsoil storage areas have been strategically positioned far from flood-prone areas. Additionally, topsoil berms have been constructed around the MSRSF and the Everglades Expansion RSF which is currently under construction.	Align with the Rehabilitation Research Programme.
	B4	Since layering takes place during the replacement of the reconstituted soil, deep tillage behind a grader of bulldozer on the contour will be carried out to homogenize the soil and break up compacted layers when the soil is at a suitable water content.	**2**	Rehabilitation recommendations show that reconstituted soils will not be used for rehabilitation.	Align with the Rehabilitation Research Programme.

	9	The maximum open, active mining area will not exceed 0.65 km² at any one time. Intermediate revegetation will be undertaken at a pace similar to mining such that the area requiring revegetation also does not exceed 0.65 km².	**0**	As per the latest records a total of 77,39 ha (C-Extension) and 51 ha (Fairbreeze B) as of 13 May 2025 was "disturbed" (open) which exceeds the allowable amount. Given that mining is taking place in multiple orebodies the threshold of 0.65 km² of active mining area at any one time is unrealistic and not achievable on site. it is for this reason that Tronox will request and amendment to the EMPr from DMR. Revegetation and rehabilitation is occurring immediately after mining is complete.	Align with the Rehabilitation Research Programme.
	10	Revegetation of disturbed areas will commence within 60 days of removal of the disturbing factor. Intermediate revegetation will aim to establish at least 30% basal cover within 60 days of planting. Revegetation of backfilled and shaped areas, per area, will commence within 60 days of completion of the placement of soil medium. Revegetation will aim to establish at least 30% basal cover within 90 days of planting. (Rehabilitation will be done on the basis of information derived from the Rehabilitation Research Programme).	**2**	Revegetation of disturbed areas is undertaken as soon as final shaping has taken place. To date 66,5 ha have been fully rehabilitated in C-orebody and 14,79 ha have undergone final shaping in the C-Extension orebody as of the 13 May 2025..	Align with the Rehabilitation Research Programme.
	11	Ensure road construction (including culverts, run-off channels, etc.) using accepted engineering methods, as well as regular maintenance of roads.	**2**	In 2019, an engineer was tasked with redesigning the road and pipeline service corridor, along with developing a maintenance plan for the corridor road. All roads on site appear to be in good condition with appropriate stormwater infrastructure such as culverts, run-off channels, etc.	None.
	12	The RSFs starter wall will be vegetated with stoloniferous grasses and legumes to prevent surface erosion. Vegetation must achieve 80% dust control efficiency. (Rehabilitation will be done on the basis of information derived from the Rehabilitation Research Programme).	**2**	The process of grassing the RSF walls has initiated, and the eastern wall is currently being contoured in accordance with the final design. Those areas planted with vegetation have over 80% cover and will meet the 80% dust control efficiency.	None.

	13	All disturbed areas, areas undergoing rehabilitation, the RSF walls and all water management structures will be inspected after every major storm event and repaired as necessary.	**2**	Tronox undertakes regular inspections.	None.
	14	Toe (or catchment) paddocks will be constructed below the RSF walls and maintained.	**2**	Toes have been constructed below the RSF walls as per the condition of the EMPr.	None.
	15	Linear infrastructure (roads and pipelines) will be inspected on a monthly basis to check that the associated water management infrastructure is effective in controlling erosion.	**2**	Linear infrastructures are inspected on a regular basis and erosion control measures are in place.	None.
	16	Construction of surface water management infrastructure from soil (berms, canals and bunds) and advised by engineer.	**2**	A suitably qualified Resident Engineer is permanently onsite to advise on construction and repairs.	None.
	17	Energy dissipaters will be constructed at points where there are concentrated discharges of water to the environment that can cause significant erosion. Where necessary, energy dissipaters will also be placed within water channels to slow the speed of water (for example in the clean water diversions).	**2**	According to the Stormwater Management Plan: Fairbreeze Mine and related Activities prepared by SRK Consulting (2023), these dissipaters must be regularly checked and monitored.	None.
	18	Energy dissipaters will be placed in footpaths where there are signs of erosion.	**2**	Silt curtains are primarily implemented as erosion protection measures in steep slope areas and along stormwater spillways that run between the service roads and stream or buffer zones	None.
Aspect: Land capability					
Minimise loss of land with arable capability/agricultural potential.	B5	Management will focus efforts on creating a well-aerated rooting environment free of excessive compaction and layering in the reconstituted soil by employing suitable land preparation methods. These methods will be guided the Rehabilitation Research Programme.	**2**	All efforts are made to provide a well-aerated rooting environment free of excessive compaction and layering in the reconstituted soil during final shaping of mined out areas. The conditions of the Research Rehabilitation Programme need to be implemented on site	Implementation of an updated Research Rehabilitation Programme.

	B6	Existing topsoil will be utilised as far as possible as a means for restoring soil fertility and soil structure. Emphasis will be placed on utilising the existing topsoil in combination with the forest floor and harvesting residues (bark, branches, leaves, treetops and chipped stumps) that will be available after clear-felling of the Eucalyptus.	**2**	Topsoil stockpiles have been established, encompassing organic and plant materials at the respective mine sites. This topsoil is currently in use for the grassing of the respective mine sites as mining or works are completed.	Implementation of an updated Research Rehabilitation Programme.
	B7	Management of the reconstituted soil (i.e. depth of application and specific clay: sand ratio), topsoil/harvesting residue mix, incorporation of the latter within the reconstituted soil and further amelioration will be determined by the Rehabilitation Research Programme and consideration of the latest mine rehabilitation technology.	**2**	Specialist research undertaken by Dr Smith at Hillendale and which is contained in various guideline reports will inform future rehabilitation activities at Fairbreeze Mine. See Report: Rehabilitation Research Programme and the Research Report (Dr C. Smith (July 2017))	Implementation of an updated Research Rehabilitation Programme.
	B8	Topsoil storage will only be carried out for the first ore body excavation. After that removed topsoil and Eucalyptus harvesting residues will be moved onto backfilled areas from areas due to be mined in a sequential manner.	**2**	Topsoil is being stored at both C-extension and Fairbreeze B ore bodies. The primary topsoil stockpiles in the C-Extension and Fairbreeze B ore bodies and are continually being distributed onto the rehabilitation areas.	Implementation of an updated Research Rehabilitation Programme.
	B9	Once reforested, growth of the re-established forest plantation will be monitored and compared to growth expectations from Mondi's growth and yield models for the species/clone/hybrid in question.	**2**	It must be noted that no commercial afforestation is planned for C-Ore and C-Ore Ext mine areas. Trials are currently underway at C-orebody to test the growth rates of eucalyptus trees on rehabilitated mined out areas.	None
	B10	Since the establishment of forest plantations will contribute to improving the fertility and structure of soils, the time taken between re- vegetation and establishment of tree crops will be minimized.	**2**	It must be noted that no commercial afforestation is planned for C-Ore and C-Ore Ext mine areas. Trials are currently underway at C-orebody to test the growth rates of eucalyptus trees on rehabilitated mined out areas.	None

	19	As per the rehabilitation/closure procedure (Section 10.6, the soil structure will be restored during the final stages of residue deposition. The restoration will be appropriate to the agreed post-mining land capability (sugarcane, plantations, and natural areas). (Rehabilitation will be done on the basis of information derived from the Rehabilitation Research Programme).	**2**	Rehabilitation of disturbed areas are being undertaken, however Tronox must ensure they align the rehabilitation efforts as per the Research Rehabilitation Programme and the Rehabilitation Strategy (2018)	Implementation of the Research Rehabilitation Programme.
	21	Following backfilling, the landform will be shaped to the extent where it will be possible to practise the agreed land use on the area. The post mining topography will be modelled on the pre-mining landscape survey.	**2**	Rehabilitation of disturbed areas are being undertaken, however Tronox must ensure they align the rehabilitation efforts as per the Research Rehabilitation Programme and the Rehabilitation Strategy (2018)	Implementation of the Research Rehabilitation Programme.
	22	Ensure that the topsoil coverage is as even as possible, with no compaction, and that natural drainage has been re-established (no wet spots or obstructed drainage ways).	**2**	Based on observations topsoil is spread evenly during rehabilitation and natural drainage has been re-established in the rehabilitated areas.	Implementation of the Research Rehabilitation Programme.
	24	An appropriate indigenous vegetation seed mixture, as determined by the Rehabilitation Research Programme/Biodiversity Forum, will be used over areas to be returned to a natural land cover. The revegetation will aim to ensure at least 30% vegetative cover is established with 3 months. Vegetation establishment will be monitored quarterly for 3 years after planting, or until monitoring indicates that a suitable, self-sustaining natural land cover has been achieved.	**2**	Rehabilitation of disturbed areas are being undertaken, however Tronox must ensure they align the rehabilitation efforts as per the Research Rehabilitation Programme and the Rehabilitation Strategy (2018)	Implementation of the Research Rehabilitation Programme.
	25	Ensure that the vegetation coverage is as even as possible, and if uneven coverage occurs, soil conditions will be checked and rectified.	**2**	Rehabilitation of disturbed areas are being undertaken, however Tronox must ensure they align the rehabilitation efforts as per the Research Rehabilitation Programme and the Rehabilitation Strategy (2018)	Implementation of the Research Rehabilitation Programme.

	26	Mondi will be compensated as per conditions of the lease agreement. Compensation has been paid for the ESKOM servitude.	**2**	Mondi has been compensated as per the conditions of the lease agreement.	None.
Aspect: Land use					
Prevent long term changes in land use.	27	The post-mining land use will be agriculture, specifically sugar cane and Eucalyptus sp. Plantations or natural vegetation.	**2**	Tronox acknowledges and will adhere to this condition.	None.
Minimise loss of land currently used for wilderness/wetlands.	A1	Buffer zone management will be conducted as specified as per biodiversity monitoring programme (Section 10.3.3.2).	**2**	Buffer zones are being managed as per the conditions of the biodiversity monitoring programme (Report No. EP63-04 (Draft).	None.
	29	Details of the post closure land use for each ore body will be agreed with stakeholders, in particular the landowner (Mondi) and relevant regulatory authorities (DME, DWAF, DAEARD).	**2**	Tronox acknowledges and will adhere to this condition.	None.
	30	Following initial soil restoration, a geohydrology and soil assessment of the top surface of the RSF will be undertaken in accordance with EXXARO's Rehabilitation Strategy (Section 10.6). On-going rehabilitation of the RSF will be adapted to suit the specific situation at each RSF and incorporate recommendations of the specialist reports.	**-1**	This condition will be applicable post-mining/rehabilitation phase.	Not Applicable.
Aspect: Fauna, flora, wetlands and aquatic ecology					
Minimise loss of vegetation due to the Fairbreeze Mine.	30	The identified natural vegetation areas will be declared no-go areas with respect to mining equipment and protected against disturbances. Buffer zones will be adhered to as stipulated in 10.3.3.2.	**2**	Buffer zones have been implemented, and no-go areas/ sensitive areas have not been impacted.	None.

	31	Revegetation of disturbed areas will be undertaken as soon as possible and will commence within 60 days of removal of the disturbing factor. This will be measured against the commitment of maximum open areas (0.65km²) at any time as well as rehabilitation/closure procedures.	**1**	Rehabilitation of disturbed areas are being undertaken however the rehabilitation is not being undertaken as per the conditions of the Research Rehabilitation Programme. Additionally more than 0,65 km^2 of open areas are present on the mine however Tronox is in the process of engaging with DMR to have this condition amended.	None.
	48	All Eskom pylons to be constructed outside the delineated wetland area.	**2**	No Eskom Pylons have been constructed in the wetland areas.	None.
	49	Routes for vehicles transporting heavy machinery during the construction phase must be restricted to approved roads, turning sites and stockpile areas to minimize soil compacting and vegetation destruction. If soil is compacted, it must be loosened again by ripping or ploughing of these compacted areas during rehabilitation process (as per Specifications in Ref B4).	**2**	Routes for large plant used during mining operations are demarcated and restricted to formal roads.	None.
	50	Rehabilitation, to the pre-disturbance conditions, needs to be initiated as soon as each section of the pipeline construction has been completed.	**2**	Pipelines within the Services Corridor are subject to ongoing maintenance and will not undergo rehabilitation throughout the mine's operation. Regular maintenance activities are conducted, and measures to control erosion have been put in place. The Bulk water pipeline from Hillendale to Fairbreeze underwent immediate rehabilitation as construction was finished, and observations during the site audit confirm the successful restoration of all disturbed habitats.	None.

Ensure management of staff in terms of environmental aspects sensitive to the Fairbreeze Mine project.	32	Strict management of access control to the site, control of movement of the labour force within the mine property and prevention of disturbance to vegetation or animals will be practised.	**2**	Access to the site is controlled through two security control points. No unauthorised personnel are allowed access to the site.	None.
	33	All mine personnel will be provided with annual environmental awareness and job specific training. This will include specific aspects of Red data species, connectivity of natural habitats, species recognition, migration corridors, stipulated buffer zones, etc. This training will also be supplemented via posters on site.	**2**	All mine personnel are regularly trained in environmental topics and records of such are available on site.	None.
Minimise effects of habitat fragmentation.	34	Disturbances to identified areas of natural vegetation or corridors between these areas will be prevented. Where disturbances are approved, the restoration of the connectivity will be prioritised. Infrastructure through or between areas of natural vegetation or corridors will be implemented with provision for the passage of fauna. Buffer zones will be adhered to as stipulated in relevant map included in report (see Figure 10.1).	**2**	Buffer zones have been created and are maintained on the mine site. If any disruption occurs, connectivity is re-established through multiple methods. It's important to note that the primary corridors run in a north-south direction and will remain unaffected. Additionally, the N2 freeway divides the mine area into eastern and western portions.	None.
Minimise impact on terrestrial and aquatic fauna and flora due to dust, light, erosion and sedimentation.	44	Mining-associated traffic will be restricted on the roads to the west of the swamp forest at FBCX, and any other areas as identified by the ECO.	**2**	A road has been constructed for heavy vehicles. The road that parallels and ascends along the stream towards the FBCX western gate is exclusively designated for use by security personnel.	None.
	45	The tree barrier adjacent to Mtunzini (see Ref 87) will be maintained to provide a faunal corridor. This barrier will remain in place until such time as the property is finally handed over to KZN Wildlife, as per the offset agreement, after which it will be managed as per the offset contract.	**2**	The indigenous tree barrier serves as a visual screen adjacent to the town of Mtunzini. In addition, three rows of Eucalyptus trees have been planted to function as a visual and noise barrier for the C orebody.	None.
	51	See Ref 17 to 26 (water quality) Water quality and flow monitoring (see Ref 53 and 54) will be used to calculate sediment loads within each water course/ estuary.	**2**	Water quality is subject to monthly monitoring by GCS. Reports are available from Tronox and submitted to authorities as per license requirements.	None.

	52	A biomonitoring programme will be implemented on the estuarine and freshwater parts of the aquatic system. This will cover: Fish (freshwater and estuarine); Water Quality (estuarine and freshwater); Sediment composition (estuarine and freshwater); Macro-invertebrates (freshwater); and Macro Crustacea (estuarine and freshwater). Sec 10.3.3.1 of the BAR specifies the frequency of the monitoring. Locations for sampling will be based on results of biomonitoring specialist study.	**2**	Biomonitoring is undertaken biannually by GCS on the mine site and JG Africa is appointed to monitor the Siyaya Estuary. Reports are available from Tronox and submitted to authorities as per license requirements.	None.
Minimise loss of species with conservation importance.	35	Harvesting of medicinal species as well as Red Data rescue and relocation missions for all species as specified by KZN Wildlife will occur prior to the start of any construction activities in an area. Permits to relocate the TOPS protected species will be obtained from KZN Wildlife. Specimens will be removed as per TOPS permit conditions.	**2**	The Licensee conducted a search and rescue program for the translocation of plants of conservation concern falling within the construction footprint. These plants/trees were then translocated to other suitable areas to stimulate recruitment in these areas. The following permits were issued prior to commencement of construction: - EKZNW Ordinary Permit for all species of plants - OP 3530/2012. - EKZNW Ordinary Permit for TOPS - OP 3522/2012. - DAFF Indigenous Tree and Forests License No - NC0042/0812-13.	None.

	36	Long term mitigation measures include establishment of off-set areas where required. A biodiversity offset-Management Plan has been compiled in conjunction with KZN Wildlife and DWS. The offset plan provides alternative and sustainable land use strategies to enhance the future health of the biodiversity the area.	**2**	In line with the biodiversity offset obligations, the original Offset Management Plan was developed and submitted to DMR for approval. The Biodiversity Offset Plan (2016) was a conceptual biodiversity offset plan which is currently being updated for approval. The draft Offset Management Plan was submitted to DMR on the 11 April 2025 for approval.	None.
	A2	Disturbances to habitat known to protected species will be prevented through access control, training of personnel and management of mine activities.	**2**	Buffer zones and no-go areas have been created and are being maintained.	None.
	38	EXXARO will implement an alien and invasive vegetation programme to remove alien and invasive plants in all the identified natural vegetation areas within the mining area.	**2**	An Alien Weed Management Programme was drafted (October 2013).Tronox has employed Selby Construction who is responsible for the ongoing control of alien invasive plant species.	None.
	39	Firebreaks will be maintained as agreed with the landowners, neighbours and in terms of the Veld and Forests Fire Act (101 of 1998). EXXARO will join and participate with the local Fire Protection Association.	**2**	Firebreaks are maintained and Tronox participates with the local Fire Protection Association.	None.
Minimise risk of avian collision due to re-aligned ESKOM powerlines.	40	To ensure visibility of new aligned Eskom powerlines, bird “flappers” will be installed. This will be done in consultation with ESKOM.	**2**	Eskom has installed bird flappers on some of the overhead lines.	None.
	41	The bird flappers will be installed, monitored and maintained as per ESKOM standards, by ESKOM.	**2**	Eskom has installed bird flappers on some of the overhead lines. These have also been regularly monitored by Eskom.	None.
Manage the direct (in the mining area) loss of herpetofauna.	42	An on-site herpetofauna monitoring program in the initial year of operations at FB will be undertaken to quantify the numbers and species of herpetofauna impacted on by mining operations.	**-1**	This condition is no longer applicable however all herpetofauna identified on site are captured and released into areas outside of the mining footprint.	None.

	43	Where necessary a herpetofauna search and rescue operation will be undertaken within the identified wetlands prior to their destruction by mine development. Rescued specimens will be released in the offset or other suitable areas. A herpetologist will provide the necessary expertise for release.	**2**	A search and rescue operation was undertaken prior to the commencement of mining operations.	None.
Catchment loss (FBA, FBB, FBC, FBD, MSRSF, VRSF) feeding wetland systems.	46	Restore surface water runoff from rehabilitated areas to the original catchments on the basis of the survey of the original landform.	**2**	The Rehabilitation Research Programme with implementation guidelines needs to be used during rehabilitation. Based on observations on site the rehabilitated areas have been shaped to mimic pre mining landforms and surface water runoff has been maintained into the original catchments.	Implementation of an updated Research Rehabilitation Programme.
	47	Rehabilitation of the proposed wetland areas within the offset sites will commence as soon as feasible (as identified in Appendix G16.6, Revised offset plan).	**2**	Rehabilitation and management of wetlands and watercourses are ongoing processes which will continue until after the closure of the mine. Tronox has a dedicated rehabilitation officer responsible for the long-term rehabilitation programme.	Implementation of an updated Research Rehabilitation Programme.
Minimise indirect impacts on wetlands (FBD).	B12	As per recommendation in Final BAR/EMPR, FBD should not be authorized based on existing data.	**-1**	Not applicable as the mine has been authorised	Not Applicable.
Minimise impact on wetlands due to contaminated surface and groundwater/change in water quality.	53	Rigorous and regular monitoring of stream flow will be undertaken in alignment with the biomonitoring programme requirements. This will inform any adaptive management measures if deemed necessary by aquatic specialists. Section 10.3.3 of the BAR specifies the frequency of the monitoring. Locations for sampling will be based on results of biomonitoring specialist study.	**2**	Water quality is subject to monthly monitoring by GCS. Reports are available from Tronox.	None.

	54	Monitoring of the Siyaya estuary will be undertaken in alignment with the biomonitoring programme requirements. Section 10.3.3 of the BAR specifies the frequency of the monitoring. Locations for sampling will be based on results of biomonitoring specialist study.	**2**	Biomonitoring of the Siyaya Estuary is undertaken JG Africa. Reports are available from Tronox.	None.
Minimise impact of infrastructure on the aquatic ecosystem.	55	Designs for new roads or infrastructure which needs to bridge or move across water courses will ensure that flows of the water course are obstructed or impeded to the minimum. Design of the crossings will also allow for river connectivity and ensure that the path of migratory organisms is not blocked.	**2**	Tronox has ensured that any new infrastructure or crossings were subject to detailed Engineering Design and compiled with the relevant environmental authorisations.	None.
Sustainable management of the impacted catchments.	56	The biodiversity offset includes the rehabilitation and/or conservation of areas of wetlands, and riparian zones as agreed in the offset plan. Ref 36 for offset plan.	**2**	The Biodiversity Offset Plan (2016) does include rehabilitation and conservation of wetlands and riparian zones. The Biodiversity Offset Plan (2016) was a conceptual biodiversity offset plan which is currently being updated for approval. The draft Offset Management Plan was submitted to DMR on the 11 April 2025 for approval.	None.

	57	Rehabilitation of VRSF site will take cognisance of the current land use, and as specified in RSF closure, will ensure rehabilitation of land to wetland areas.	**2**	Rehabilitation and management of wetlands and watercourses are ongoing processes which will continue until after the closure of the mine. Tronox has a dedicated rehabilitation officer responsible for the long-term rehabilitation programme.	Implementation of an updated Research Rehabilitation Programme.
Aspect: Water management (surface and groundwater)					
Minimise or prevent deterioration in surface water quality due to mining activities.	59	Water quality and flow monitoring within the freshwater and the estuarine parts of the catchments will be undertaken in accordance with EXXARO monitoring programme (Section 10.3.3). The results will be used in the development of the closure plan remediation and monitoring programme. Also see ref 51, 53 and 54.	**2**	Water quality is subject to monthly monitoring by GCS. These reports are available from Tronox.	None.

	60	Clean water diversions and dirty water collection facilities will be established at all mining areas as well as at the RSFs, PWP and RWD to prevent clean surface runoff becoming contaminated by construction or operational activities. Diversion measures will be established before land clearing and mining commences. The measures envisioned are simple soil berms and trenches to prevent clean runoff entering dirty areas and others to divert dirty water to settlement paddocks.	**2**	All water that falls within the RSF, PWP, RWD (Valley Dam), and the mine areas (identified as highest risk) is categorized as "dirty water" by the mine. Water quality monitoring is conducted every three months for all the water retention facilities, including the RSF Pollution Control Dam, Valley Return Water Dam, and PWP Pollution Control Dam. Significant quantities of mine fines from the MSRSF have consistently entered the Valley Return Water Dam, and a substantial volume of material deposited into the PWP Pollution Control Dam. This situation jeopardizes the dam's capacity to hold water and must be removed on a continuous basis.	None.

	61	Dirty water drains will be sized to manage the 'dirty' water generated by a 1:50 year storm arising on contaminated areas. Dirty water will be directed to retention ponds, from where it can be returned to the mine or process water circuit. The storage facilities will have a minimum freeboard of 0.8m above full supply level. The width and height of the drains will be determined to ensure compatibility with identified hydraulic requirements of the drain.	**2**	During the Site Audit it was confirmed that the stormwater channels within the PWP had been maintained and that there were no incidents reported regarding overflows. All structures are routinely checked by Tronox and the appropriate measures taken to prevent any incidents.	None.
	62	The water levels in the dirty water storage facilities will be kept low by recycling into process water circuit. This ensures that the facility has enough capacity in the event of another severe rainfall event. All dirty water storage facilities will be managed with the required freeboard.	**2**	All dirty water storage facilities have been routinely managed with the required freeboard.	None.
	63	EXXARO will keep water systems clear of obstructions. Drains will be inspected regularly for erosion and obstructions. Unless problems are encountered during these inspections, the drains will be cleaned and maintained, as necessary.	**2**	It was observed that drains within the PWP area were regularly maintained and cleared of deposited materials.	None.
	64	Spillages from pipelines near to watercourses will be contained by soil bunds. These will contain spillages or direct the material to areas where it may be cleaned up and returned to the process. A contingency plan will be implemented to enable early detection of burst pipelines.	**2**	The plant is maintained by mining staff. There was no evidence of litter pollution and/or spillages. There are contingency plans in place if any incidents occur.	None.
	65	Prevention of spillages by quarterly inspection and maintenance of pipelines. All pipe bursts and spillages will be recorded as incidents and measures implemented to contain, clean-up and prevent further spillages. The mine will use its incident reporting system to ensure appropriate measures are taken in the event of incidents.	**2**	No disposal of material is permitted into watercourses as per the conditions of the approved EMPr. No evidence contravening this condition was observed on site during the audit period.	None.

	66	Ensure that temporary toilet facilities do not cause any water pollution or a health hazard.	**2**	Chemical toilets at the mining area and MSRF are situated well away from water courses and are cleaned on a regular basis by a service provider.	None.
	67	The flocculants used will be such that both the flocculants and its decay products will not be to the detriment of downstream water users. The dosage of excessive amounts of flocculants will be avoided.	**2**	The flocculants used are biodegradable.	None.
	68	Should contamination or excessive surface water flow be detected, the mine will immediately notify relevant authorities. The mine will then: identify the source of the contamination; identify, and if necessary, implement, measures for the prevention of this contamination (short and long term); determine, and if necessary, implement, any remediation measures.	**2**	No contamination or excessive flow has been recorded.	None.
Minimise risk of erosion from either increased base flow or mining operations.	69	Changes in base flow in the affected rivers will be determined as part of the monitoring programme (ref 17).	**2**	Flow monitoring is undertaken monthly by GCS and reported on an annual basis.	None.
	70	A log will be kept of breaching events of the Siyaya Estuary, including, where possible, duration of the breach, rainfall and flow in the Siyaya and Amanzimnyama Rivers.	**0**	Monitoring of the Siyaya Estuary is undertaken by JG Africa. No records of breaching events of the Siyaya Estuary have however been kept by Tronox. In recent years the estuary mouth has remained open and is not anticipated to close in the foreseeable future. This is mainly due to higher water tables due to wet mining and the removal of commercial forestry which has resulted in more water within the Siyaya catchment.	Records need to be kept of breaching events and the duration of these events.
	71	To minimise impact on the receiving water bodies, EXXARO will optimise the removal of return water from backfilling operations.	**2**	Return water from backfilling is pumped back to the Valley Return Dam for later use in mining operations.	None.

	72	Water systems, such as drains, and canals will be designed to prevent pollution and minimise erosion or sedimentation.	**2**	All systems have been constructed in accordance with generally accepted Engineering Standards and are reflected in various design plans.	None.
	73	Linear infrastructure (roads and pipelines) will be inspected on a quarterly basis to check that the associated water management infrastructure is effective in controlling erosion.	**2**	Linear infrastructure is regularly monitored and maintained.	None.
	B12	Rise in water levels at the Siyaya Borehole (located at FBCX) to within 10m of the surface will trigger additional mitigation measure such as pumping or a cut-off trench.	**0**	The Siyaya borehole FBCX does not seem to be monitored based on the reporting in the Groundwater Monitoring Reports compiled by GCS. The reason for this should be investigated and if required a new borehole sunk at this location to ensure compliance to this condition.	GCS to propose a new borehole location to be installed to monitor water levels.
Minimise changes in flow patterns caused by blockages in the rivers.	75	River and riparian crossings will be designed and maintained such that stream flow will not be impaired.	**2**	River and riparian crossings have been constructed in accordance with generally accepted Engineering Standards and are reflected in various design plans.	None.
	76	Pipelines that cross any watercourse and / or drainage line will allow flows to safely pass without any risk of flooding or damming. Embankments at watercourse crossings, within the flooding zone, will be protected against erosion. Where culverts are used at crossings, the culverts will have downstream erosion protection and energy dissipaters to reduce flow rates to their original velocities. Except for watercourse crossings, roads and pipelines will be positioned outside the 1:50 year flood line.	**2**	Various structures have been constructed along the pipeline routes to facilitate unobstructed water flow beneath the pipes. These structures are designed to gather water at the lowest points and limit its release into the drainage and buffer zones.	None.

Manage changes in mean annual runoff.	77	The flow measurement facilities at the two weirs are to be re-established by DWA with assistance provided by EXXARO. The flow in the Siyaya and Amanzimnyama will then be recorded on a continuous basis by DWA. EXXARO will use this information as part of its water quality monitoring (Ref. 59- 68) and assessment to determine sediment loads, erosion potential, alterations to natural flow regimes and risk of estuarine breaching.	**2**	Data collected from the measuring devices, which have been reinstated and are under the monitoring of the Department of Water and Sanitation (DWS), is routinely supplied to SRK. This data is subsequently incorporated into SRK's flow modelling reports.	None.
	78	The closed systems and water capture measures will reduce the water requirements for the mining operations, thus reducing the impact on other users.	**2**	Following management procedures, there has been minimal extraction of raw water from UMhlathuze since June 2017, with the primary usage being for process water. The raw water extracted has primarily served purposes such as top-up and pipeline maintenance. Out of the raw water allocation (a permit for 26,000m³/day), accounting for the 15% restriction, the daily usage has been less than 5,000m³.	None.
	A5	Restoration of landform during backfilling must ensure that catchment divides are restored in terms of the pre-mining survey.	**2**	Catchment divides have been restored during backfilling of mined areas.	None.
Minimise change in ground water quantity and quality.	80	A groundwater monitoring programme consisting of the following will be conducted,: the use of soil moisture probes or other relevant instrumentation to determine unsaturated zone conditions; as many of the future exploration boreholes as possible will be drilled to bedrock; piezometers will be installed across the FB deposit and monitored to establish the shape of the current groundwater mound more accurately; piezometers will be installed in the coastal strip between the rivers and the sea to include areas such as the Twin Streams Educational Centre and the Umlalazi Nature reserve; Geohydrological data, abstraction rates	**2**	Groundwater is monitored for quality and height at specific boreholes, as outlined in the approved EMPR, for instance, the Twin Streams borehole. The installed piezometers are dedicated to monitoring groundwater levels and are subject to an annual geohydrology report compiled by SRK. Groundwater quality, on the other hand, is monitored on a quarterly basis by GCS.	None.

		and water level measurements will be obtained for the water supply boreholes and the data analysed.			
	B13	Model simulations will be re-run as monitoring data becomes available in order to ensure predictions are continuously updated in terms of estimated losses.	**2**	SRK conducts an annual re-modelling process and subsequently submits the findings to the Department of Water and Sanitation (DWS).	None.
	B14	Installation of lysimeters at Hillendale (rehabilitated areas) and Fairbreeze in relevant areas in order to quantify the change in recharge pre-mining, during rehabilitation and post mining. After installation, monitoring data will be used to update the model simulations on an annual basis.	**2**	Piezometer readings are being used for monitoring.	None.
Aspect: Air Quality					
Air emissions will be managed to minimise nuisance effects and prevent health effects.	81	The mine will develop an Air Pollution Control System (APCS) for FB prior to commencing with operations. This APCS must include detailed management plans, mitigation measures and monitoring and operational procedures developed for each significant source to ensure reductions in emissions. The APCS will be implemented and revised on an on-going basis. Air quality must be compared to pre-mining ambient levels and maintained with maximum allowable limits.	**2**	The APCS is implemented on site as per the Air Quality Management Plan (Document Reference: Air quality Monitoring Plan, January 2018, Revision 6).	None.
	82	The dirt road entering the Siyaya property will be upgraded and surfaced. A maximum speed limit of 40km/h will be observed. Dedicated entry and exit routes will be established to access each active mining area and infrastructure.	**2**	The dirt road entering the Siyaya property has been gravelled and upgraded. Speed limits are enforced on the mine access road.	None.

	83	The establishment of intermediate revegetation on the mined-out area will take place within 60 days of the removal of the mining disturbance. Intermediate revegetation will aim to establish at least 80% dust control efficiency.	**1**	Revegetation and rehabilitation of disturbed areas takes place as soon at mined out areas are backfilled and shaped. The Research Rehabilitation Programme and the Rehabilitation Strategy (2018) must however be implemented on site.	Compliance with the Rehabilitation Programme.
	84	The rehabilitation (vegetation) or dust suppression measures of the backfilled area will take place as soon as the previously mined void has been filled. Dust from backfilled areas will be minimised by the establishment of vegetation, or dune coating (which can achieve higher efficiencies than vegetation in the short term). Vegetation cover, where relevant, will be maintained to a minimum dust control efficiency of 80%.	**2**	Dust suppression measures have been implemented. An extra berm has been constructed and grassed to serve as a dust suppression measure.	None.
	A6	Shade netting must be used on rehabilitated areas at FBCX to limit dust impacts.	**2**	Revegetation and rehabilitation of disturbed areas takes place as soon at mined out areas are backfilled and shaped as per the Research Rehabilitation Programme and the Rehabilitation Strategy (2018). Shade netting has been provided to limit dust impacts.	None.
	85	The routine monitoring of vegetation cover will be undertaken to determine the effectiveness of the rehabilitation protocols that have been employed. The establishment of vegetation will be monitored on a quarterly basis for 3 years or until monitoring indicates that a suitable, self-sustaining vegetation cover has been achieved.	**2**	Ongoing monitoring of revegetated areas takes place and vegetation cover on rehabilitated areas is in excess of 90 % cover in most places. To date 62 Ha of mined out areas have been revegetated on site.	None.

	86	The 100 m wide tree barrier between FB and Mtunzini (85-90m of indigenous trees, and 10-15m of Eucalyptus, 5m firebreak) will be maintained and supplemented to ensure its development and effectiveness. Where necessary, powerlines and services will be re-routed so that the barrier remains intact.	**2**	Rows of Eucalyptus have been planted to serve as a visual barrier.	None.
	87	Additional windbreaks/visual barriers will be implemented as per the recommendations indicated in Figure 10.2. The tree barriers (85- 90 m of indigenous trees, and 10-15 m of Eucalyptus, 5 m firebreak) will be planted within 6 months of mining approval. These barriers will be maintained and supplemented to ensure their development and effectiveness.	**2**	Numerous additional barriers, comprising both native and commercially grown trees, have been set up along the western perimeter of the mining site. The development of buffers and screens is a continuous and evolving effort.	None.
	88	Dust suppression will be applied on unpaved roads to achieve a minimum control efficiency of 85% (using either water sprays or chemical suppressants).	**2**	The mine has implemented water spraying techniques during hot and windy days.	None.
	89	Source based performance indicators for the mining operations will include the following: visible reductions in fugitive dust resulting from mining activities; dust fall immediately downwind over the N2 Highway to be <1200 mg/m²/day; and dust fall within the residential development of Mtunzini to be <600 mg/m²/day.	**2**	Envass conducts air quality monitoring in and around the Fairbreeze Mine on a monthly basis.	None.
	90	Source based performance indicators for sources of wind erosion will include: vegetation cover up to 1m from the source (applicable to the RSFs and topsoil pile); vegetation density to be at least 80% on backfilled areas; and dust fall immediately downwind from the source to be <1 200 mg/m²/day.	**2**	Ongoing monitoring of revegetated areas takes place and vegetation cover on rehabilitated areas is in excess of 90 % cover in most places. To date 62 Ha of mined out areas have been revegetated on site.	None.
	91	Compliance with the performance indicators will be assessed as part of an on-going monitoring programme.	**2**	Air quality monitoring of performance indicators is undertaken by Envass. Monitoring of rehabilitation and revegetation of disturbed areas is undertaken by a dedicated team at Tronox on a daily basis.	None.

Aspect: Noise					
Minimise noise impact during construction of the PWP.	92	It is recommended that if pile operations are needed, noise attenuation measures such as an earth berm will be constructed. If impact piling is conducted, an additional survey will be conducted at night to determine the zone of influence as well as the actual efficacy of the attenuation measures. Mitigation measures from survey must be adhered to.	**-1**	Construction is now complete, and this condition is no longer applicable.	Not Applicable.
	93	Construction staff will receive noise sensitivity training to ensure that the construction noise is kept at a minimum.	**-1**	Construction is now complete, and this condition is no longer applicable.	Not Applicable.
	94	During construction of the PWP, a noise specialist will be on site weekly during piling and other noisy activities. The noise specialist will conduct monitoring to ensure the portable noise attenuation screens are applied effectively. These can be placed as close as possible to the noise source such as mobile compressors, drilling rigs etc.	**-1**	Construction is now complete, and this condition is no longer applicable.	Not Applicable.
	95	Night-time activities will be limited to use of minimum required equipment.	**-1**	Construction is now complete, and this condition is no longer applicable.	Not Applicable.
	96	Monthly noise surveys will be conducted at sensitive receptors to determine the efficacy of noise attenuation measures. Noise levels will be compared to pre-mining ambient levels and maintained within maximum allowable limits.	**-1**	Construction is now complete, and this condition is no longer applicable.	Not Applicable.
	97	The tree barriers at the PWP will be kept in place, and all additional noise barriers as advised by the noise specialist will be adhered to. See Also Ref 86 and 87 on tree barriers.	**-1**	Construction is now complete, and this condition is no longer applicable.	Not Applicable.
	A7	Noise monitoring will be conducted bi-weekly at the PWP site during construction. Noise levels to be compared to pre-mining ambient levels and maintained within maximum allowable limits.	**-1**	Construction is now complete, and this condition is no longer applicable.	Not Applicable.

Minimise noise disturbance during mining.	A8	Noise monitoring will be conducted quarterly during the first year. Noise levels will be compared to pre-mining ambient levels and maintained within maximum allowable limits.	**2**	Noise monitoring was conducted by Envass quarterly during the first year of mining and biannually thereafter. Records are available with Tronox.	Not Applicable.
	99	Mining of FBCX will advance northwards towards Mtunzini to ensure that the hydraulic monitors are normally not visible from the town (acoustically screened behind the bench) (as per FMCX ROD).	**-1**	Hydraulic monitors were not visible from the Mtunzini town during mining operations and have now been removed from FBCX.	None.
	100	Bulldozing operations at FBCX will be limited to daytime hours (as per FMCX ROD).	**2**	The approval was granted by the DMR to commence with night-time operations (letter dated 1/11/2019).	None.
	101	The mine will avoid clustering of the hydraulic monitors when mining in the zone nearest to Mtunzini (as per FMCX ROD).	**-1**	Mining at FBCX was undertaken as per the EMPR requirements. All hydraulic monitors have now been removed from FBCX.	None.
Aspect: Archaeology					
Manage the loss of archaeological or cultural sites.	102	A monthly monitoring program to record and assess potential sites/artefacts that were missed due to the current vegetation or that were below the surface at the time of the survey will be undertaken.	**2**	Umlando undertakes monthly monitoring of the mining footprint. Records are available with Tronox.	None.
	103	A destruction permit will be obtained for any identified sites and any other unrecorded sites that may be recorded during the monitoring program, in terms of the KwaZulu Natal Heritage Act of 1997.	**2**	Permits are applied for and obtained as and when required by the appointed Heritage Consultant Umlando. Records are available with Tronox.	None.
	104	All identified graves overlying planned mining areas will be relocated prior to the start of mining in that area. The appropriate social process will be followed.	**2**	Permits are applied for and obtained as and when required by the appointed Heritage Consultant Umlando. Records are available with Tronox.	None.
	104	Should any graves or heritage artefacts be unearthed during construction or mining then operations in that location all activities in that area will be suspended in order to allow investigation and appropriate action to be completed.	**2**	Permits are applied for and obtained as and when required by the appointed Heritage Consultant Umlando. Records are available with Tronox.	None.

Manage the loss of buildings with historical value.	105	All buildings will be adequately recorded before demolition, in the form photographs and basic measurements, indicating the various additions. Middens would need sampling, and some compounds would need photographing and mapping, if no drawings available.	**2**	Permits are applied for and obtained as and when required by the appointed Heritage Consultant Umlando. Records are available with Tronox.	None.
	106	A demolition permit will be obtained for any identified historical buildings from AMAFA KZN.	**2**	Permits are applied for and obtained as and when required by the appointed Heritage Consultant Umlando. Records are available with Tronox.	None.
	107	The Highfields House will be retained and not demolished, as per recommendation of historian.	**2**	Permits are applied for and obtained as and when required by the appointed Heritage Consultant Umlando. Records are available with Tronox.	None.
Aspect: Visual					
Minimise visual disturbance.	108	Existing indigenous and plantation vegetation will be retained wherever possible (especially along the N2 and the western and eastern extremities of the site and along the western boundary of the plant site). This forms part of the tree barrier recommendations (See Also Ref 86 and 87 on tree barriers).	**2**	This condition has been adhered too.	None.

	109	An ecological approach to rehabilitation measures, as opposed to a horticultural approach to landscaping will be adopted wherever possible. For example, communities of indigenous, preferable endemic, plants enhance biodiversity and blend well with existing vegetation. A registered landscape architect (SACLAP) will be consulted for this purpose. This approach could be considered along the N2 in areas where plantations will not necessarily be grown. If this is not possible then Eucalyptus will be planted in dense rows to create an effective tree screen along the N2.	**2**	Rehabilitation measures are making use of an ecological approach rather than a horticultural approach at Fairbreeze Mine.	None.
	110	All existing vegetation between the mining site and all public roads must be retained where possible. See Also Ref 86 and 87 on tree barriers.	**2**	Barriers along the N2 are being maintained. The establishment of buffers and screen is an ongoing process.	None.
	111	The worked-out area behind the mining face will be screened using shrub planting, where effective.	**2**	Areas that have been mined out have been screened and vegetated where necessary.	None.
	112	The RSF walls will have slopes no steeper than 1:2 and will be vegetated. The walls will be vegetated within 60 days after shaping and removal of disturbing factors. This will be a continuous process as the wall raising advances.	**2**	The RSF walls are currently being shaped and grassed.	None.
	113	Light pollution will be kept to a minimum. Security and flood lighting to only be used where absolutely necessary and will be directed downwards so as to avoid illuminating the sky. i.e. away from Mtunzini and residences west of the site and also away from the Murray property.	**2**	Light pollution is kept at a minimum. During the site audit no complaints were mentioned.	None.

	114	Install light fixtures that provide precisely directed illumination to reduce light "spillage" beyond the immediate surrounds of the complex – this is especially relevant where the edge of the proposed mining is exposed to residential properties.	**2**	Light fixtures have been installed to pose the minimum light impact.	None.
	115	Avoid high pole top security lighting along the periphery of the site or at elevated locations.	**2**	High pole security lights have been limited to the PWP area	None.
	116	Use security lighting at the periphery of the site that is activated by movement and are not permanently kept on.	**2**	All lights at the PWP are facing downwards.	None.
Aspect: Social and Socio-economic					
Minimise changes in the demographics of the area.	117	Where possible EXXARO will employ people from district 28 (uThungulu District Municipality). The EXXARO policy is to employ at least 60% of the people from the Region 28 and the remainder of the workforce from anywhere. This was approved by the HR&R Board Committee and agreed to with the current Community Forum, which represents Region 28. The Community Forum consists of representatives from Amakhosi and Councillors. People from outside this area will only be employed if the necessary skills required are not available in the local area.	**2**	Employment of people from district 28 is promoted at Fairbreeze Mine. Employment records are available with Tronox.	None.
	118	If suitably trained employees are not available from within the surrounding communities, EXXARO will, in accordance with the EXXARO Social and Labour Plan, introduce training programmes focused on raising the skill levels of the local residents.	**2**	Tronox has a training and learnership programme in house to develop skills of local community members in order for them to fill skilled positions on the mine.	None.

	119	EXXARO will not allow establishment of informal settlements on its land and leased land (in consultation with Mondi).	**2**	No evidence was found of any informal settlements establish as a result of the mine.	None.
Minimise increase in crime arising from mining construction activities.	120	The northern boundary of the mine will be fenced, and the fence regularly checked and maintained.	**2**	The northern boundary adjacent to Mtunzini has been fenced and is regularly checked and maintained.	None.
	121	To discourage theft, loitering and public disturbances due to the influence of the mine, there will be no direct accessible link between FBCX and Mtunzini.	**2**	No vehicle access is permitted through C-extension as the gate between FBCX and Mtunzini remains locked.	None.
	122	It is recommended that there be increased security assigned to the mining areas with controlled access and maintained fences around the proposed mine construction areas.	**2**	Security is provided at all access points including roving security at the mining areas and PWP.	None.
Maximise possible contributions to the economy.	123	The mine procurement policy will encourage the establishment of sustainable businesses from which goods are obtained, in accordance with the targets as set out in the EXXARO Social and Labour Plan.	**2**	This is in accordance with the Tronox Social and Labour Plan.	None.
	124	Every attempt will be made to ensure that the mine is operated in a responsible manner (see all the commitments above) to ensure that tourism and eco-tourism will not suffer.	**2**	Tronox has regular meetings with EKZNW and the MRA records of these meetings are available with Tronox.	None.
	125	EXXARO will, where possible, support local accommodation establishments when hosting visitors from out of town.	**2**	Local B&B and accommodation establishments are supported by Tronox employees.	None.
Ensuring the continuation of the Twinstreams Environmental Education Centre.	126	Tree buffers between Twin streams and FBC- ore body will be retained. See Also Ref 86 and 87 on tree barriers.	**2**	Tree barriers have been planted and are being maintained.	None.

	127	Pre-mining occupancy statistics for Twinstreams must be obtained and compared to occupancy statistics during mining operations. Significant declines in these figures may necessitate that EXXARO provide compensation.	**0**	Twinstreams must be engaged to obtain occupancy statistics.	Occupancy statistics must be obtained from Twinstreams to establish if mining has had any impact on occupancy.
	128	As a proactive measure, to limit decline at the Centre, EXXARO should financially assist with investigating alternatives e.g., identify other suitable alternate sites which could be developed for Twin streams and linked with the current site.	**0**	Twinstreams must be engaged to obtain occupancy statistics.	As above.
Supporting eco-tourism development in Mtunzini as a way of offsetting any losses due to changes in 'sense of place'	129	EXXARO will contribute financially to enhance the existing eco-tourism facilities in order to offset any loss of sense of place, e.g. the upgrade of the deteriorating Raphia Palm boardwalk, the extension of the Mtunzini beach boardwalk, upgrade of the dirt roads in the uMlalazi Nature Reserve, development of bird hides at suitable sites within Mtunzini.	**2**	Tronox together with the MRA have identified suitable ecotourism initiative within and around Mtunzini.	None.
Encouraging educational tourism at the Fairbreeze site.	130	EXXARO will offer regular educational tours to school and other interest groups to describe the mining process.	**2**	Educational tours have been provided to local communities, schools and interest groups when requested to describe the mining process.	None.
Changes in physical infrastructure, e g. roads.	131	Heavy goods vehicles related to EXXARO FB mine will not be allowed to pass through Mtunzini. EXXARO have proposed to construct an off-ramp onto Bridge 4; which would mean that the mine will not have use the Ring Road unless special circumstances and adjacent landowners and existing road users informed.	**2**	Heavy vehicles are not allowed to travel through town and access to FBCX is not allowed via Mtunzini as part of the mine's Standing Operating Instructions.	None.
	132	During construction of this off-ramp, temporary usage of existing internal roads will be communicated to adjacent landowners and existing road users.	**-1**	Not applicable as the mine has been constructed.	Not Applicable.

Minimise risk of an increase in social pathologies and diseases.	133	To combat a rise in the incidence of social diseases, education and awareness campaigns will be held with all mine employees stressing the precautionary measures that will be taken to avoid such diseases.	**2**	All employees are briefed on social diseases through awareness campaigns and signage is available on site.	None.
Minimise impact on adjacent farmers and landowners.	134	Drainage streams on neighbouring farms and boreholes used for irrigation will be monitored to ensure that water quality is maintained. If farm drainage streams require additional filtering or maintenance due to mining impacts the landowners will be compensated.	**2**	Monitoring has been conducted by an external service provider GCS and reported on as part of their reporting requirements to Tronox. Reports are available with Tronox.	None.
	135	Communicate rehabilitation process and plans for Fairbreeze Mine to the general public and provide regular updates on this matter.	**2**	The rehabilitation process is communicated to the general public during the community meetings held quarterly each year.	None.
	136	Twin Streams Nursery or other initiatives with local participation will be given an opportunity to provide the services and plants required for rehabilitation or landscaping.	**2**	Local businesses are afforded opportunities to provide services and plants to Tronox.	None.
Devaluation of property adjacent to the FB site.	137	The study area's current economic success is linked to the natural environment. Every attempt will be made by EXXARO to ensure that the mine is operated in a responsible manner to ensure that tourism and eco-tourism will not suffer. This will ensure the economic sustainability of the study area once the mine has closed. It will also yield benefits such as a smooth and conflict free relationship with the residents of the study area.	**2**	This condition is currently being abide to by Tronox and no adverse impacts on the economic stability of the study area was identified during this audit.	None.

	138	The mining method and mine rehabilitation have the power to influence the area long after the mine has closed. Rehabilitation will thus be conducted in such a manner that it will have a positive impact upon land value and hence upon sustainable post-mining land use. (Rehabilitation will be done on the basis of information derived from the Rehabilitation Research Programme).	**1**	The mine is being rehabilitated on a progressive basis however the Research Rehabilitation Programme and the Rehabilitation Strategy (2018) must be implemented on the mine.	None.
	139	Gerrard Wessel's (Grant McMurray or John Murray) and Jim Parker's farm property prices will be affected by the mining at sites A, B, D and / or the construction of the RSF. A non-compulsory pre-mining market related offer should be made for the purchase of these two properties. These properties should be included as a buffer between the mining operations and other neighbouring properties.	**-1**	No longer applicable as the properties have been bought.	Not Applicable.
	140	If Jim Parker does not accept the market related offer for his property made by EXXARO, and continues to farm geraniums for essential oils and subsequently loses his organic accreditation due to mining activities, he must be compensated for the loss in value of his harvested crop, until organic accreditation is regained	**-1**	No longer applicable as the properties have been bought.	Not Applicable.
	141	If Jim Parker accepts the market related offer for his property made by EXXARO, the essential oils processing plant (distillery) on his property needs to continue to operate throughout the lifespan of the mining activities to preserve the livelihoods of the 50 farmers who currently supply product to the plant for processing. It will be the responsibility of Jim Parker to have a succession and operational plan in place for the future on-going running of the essential oils processing plant.	**-1**	No longer applicable as the properties have been bought.	Not Applicable.

Maintain positive and transparent relationships with EXXARO's stakeholders.	142	It is proposed that a Siyaya monitoring forum be established with a key focus on sustainable land use and management within the Siyaya catchment. The forum will meet quarterly to discuss progress, monitoring and issues.	**0**	A monitoring forum has not been established however the Siyaya Catchment is monitored by GCS as part of their appointment. Additionally an Offset Advisory Committee has been established and meets quarterly to address biodiversity.	Tronox to apply to DMR to have this condition amended.
	143	EXXARO will maintain communication channels with I&APs through the community forums, e.g. Greater uMhlathuze Environmental Forum (quarterly); Community Forum (quarterly); Employee Forum (quarterly); Greater Mtunzini Communications Forum (quarterly); Regulatory authority meeting (quarterly); Amakhosi information meeting (quarterly); and Councillors information meeting (quarterly).	**2**	Communication channels are maintained by Tronox through community forums and Stakeholder Engagement Meetings.	None.
	144	The forum information sessions will initially be aimed at construction activities, and as mining commences, will gradually change over to reflect the status of operations. Forums will be maintained until mine closure.	**2**	Communication channels are maintained by Tronox through community forums and Stakeholder Engagement Meetings.	None.
	145	Communicate rehabilitation process and plans for Hillendale Mine and Fairbreeze Mine to the general public.	**2**	Communication channels are maintained by Tronox through community forums and Stakeholder Engagement Meetings.	None.
	146	Inform the general public of the EXXARO comments and complaints procedure and contact details. Ensure annual notification of the facility.	**2**	Tronox has a web portal to lodge complaints and complaints can also be lodged through the community forums and Stakeholder Engagement Meetings.	None.

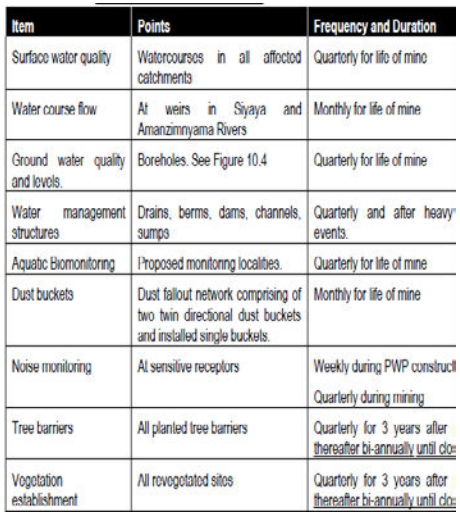
	B16	After lodging a compliant, the ECO must inform interested and affected parties that they are allowed to contact the EA to discuss their complaints should they feel their complaint is not being resolved through the normal complaints management procedures followed by the ECO.	**2**	Tronox is aware of this condition and will comply when required.	None.
Provide stakeholders with relevant information.	147	All information as described in the relevant sections will be made available to interested and affected parties via the communication channels outlined in Ref 143.	**2**	Tronox is aware of this condition and will comply when required.	None.
	148	Authorities will be provided with information as specified in the relevant legislation and authorisations.	**2**	Tronox is aware of this condition and will comply when required.	None.
Put in place a fair and transparent process with regards to recruitment and management of labour.	B17	As committed to communities, EXXARO will without compromising job-specific skills requirements, safety, quality and meeting of construction timeframes, define a recruitment strategy based on principles, such as including a fair and accessible process of advertising employment opportunities, skills development and training opportunities, creation of opportunities for local entrepreneurs.	**2**	Local businesses are afforded opportunities to provide services to Tronox and job positions at the mine are advertised locally in the community forums and through local media (newspapers, etc.).	None.
Provide information to relevant authorities as required.	161	Applications for registration of dams with a safety risk will be submitted to DWA.	**2**	Tronox is aware of this condition and will comply when required.	None.
	162	The water use license applications will be amended or applied for as required.	**2**	Tronox is aware of this condition and will comply when required.	None.

	156	Performance assessments relating to the contents of Section 10 will be conducted annually by an Independent Environmental Auditor (See Section 10.4.1).	**2**	Tronox is aware of this condition and will comply when required.	None.
	B18	All conditions of all applicable licenses, permits and authorisations related to the Fairbreeze Project will be adhered to.	**2**	Tronox is aware of this condition and will comply when required.	None.
Limit nuisance impacts due to mining and related activities on site.	165	Good 'housekeeping' (keeping the site tidy and neat) is essential throughout all phases of the project. Adequate toilet and proper sanitation facilities shall be provided at all work areas, approximately one toilet per 15 staff members. Sewerage sludge removed from chemical toilets and conservancy tanks (by a 'honey sucker') will be disposed of at a licensed facility for such waste.	**2**	Good housekeeping is maintained through regular inspections by the various supervisors as well as the monthly EMPR audits.	None.
Aspect: Engineering design and recommendations					
Aspect: Engineering design recommendations.	149	The RSFs will be regularly inspected by suitably qualified consultant engineers who will devise a system of checks and management principles to ensure that the stability of the dam remains within acceptable limits.	**2**	The RSF walls are inspected every 3 months by a suitably qualified engineer from SRK an independent Service Provider.	None.
	150	The RSFs will be constructed and maintained in accordance with the design criteria specified by the detailed design engineers and in accordance with the Code of Practice required in terms of the Mine Health and Safety Act.	**2**	The RSF is constructed and maintained in accordance with the mandatory Code of Practice required in terms of the Mine Health and Safety Act.	None.
	151	Good housekeeping will be maintained to minimise the risk of pollution. The mine will operate in such a way as to prevent uncontrolled releases of potentially polluting material.	**2**	Good housekeeping is maintained through regular inspections by the various supervisors as well as the monthly EMPR audits.	None.

	152	The mine will ensure that relevant equipment is well maintained and fully operational. Development and implementation of equipment maintenance schedule.	**2**	The mining plant supplier contractor is accountable for maintaining their equipment. The mine operates a proficient maintenance unit responsible for servicing pumps and mining machinery.	None.
	153	Non-mining waste materials will be classified according to the Minimum Requirements for the handling and disposal of waste as published by DWA. Classified waste materials will be placed in containers specifically identified for this purpose and disposed in appropriate disposal sites. Hydrocarbons in particular will be disposed in a licensed H:h disposal site. All spills will be treated as per the approved EXXARO spills procedure.	**2**	Tronox is aware of this condition and will comply when required.	None.
	154	The approved EXXARO Emergency Procedure will be applied during all phases of mining.	**2**	The approved emergency procedure (Document Reference: CPDOC-39-294) is implemented on site during all phases of mining.	None.
	155	All employees and contractors will receive basic training in environmental awareness as well as the applicable sections of the Emergency Procedure. The environmental awareness training will include reference to the following: identified environmental risks in the workplace; Environmental Management Plans related to the specific risks; provisions and commitments contained in Section 10; incident identification and reporting.	**2**	All staff and visitors undergo basic training in environmental awareness both during induction onto the mine and through training programmes run by Tronox.	None.
	157	The mine will carry out regular risk assessments to ensure that potentially hazardous materials are appropriately stored, labelled and handled.	**2**	Risks assessments are undertaken regularly for all activities taking place on the Fairbreeze Mine including the storing and handling of hazardous materials.	None.

	158	To minimise the risk of pollution arising from the use of mobile equipment, drivers (both mine and contractors) will be trained on how to deal with accidents involving hydrocarbons and other potential contaminants. Emergency action plans will be drawn up to deal with serious spills on the road to minimise the impact on water resources.	**2**	All drivers must report any accidents to Tronox as soon as they occur on the mine. The approved emergency procedure (Document Reference: CPDOC-39-294) is implemented on site during all phases of mining.	None.
Maintain the RWD to minimise the risk of failure and maintain operating standards.	159	The RWD will be constructed and maintained in accordance with the design criteria specified by the detailed design engineers and in accordance with the Code of Practice required in terms of the Mine Health and Safety Act.	**2**	Tronox is aware of this condition and has complied.	None.
	160	The VRWD will be regularly inspected by suitably qualified consultant engineers who will devise a system of checks and management principles to ensure that the stability of the dam remains within acceptable limits.	**2**	The VRWD is inspected every 3 months by a suitably qualified engineer from SRK an independent Service Provider.	None.
SANRAL management principles for road construction and related issues.	163	SANRAL has a generic EMP which will be adhered to at all times by the Contractor undertaking the on and off ramp construction. The on-off ramp construction is considered part of the Fairbreeze project and will thus adhere to all other EXXARO requirements, as well as all mitigation measures contained in the BAR.	**-1**	Not applicable as the mine has been constructed.	None.

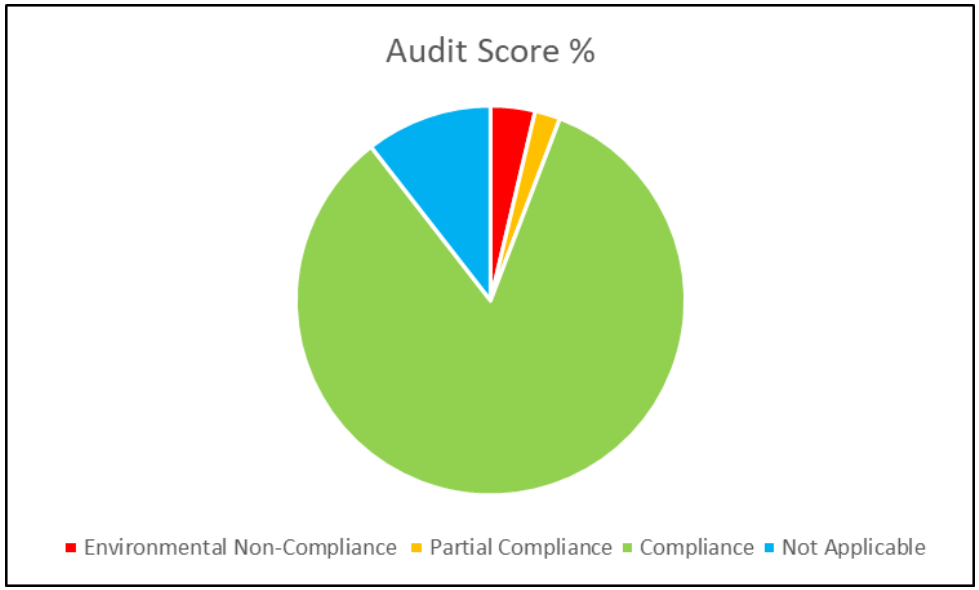
ESKOM management principles of power lines and related issues, e.g. maintenance of servitude area.	164	ESKOM has a generic EMP and protocol document, e.g. AMAFA requirements, vegetation removal procedure, which will need to be adhered to at all times by the Contractor undertaking the powerline deviation. The ESKOM powerline re-alignment is considered part of the Fairbreeze project and will thus adhere to all other EXXARO requirements, as well as all mitigation measures contained in the BAR.	**-1**	Not applicable as the mine has been constructed.	None.
Aspect: Further investigation					
Undertake further investigations/actions prior to the commencement of mining to confirm predictions made in this report.	166	Detailed engineering design for the final mitigation plans for the impacts identified during the environmental impact assessment process.	**-1**	Concluded during the Environmental Impact Assessment Process.	None.
	A9	Groundwater and surface water models to be updated with additional DWA and EXXARO monitoring data on an annual basis, or as specified by DWA.	**2**	Tronox is aware of this condition and has complied.	None.

	167	Adhere to all specialist study recommendations and monitoring programmes as per Section 10.3.3 of the EMP. Below is included a summary table. 	**2**	Tronox has appointed service providers to monitor the site as per the specialist study recommendations. This monitoring and reporting is ongoing and will continue for the life of the mine.	None.

Item	Points	Frequency and Duration
Surface water quality	Watercourses in all affected catchments	Quarterly for life of mine
Water course flow	At weirs in Siyaya and Amanzimnyama Rivers	Monthly for life of mine
Ground water quality and levels.	Boreholes. See Figure 10.4	Quarterly for life of mine
Water management structures	Drains, berms, dams, channels, sumps	Quarterly and after heavy events.
Aquatic Biomonitoring	Proposed monitoring localities.	Quarterly for life of mine
Dust buckets	Dust fallout network comprising of two twin directional dust buckets and installed single buckets.	Monthly for life of mine
Noise monitoring	At sensitive receptors	Weekly during PWP construct Quarterly during mining
Tree barriers	All planted tree barriers	Quarterly for 3 years after thereafter bi-annually until clo
Vegetation establishment	All revegetated sites	Quarterly for 3 years after thereafter bi-annually until clo

Undertake further investigations/actions during mining to confirm/improve predictions made in this report.	A10	The groundwater model will be updated prior to mining in order to ensure that the conservative estimates are refined and correct management applied. The groundwater model must be updated when significant new information is derived from any of the monitoring programmes, or at least every year. Information derived from the model must be incorporated into future management and monitoring.	**2**	A three-dimensional, numerical groundwater flow model was constructed during 2011 using the finite element code MINEDW (Azrag et al., 1998) to simulate the effects on groundwater during mining. The reports completed for the construction of the model as well as subsequent updates are as follows: • A detail description of the numerical model setup - SRK hydrogeological report for the 2011 EIA (SRK, 423506); • Re-calibration of numerical model using most recent water level monitoring data in 2014 (SRK, February 2015); and • The numerical groundwater model calibration was checked and updated annually since 2016 using the most recent groundwater level monitoring data and estimates of measured baseflows in the Siyaya and Amanzimnyama Streams.	None.
	A11	The surface water model will be updated when significant new information is derived from any of the monitoring programmes, or at least every year. Information derived from the model must be incorporated into future management and monitoring.	**2**	Twenty five sub catchments have been delineated within the Amanzimnyama and Siyaya basins to simulate the Siyaya estuary outflows. SRK undertakes annual monitoring of surface water and updates the surface water model. Reports are available with Tronox.	None.

	A12	Exxaro will establish, drive and fund a Rehabilitation Research Programme. The Rehabilitation Research Programme will investigate all aspects concerning the rehabilitation of, and vegetation growth on, areas disturbed during mining at the Fairbreeze Mine. The programme must be multi-disciplinary, with the objective of producing objective and scientific information to guide and continuously improve the rehabilitation of areas affected by mining.	**1**	Rehabilitation is taking place on the mine however the Research Rehabilitation Programme and the Rehabilitation Strategy (2018) must be implemented on the mine. Updates to these plans will take place as and when required.	None.
	A13	Exxaro will establish, drive and fund the Siyaya Biodiversity Forum. The Siyaya Biodiversity Forum will be responsible for the development, implementation and management of the biodiversity offset area until the area is formally transferred to a conservation agency.	**2**	At present Tronox is responsible for the development, implementation and management of the biodiversity offset area. An Offset Advisory Committee has been established and meets quarterly to address biodiversity.	None.
	A14	The mining of FBD may not be undertaken until such time as EXXARO has concluded monitoring and studies necessary to demonstrate to the competent authority the low significance of mining on the dune cordon wetlands. Such studies must also present the management, mitigation and rehabilitation requirements of mined areas which potentially impact on the dune cordon wetlands.	**-1**	Authorisation for the D-Ore body has not been granted; therefore, mining will not take place until an Authorisation is granted.	None.
	168	Update EXXARO complaints procedure to include Fairbreeze Mine. Complaints procedure details provided to IA&P's prior to the start of construction must be updated as required.	**2**	This condition has been abided by.	None.
		Conditions Audited	**190**		
		Compliant	**159**	**84%**	
		Partially compliant	**4**	**2%**	
		Non-Compliant	**7**	**4%**	
		Not Applicable	**20**	**11%**	
		Maximum Total	**190**	**100%**	


Audit Score %
Environmental Non-Compliance
Partial Compliance
Compliance
Not Applicable

APPENDIX 1 – ENVIRONMENTAL AUTHORISATION-KZN 30/5/1/2/2/123MR (EVERGLADES EXPANSION), DATED 28 MARCH 2022 (CHECKLIST)

TRONOX KZN: FAIRBREEZE MINE: ENVIRONMENTAL LEGAL COMPLIANCE AUDIT REPORT
Compliance Checklist
Audit based on Document: Environmental Authorisation-KZN 30/5/1/2/2/123MR (Everglades Expansion), dated 28 March 2022

Colour Code	Compliance Level	Description
0	Non-Compliance	The absence of required systems, procedures, permits, licenses as well as not adhering to the specific requirements of the Permit issued by the Authority
1	Partial Compliance	When the systems and/or procedures are in place but are not implemented in a manner in which they can fulfil the intended purposes
2	Full Compliance	When the systems and/or procedures are in place and implemented properly in a manner which they fulfil their intended purposes
-1	Not Applicable (N/A)	Activity not yet or no longer applicable

Reference Number	Measures, criteria or principles	Compliance Rating	Findings	Follow-up Action
CONSTRUCTION PHASE				
1.1	The Licence Holder must design and construct a containment barrier for the Type 3 waste residue storage facility, western return water pond and other associated waste disposal facilities (as required by NEMWA Regulations R632 (2015 and amended in 2018), regulation 4(2) which complies with a Class C barrier performance (albeit by means of an alternative layout of components such as in the inverted barrier concept for Tailings Storage Facilities}, and associated construction quality assurance is approved In writing by the Responsible Authority prior to commencement of construction.	**2**	Tronox is aware of this condition and has designed the Everglade RSF as per this condition.	None.

1.2	Works shall be constructed and maintained on a continuous basis by the Licence Holder to divert and drain from the working face of the Site, all runoff water arising on the Site, which could be expected as a result of the estimated maximum precipitation and to prevent such runoff water from coming Into contact with leachate from the Site. Such works shall, under the said rainfall event, maintain a freeboard of 0.8 metres and be lined to the satisfaction of the Responsible Authority, to prevent pollution to groundwater.	**2**	Construction of the Everglade RSF is currently underway and drainage infrastructure to divert runoff from the site have been constructed. At present no leachate from the site is being generated as the RSF is still under construction and no material has been pumped into the RSF.	None.
1.3	Runoff water referred to in condition 1.2 shall comply with the quality requirements as prescribed by Responsible Authority which may be determined from time to time and shall be drained from the Site in a legal manner.	**2**	Regular water quality monitoring is undertaken across the mine and water quality is monitored. Additionally all runoff is drained from the site as per the approved RSF design.	None.
1.4	Runoff water referred to In condition 1.2 which does not comply with the quality requirement referred to in condition 1.3 and all leachate shall by means of works shall be constructed and maintained on a continuous basis by the Licence Holder and be lined as approved by the Responsible Authority, to prevent pollution to groundwater -	**-1**	Not applicable as the Everglades Expansion project is not yet operational or receiving leachate.	None.
1.4.1	Be treated to comply with the quality requirements referred to in condition 1.3;	**-1**	Not applicable as the Everglades Expansion project is not yet operational or receiving leachate.	None.
1.4.2	Be evaporated in lined dams and/or,	**-1**	Not applicable as the Everglades Expansion project is not yet operational or receiving leachate.	None.
1.4.3	Be discharged into any convenient sewer if accepted by the authority in control of that sewer.	**-1**	No water is discharged into a sewer system	None.

1.5	Any development which occurs within 1:100 year flood line and/or within 500m from the boundary of a wetland would require a water use licence in terms of section 40 of the National Water Act, 1998 (Act 36 of 1998)	**2**	Tronox has obtained a Water Use License for this development from the Department of Water and Sanitation (License Number: 06/W13B/CGI/2229).	None.
1.6	Master plan which indicates the relationship the wetland delineation, the regulated area within 500m radius in the proposed area must be submitted to the Responsible Authority within twelve months of the date of approval.	**0**	A Master Plan of surface and groundwater surrounding the Everglades RSF have been compiled. At the time of the site audit no proof of submission of these masterplans to the Responsible Authority could be provided.	Master Plan to be submitted to the Responsible Authority
1.7	The rehabilitation plan to prevent risks In the wetland areas and the wetland report must be submitted to the Responsible Authority within twelve months of the date of approval.	**0**	The rehabilitation plan for the Everglades Expansion project is in the process of been drafted and has yet to be submitted to the Responsible Authority. Currently the Rehabilitation Research Plan for Tronox Fairbreeze Mine is implemented on site to prevent risks in wetland areas.	Rehabilitation Plan to be finalised and submitted to the Responsible Authority
MONITORING PHASE				
2.1.1	The proposed development of waste management facilities (Residue Storage Facilities, Sand Tailings Facilities, and Overburden Stockpile areas and other associated waste disposal facilities) must not be constructed on or near geological features such as lineaments, dykes, faults, shallow water table or on areas with potential for increased infiltration to groundwater.	**2**	The design of the Everglades Expansion project has taken this into consideration and no waste management infrastructure is constructed near geological features such as lineaments, dykes, faults, shallow water table or on areas with potential for increased infiltration to groundwater.	

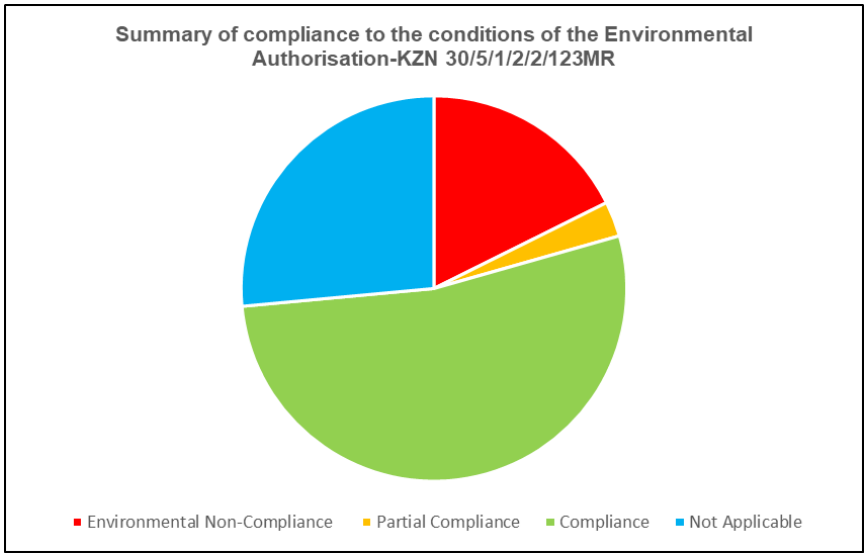
2.1.2	The Licence Holder must implement appropriate management measures to minimise high concentrations of Chloride (Cl), Electrical Conductivity (EC), Sodium (Na} and Total Alkalinity as CaC03 in boreholes DDTHVN14, ODTHVN15, GOMNF12, OUSNT10, NG'f\/\N7, AMSD6, EVR05, PHML4 and PHML3 to ensure the desired concentrations are achieved or met.	**-1**	Not applicable as the Everglades Expansion project is not yet operational or receiving leachate. Once operational appropriate management measures will be implemented by the license holder.	None.
2.1.3	The Licence Holder must continue with the active groundwater monitoring network to monitor groundwater contamination that might emanate from Everglades Residue Storage Facility, Everglades Return Water Dam and other associated waste disposal facilities. However, the applicant must strictly adhere to the following:	**2**	Noted. Groundwater monitoring is ongoing on the Tronox Fairbreeze Mine.	None.
2.1.3.1	The Licence Holder must drill two (2) newly recommended additional monitoring boreholes (FBR014 and FBR015) which were Identified based on the recent geophysical survey. Should these recommended monitoring activities prove insufficient, after periodic evaluation, additional boreholes must be Identified and constructed around the proposed site;	**0**	The two recommended monitoring boreholes have not been drilled yet as the Everglades RSF is still under construction.	Tronox to establish the two new monitoring boreholes as per condition 2.1.3.1
2.1.3.2	Additional neighbouring water supply boreholes must be added to the current monitoring network to improve the monitoring of the proposed ERSF and future mining. These boreholes are PHML1, Siyayi02, Sheply Farm, Emoyeni and McMurray 01 and 02;	**1**	The identified neighbouring boreholes are included in the current water quality monitoring plan however monitoring of PMHL1 and Siyayi02 are currently not being monitored and must be included in the monitoring plan.	Monitoring of these two boreholes must take place.

2.1.3.3	The Licence Holder must ensure that borehole FBRD4 is re-opened for effective monitoring of the proposed Everglades Residue Storage Facility;	**0**	This borehole was reopened for monitoring however this borehole has subsequently been inundated by the expansion of the RSF and is no longer monitored. Tronox and GCS are to identify a suitable site nearby to drill a borehole for monitoring purposes.	Tronox and GCS to identify a suitable site for a monitoring borehole to replace FBRD4
2.1.3.4	Collapsed or damaged piezometers located at the south of FBC, FP0021 must be reinstated;	**0**	Currently the monitoring plan only monitors 4 piezometers (FP00034, FP00020, FP00041 and FP00046) and FP0021 is not included in the monitoring plan. Tronox must reinstate FP0021.	Tronox to repair damaged piezometers as per condition 2.1.3.4
2.1.3.5	An audit on the monitoring network must be conducted annually, if there Is a need monitoring network must be extended over time to accommodate the migration of contaminants through the aquifer, and	**0**	Although Quarterly Water Quality Monitoring Reports are submitted to DWS, no records of an audit of the monitoring network could be provided at the time of the site audit.	Tronox to undertake an audit of the monitoring network on an annual basis as per condition 2.1.3.5
2.1.3.6	The Licence Holder must prevent the predicted contaminant migration away from the pollution sources. Therefore, it is recommended groundwater monitoring must be continued post decommissioning of the site until the water quality is within acceptable standards and the Department approves that the monitoring can cease.	**-1**	This condition is not applicable at present.	
2.1.4	In the event that the groundwater and downstream users are affected by unacceptable water quality because of contamination plume emanating from the site activities as well as water quantity, the applicant must compensate the users with potable water.	**-1**	This condition is not applicable at present.	

2.2.1	Monitoring for groundwater quality must be conducted for variables listed in Annexure I quarterly or such frequency as may be determined by the Responsible Authority.	**2**	The monitoring of groundwater quality is undertaken by GCS on a quarterly basis and the reports submitted to the DWS as the Responsible Authority.	
2.3.1	If, in the opinion of the Responsible Authority, a water quality variable listed under the detection monitoring programme, as referred to in condition 2.2, shows an increasing trend, the Licence Holder shall initiate a monthly monitoring programme until such time that the variable Is within acceptable limits.	**2**	This condition is noted.	
METHODS OF ANALYSIS				
3,1	Sample analysis, for samples taken under the monitoring programme specified in condition 2, must be conducted by a recognized analytical laboratory, accredited by the South African National Accreditation System (SANAS), or that participates in a recognised Proficiency Testing Scheme to analyse the relevant constituents in the monitoring program	**2**	GCS has been appointed to monitor water quality (surface and groundwater) on Fairbreeze Mine. Water samples are taken for Analysis at Talbot Laboratories, which is a SANAS-accredited laboratory.	
AUDITING				
4.1.1	The Responsible Authority reserves the right to audit and/or inspect the Site at any time and at such a frequency as the Responsible Authority may decide, or to have the Site audited or inspected	**2**	This condition is noted.	
4.1.2	The Licence Holder must make any records or documentation available to the Responsible Authority upon request. as well as any other information the Responsible Authority may require	**2**	This condition is noted.	
REPORTING				

5.1.1	The Licence Holder must, within 24 hours, notify the Responsible Authority of the occurrence or detection of any incident on the Site which has the potential to cause, or has caused water pollution.	**2**	This condition is noted. To date no incidents has occurred on site which requires the Responsible Authority to be notified.	None.
5.1.2	The Licence Holder must, within 14 days, or a shorter period, if specified by the Responsible Authority. from the occurrence or detection of any incident referred to in condition 5.1.1, submit an action plan. which shall Include a detailed time schedule, to the satisfaction of the Responsible Authority of measures taken to-	**2**	This condition is noted and will be abided by should an incident occur.	None.
5.1.2.1	Correct the Impact resulting from the incident;	**2**	This condition is noted, and mitigation measures will be implemented to correct any impacts resulting from an incident.	None.
5.1.2.2	Prevent the incident from causing any further Impacts; and/or;	**2**	This condition is noted, and mitigation measures will be implemented to prevent any further impacts.	None.
5.1.2.3	Prevent a recurrence of a similar incident	**2**	This condition is noted, and mitigation measures will be implemented to prevent the recurrence of incidents.	None.
5.1.3	In the event that measures have not been Implemented within 21 days to address impacts caused by the incident referred to in condition 5.1.1, or measures which have been implemented are inadequate, the Responsible Authority may implement the necessary measures at the cost and risk of the Licence Holder.	**2**	This condition is noted.	None.
OTHER REPORTS				

5.2.1	The information required In terms of condition 2 must be reported to the Responsible Authority in a yearly report. The information must also be included into a trend report, which must contain a graphical presentation of all results obtained previously at any specific point, as well as an interpretation and discussion of the results of each monitoring occasion	**-1**	This condition is currently not applicable as construction on the Everglades expansion project has yet to be completed. Yearly reports will be submitted to the Responsible Authority by Tronox once the RSF becomes operational.	None.
5.2.2	The Licence Holder must submit a written report to the Responsible Authority regarding any deviations from this EA and must obtain written permission from the Responsible Authority before such deviations may be implemented	**-1**	Noted. No deviations from the EA have taken place and as such this condition is currently not applicable.	None.
GENERAL				
6,1	The issuance of this EA does not exempt the Licence Holder from compliance with any other legislation including section 40 of the National Water Act. 1998 (Act 36 of 1998}.	**2**	This condition is noted.	None.
	Conditions Audited		**34**	
	Compliant		18	**53%**
	Partially compliant		1	**3%**
	Non-Compliant		6	**18%**
	Not Applicable		9	**26%**
	Maximum Total		**34**	**100%**


Summary of compliance to the conditions of the Environmental Authorisation-KZN 30/5/1/2/2/123MR
Environmental Non-Compliance
Partial Compliance
Compliance
Not Applicable

APPENDIX 2 – PHOTOGRAPHIC EVIDENCE

	
Stormwater water channels are clear of debris and direct runoff off site.	Pipeline servitudes are well maintained and free of erosion and fully rehabilitated.
	
Roads on the mine are well kept, and free flowing drainage is maintained.	C-Extension ore body where rehabilitation of disturbed areas is underway following final shaping
	
Rehabilitated mined out areas.	Sediment fences erected in drainage channels along access roads to prevent dirty water entering the surrounding environment

	
Construction of the Everglades Extension residue storage facility underway.	Filling of mined out areas in C-extension. Once shaped to the final profile these areas will be rehabilitated
	
Sediment fences erected at C-extension to reduce windblown dust.	Sediment fences erected at C-extension to reduce windblown dust.
	
Rehabilitated mined out areas showing good plant cover. No dust is generated from these rehabilitated areas.	Agricultural trials taking place on some rehabilitated areas to establish the suitability of mined out areas for commercial plantations.

	
Mega Sebeka Residue Storage Facility (RSF) which has now been contracted to its design height.	Rehabilitation and planting of vegetation on the banks of the Mega Sebeka RSF underway.
	
Valley Return Water Dam which is currently being enlarged.	Valley Return Water Dam which is suitably vegetated and well maintained.
	
All mining areas are access controlled, and suitable signage has been erected on the mine.	B orebody - mining operations underway.

APPENDIX 3 – AUDITORS CURICULUM VITAE

CURRICULUM VITAE — GILES JOHN CHURCHILL

Current Position:	**Director and Senior Environmental Consultant**
Name of Firm:	**ACER (Africa) Environmental Consultants**
Name of Staff:	**Giles John Churchill**
Profession:	**Environmental Consultant**
Date of Birth:	**25 June 1976**
Years with Firm:	**18**
Nationality:	**South African**

PROFESSIONAL REGISTRATIONS AND MEMBERSHIP

- **Registered Environmental Assessment Practitioner with Environmental Practitioners Association of South Africa (EAPASA) Registration Number: 2019/1687**
- **Registered as a Professional Natural Scientist in the field of Environmental Science with South African Council for Natural Scientific Professions (SACNASP). Registration Number: 116348**
- **Member of International Association for Impact Assessment (IAIA) South African Chapter**

KEY QUALIFICATIONS AND RELEVANT PROJECT EXPERIENCE

Key competencies

- Environmental Impact Assessment
- Public Participation Processes
- Environmental Management Programmes
- Environmental Compliance Monitoring
- Environmental Auditing
- Safety, Health & Environment Representative (HW-592-PA-05000118)

Country Experience: South Africa, Mozambique, Uganda, South Sudan, Democratic Republic of the Congo (DRC), Namibia, Angola, Cameroon

Project Experience:

2025-Ongoing	**Kenmare Marine Environmental Monitoring:** Assessment of the health of coral reef ecosystems at Caldeira and Njovo Island and an assessment of the local fisheries [Project Leader]
2024-Ongoing	**Kenmare:** ESIA and ESMP for the construction of a Temporary Beach Head and Access Roads for the delivery of dredges by barge for the Kenmare Mining Operation near Moma, Mozambique [EAP, Project Leader]
2022 - Ongoing	**Kikagati Power Company:** Development of a Fish Monitoring Programme relating to the Development of a 14 MW Hydropower Project Located along River Kagera in Southwest Uganda at the border with Tanzania. Environmental Assessment Practitioner [Project Manager]
2022	**Illovo Sugar Malawi: Nchalo Estate Bulk Water Supply Project, Malawi.** Environmental Authorisation (ESIA and ESMP) and associated permits/licenses Environmental Assessment Practitioner [Project Manager and lead Environmental Assessment Practitioner (EAP) [Project Manager]]
2022-Ongoing	**GenesisHexicon: Gagasi 800 MW Offshore Floating Windfarm near Richards Bay, South Africa.** Environmental Authorisation (EIA) and associated permits/licenses Environmental Assessment Practitioner [Project Manager and lead EAP]

GILES CHURCHILL

2021 – 2022	**Mauritius Telecom: Proposed landing of the T3 Cable System in Amanzimtoti South Africa.** Environmental Authorisation and associated permits/licenses Environmental Assessment Practitioner [Project Manager and lead EAP]
2020 – 2022	**Alcatel Submarine Networks: Proposed landing of the 2AFRICA Cable System in Port Elizabeth South Africa.** Environmental Authorisation and associated permits/licenses and Environmental compliance monitoring and reporting during construction. Environmental Assessment Practitioner [Project Manager, EAP and ECO]
2020 – 2021	**Alcatel Submarine Networks: Proposed landing of the 2AFRICA Cable System in Yzerfontein South Africa.** Environmental Authorisation and associated permits/licenses and Environmental compliance monitoring and reporting during construction. Environmental Assessment Practitioner [Project Manager, EAP and ECO]
2020 – 2021	**Alcatel Submarine Networks: Proposed landing of the 2AFRICA Cable System in Duynefontein South Africa.** Environmental Authorisation and associated permits/licenses and Environmental compliance monitoring and reporting during construction. Environmental Assessment Practitioner [Project Manager, EAP and ECO]
2020 – 2022	**Alcatel Submarine Networks: Proposed landing of the 2AFRICA Cable System in Amanzimtoti South Africa.** Environmental Authorisation and associated permits/licenses and Environmental compliance monitoring and reporting during construction. Environmental Assessment Practitioner [Project Manager, EAP and ECO]
2020 – 2021	**Alcatel Submarine Networks: Environmental and Social Impact Assessment for the proposed landing of the Equiano Cable System in Lome, Togo.** Environmental and Social Impact Assessment. Environmental Assessment Practitioner [Project Manager, EAP and ECO]
2020 – 2021	**SANRAL: Proposed KwaXimba Interchange to be constructed on the N3 National Route near Cato Ridge, KwaZulu-Natal.** Environmental Authorisation and associated permits/licenses. Environmental Assessment Practitioner [Project Manager and lead EAP]
2021 – 2021	**Eskom: Taweni 132KV Line and Substation** Environmental Compliance Auditing [Environmental Compliance Officer (ECO)]
2021	**Tattenham Farm.** External annual audit of the Water Use License issued to Tattenham Farm, Gingingdlovu, KwaZulu-Natal. [Environmental Auditor]
2019 – 2021	**Tronox Fairbreeze Mine.** External annual audit of water use licences on Tronox Fairbreeze Mine for the years 2019 – 2021. Environmental Compliance Auditing [Environmental Auditor]
2016 – 2018	**Tronox Fairbreeze Mine.** External annual audit of water use licences on Tronox Fairbreeze Mine for the years 2016 – 2018. Environmental Compliance Auditing [Environmental Auditor]
2019 – 2021	**Alcatel Submarine Networks: Proposed landing of the Equiano Cable System in Melkbosstrand South Africa.** Environmental Authorisation and associated permits/licenses and Environmental compliance monitoring and reporting during construction. Environmental Assessment Practitioner [Project Manager, EAP and ECO]
2019 – 2020	**Alcatel Submarine Networks: Proposed landing of the Equiano Cable System in Swakopmund Namibia.** Environmental Authorisation and associated permits/licenses and Environmental compliance monitoring and reporting during construction. Environmental Assessment Practitioner [Project Manager, EAP and ECO]

GILES CHURCHILL

2019	**ARPE Ltd.** Site inspection and compliance audit of the Agago-Achwa Hydropower Projects, HPP1 and HPP2, located on the Achwa River in northern Uganda. [Environmental Compliance Officer (ECO)]
2018-2019	**Kikagati Power Company:** Feasibility of a new fish pass design relating to the Development of a 14 MW Hydropower Project Located along River Kagera in Southwest Uganda at the border with Tanzania. Environmental Assessment Practitioner [Project Manager and lead EAP]
2018 – 2019	**Democratic Republic of the Congo Fonds de Promotion de l'Industrie:** High level environmental and social scan, including the identification of socio-economic development opportunities for the development of a 18,000 ha greenfields sugar production and processing project, the Kabalo Sugar Development in the Kabalo District of the Tanganyika Province of the DRC [EAP]
2018 – 2019	**Eskom: Makaula 132KV Line and Substation E**nvironmental Compliance Auditing [**E**nvironmental Compliance Officer (ECO)]
2017 – 2018	**MTN: Proposed landing of the ACE Cable System on the West Coast of South Africa** Environmental Compliance Auditing [Environmental Compliance Officer (ECO)]
2018:	**Umzimvubu Local Municipality**. Environmental Authorisation and associated permits/licenses for gravel access roads and concrete causeways near Mount Frere [EAP]
2018:	**Umzimvubu Local Municipality**. Environmental Authorisation and associated permits/licenses for gravel access roads and concrete causeways near Mount Frere [EAP]
2017-18:	**Dube Tradeport**. The extension of the Tongaat Trunk Sewer Line, KwaZulu-Natal. [Environmental Compliance Officer (ECO)]
2017:	**Umzimvubu Local Municipality**. Environmental Authorisation and associated permits/licenses for gravel access roads and concrete causeways near Mount Frere [EAP]
2017:	**Umzimvubu Local Municipality**. Environmental Authorisation and associated permits/licenses for gravel access roads and concrete causeways near Mount Ayliff [EAP]
2017:	**Leo Mattioda**. Environmental Authorisation and Associated Mining Permit for a Borrow Pit on Mr J Readman's Farm near Heatonville [EAP]
2017:	**Eskom Distribution Limited**. Clocolan-Ficksburg 88 kV Power Line and Marallaneng Substation, Free State. [EAP]
2016 - 2017	**MTN: Proposed landing of the ACE Cable System on the West Coast of South Africa.** Environmental Impact Assessment including Scoping, Public Participation, Impact Assessment, commissioning of specialists, drafting of Terms of Reference, correspondence with authorities and applications for water use permits. [Project Manager, EAP, ECO]
2016 - 2017:	**Transnet National Ports Authority. Replacement of Critical Pipe Sections in the Port of Richards Bay, Kwazulu-Natal.** Environmental Assessment Practitioner services for obtaining Environmental Authorisation, a Water Use Licence and Protected Species Permits. [Project Manager, EAP, ECO]
2016 - 2017:	**Transnet National Ports Authority. Construction of an additional rail line within the Port of Richards Bay, Kwazulu-Natal.** Environmental Assessment Practitioner services for obtaining Environmental Authorisation, a Water Use Licence and Protected Species Permits. [Project Manager]
2016:	**Eskom Distribution Limited. Clocolan-Ficksburg 88 kV Power Line and Marallaneng Substation, Free State.** Environmental Assessment Practitioner services for amending the existing Environmental Authorisation and obtaining Water Use Authorisation. [Project Manager]
2016	**iSimangaliso Wetland Park, World Heritage Site: Redevelopment of the St Lucia Estuary Precinct**

	Environmental Impact Assessment (Basic Assessment) including Public Participation, commissioning of specialists, drafting of Terms of Reference, correspondence with authorities and applications for water use permits. Environmental compliance monitoring and reporting during construction. Project Manager. [EAP, ECO]
2015 – 2016	**Eskom: Proposed 100 MW Concentrated Solar Facility (CSP 2) near Upington within the Northern Cape** Environmental Impact Assessment including Scoping, Public Participation, commissioning of specialists, drafting of Terms of Reference, correspondence with authorities and applications for water use permits. [Project Manager]
2015 – 2016	**Eskom: Proposed 100 MW Concentrated Solar Facility (CSP 3) near Upington within the Northern Cape** Environmental Impact Assessment including Scoping, Public Participation, commissioning of specialists, drafting of Terms of Reference, correspondence with authorities and applications for water use permits. [Project Manager]
2015	**Eskom Transmission: Site Specific Addendums to the Construction and Operational Environmental Management Programmes for the construction of the Kappa - Omega 765 kV Transmission Line within the Western Cape.** Compilation of site-specific addendums to the Construction and Operational Environmental Management Programmes (EMPr) for the Kappa-Omega 765 kV Transmission Line. Activities undertaken included liaison with landowners, commissioning of specialists, correspondence with authorities, drafting of application for amendments and review of specialist reports. [Project Manager, EAP, ECO]
2015	**Rehabilitation Plan for the Amatikulu Sand Mining Operation (Mr K.A Pearse).** Rehabilitation Plan as required by Department of Mineral Resources for a Sand Mining operation on the Amatikulu River (EMP: REF KZN30/5/1/2/10086MP) [EAP]
2015	**Mine Closure Plan for the Amatikulu Sand Mining Operation (Mr K.A Pearse).** Drafting of Mine Closure Report, Environmental Risk Report and Final Performance Assessment Report for the closure of Mine PERMIT NUMBER (KZN 30/5/1/2/10086MP) [EAP]
2014 – 2016	**Vodacom Cell Phone Towers.** Environmental Screening of proposed Vodacom Towers and Base Stations including review of current legislation, Public Participation, commissioning of specialists (if required), drafting of Terms of Reference, correspondence with authorities and Environmental Compliance Monitoring. [EAP, ECO]
2014	**Mhlathuze Water: Jozini - Ingwavuma Water Supply Scheme (Zones 8-12) near Jozini, Northern KwaZulu-Natal.** Environmental Impact Assessment (Basic Assessment) including Public Participation, commissioning of specialists, drafting of Terms of Reference, correspondence with authorities and applications for water use permits and Environmental compliance monitoring and reporting during construction [Project Manager, EAP and ECO]
2014	**Department of Public Works: Proposed Marula Pack House and Jam processing facility near Manguzi, Northern KwaZulu-Natal.** Environmental Compliance Monitoring and submission of quarterly audit reports to the Department of Environmental Affairs. [Project Manager and ECO]
2014-2015	**Senekal Boerdery – 1,000 ha Agricultural Development near Mkhuze, Northern KwaZulu-Natal.** Environmental Impact Assessment (Full EIA) including Public Participation, commissioning of specialists, drafting of Terms of Reference, correspondence with authorities and applications for water use permits. [Project Manager]
2014-2015	**Mhlathuze Water: Jozini - Ingwavuma Water Supply Scheme: Environmental Compliance Monitoring.** Environmental Compliance Monitoring of all contractors involved in the construction of the Jozini – Ingwavuma Water Supply Scheme. Duties included environmental compliance monitoring, environmental auditing and assisting with permit applications as and when required [ECO].
2012-2015	**iSimangaliso Wetland Park, World Heritage Site: Redevelopment of the Sodwana Beach Node.** Environmental Impact Assessment (Basic Assessment) including Public Participation, commissioning of specialists, drafting of Terms of Reference, correspondence with authorities and applications for water use permits. [Project Manager]

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2008-2018	**iSimangaliso Wetland Park, World Heritage Site: Environmental Auditing.** Environmental Auditing and Compliance Monitoring of infrastructure developments within the iSimangaliso Wetland Park. [EAP, ECO]
2007-2013	**iSimangaliso Wetland Park, World Heritage Site: Phase 4 Infrastructure Development Programme. Environmental Management Programme. E**nvironmental Management of infrastructure development programme, including processes required in terms of both iSimangaliso internal procedures and EIA Regulations under Sections 21 and 22 of the Environment Conservation Act 73 of 1989; compilation of Environmental Management Plans (EMP) and EMP compliance monitoring for upgrades and construction of roads and other tourist and Park infrastructure on the Eastern and Western Shores, uMkhuze and Coastal Forest Reserve for the Wetlands Authority, iSimangaliso Wetland Park. [EAP, ECO]
2007 - 2018	**iSimangaliso Wetland Park, World Heritage Site: Buffer Zone Management.** Assistance to iSimangaliso in identifying and assessing potential impacts of proposed developments in iSimangaliso's Zone of Influence and preparing comment on behalf of iSimangaliso on such developments as part of formal EIA and other legal planning processes. [EAP]
2013	**Department of Public Works: Proposed Marula Pack House and Jam processing facility near Manguzi, Northern KwaZulu-Natal.** Environmental Impact Assessment (Basic Assessment) including Public Participation, commissioning of specialists, drafting of Terms of Reference, correspondence with authorities and applications for water use permits and environmental compliance monitoring and reporting during construction. [Project Manager, ECO]
2013	**Richards Bay Industrial Development Zone (RBIDZ): Proposed widening of Medway Road within Richards Bay, Northern KwaZulu-Natal.** Environmental Impact Assessment (Basic Assessment) including Public Participation, commissioning of specialists, drafting of Terms of Reference, correspondence with authorities and applications for water use permits. [Project Manager]
2013	**Eskom Transmission: Construction and Operational Environmental Management Programmes for the construction of the Kappa - Omega 765 kV Transmission Line within the Western Cape.** Compilation of the Construction and Operational Environmental Management Programmes (EMPr) for the Kappa-Omega 765 kV Transmission Line. Activities undertaken included the liaison with landowners, commissioning of specialists, correspondence to authorities, drafting of water use licence applications and review of specialist reports. [Project Manager]
2013	**UMkhanyakude District Municipality, Extension to the Mtubatuba Water Treatment Works.** Compilation of the Environmental Management Plan (EMP), commissioning of specialists and correspondence to authorities. Compliance monitoring and submission of Environmental Compliance Audit Reports to the relevant authorities. [Project Manager, ECO]
2012	**Sasol Onshore Seismic Exploration (Mozambique**). Implementation of Compensation Procedures in line with World Bank requirements for Sasol's Onshore Seismic Exploration Activities in Inhambane Province, Mozambique. [Project Manager, EAP]
2012	**Sasol Natural Gas Project: Resettlement Planning and Implementation Program – Offshore: Sofala 3D Shallow Water Seismic Exploration (Mozambique).** Implementation of Compensation Procedures in line with World Bank requirements for Sasol's Offshore Seismic Exploration off the Sofala Banks, Sofala Province, Mozambique. [Project Manage, EAP]
2012	**Transnet Capital Projects, Nsezi Rail Upgrade.** Technical Scoping Report including the commissioning of specialists, drafting of Terms of Reference and correspondence with authorities. [Project Manager, EAP]
2011	**Mozambique Coal Industry Export Initiative Rail and Port Infrastructure Study (FEL 1 and 2): Environmental Aspects (Mozambique).** Initial assessment and high level screening of environmental site selection criteria and concept designs for a deep water coal export port and associated rail links. The outcomes of the project included an integrated FEL 1 and FEL 2 report which included site screening, a description of the environment, identification of fatal flaws and red flags, and possible socio-economic development opportunities. [EAP]

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2010 – 2011	**Mulilo Renewable Energy: Thukela Hydro Electric Power Schemes.** Environmental Impact Assessment including Scoping, Public Participation, commissioning of specialists, drafting of Terms of Reference, correspondence with authorities and applications for water use permits. [Project Manager, EAP]
2010	**CBM Agricultural Development Project (Mozambique).** Environmental Authorisation Process including an Environmental Pre-viability Study and Definition of Scope of Work for the Impact Assessment. [EAP]
2008 – 2009	**Transnet Capital Projects, Geotechnical Survey of the Port of Richards Bay.** Environmental Authorisation Process including the compilation of five Basic Assessment Reports, commissioning of specialists and correspondence to authorities and Interested and Effected Parties. [Project Manager, EAP]
2008 – 2010	**Sasol Offshore Seismic Exploration (Mozambique).** Implementation of Compensation Procedures in line with World Bank requirements for Sasol's Offshore Seismic Exploration Activities in Blocks 16 and 19, Inhambane Province, Mozambique. [Project Manager]
2009	**Transnet Capital Projects, Amendment to Sand Mining EMP.** Amendment to existing Transnet Limited sand Mining EMP: Portion 12 of Reserve 6, No. 15825 GV within the District of uMhlathuze Application No. KZN6/2/2/1221. [EAP]
2008	**Proposed re-engineering of Durban Container Terminal in the Port of Durban.** Environmental Impact Assessment Report in support of an Application for Exemption. [EAP]
2008	**iSimangaliso Wetland Park, World Heritage Site: Placement of the DAR 1 and DAR 2 to Construct Artificial Reefs.** Drafting of the Technical Guidelines for the placement of the DAR 1 and DAR 2 for the purpose of creating artificial reefs including appointment of specialists, drafting of Terms of Reference, review of specialist reports, authority correspondence and assistance with establishing environmental monitoring programs. [EAP]
2008	**KwaZulu-Natal Department of Transport: Roads, Causeways and Pedestrian Bridges.** EMP Compliance Monitoring [ECO]
2007	**KwaZulu-Natal Department of Transport: Environmental Authorisation process and Mining Licences for the opening of Borrow Pits and Quarries required for the upgrade of Sani Pass Road (P318): Phase 1, KwaZulu-Natal, South Africa.** Assisting author in the compilation of the Scoping and EIA for the design, preconstruction, construction, rehabilitation and maintenance phases of the proposed Borrow Pit and Quarries as well as submission of documents to the Department of Mineral Resources. [EAP]

EDUCATION:

1989 - 1993	:	**Greytown High School**
1995-1999	:	**Bachelor of Science Rhodes University** (Majoring in Zoology and Geography)
2000	:	**Honours Degree Rhodes University** Ichthyology Fisheries Science
2001 –2003	:	**Master of Science Rhodes University** **Thesis Title:** An investigation into the captive spawning, egg characteristics and egg quality of the mud crab (*Scylla serrata*) in South Africa. (Located at: http://eprints.ru.ac.za/50/)

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EMPLOYMENT HISTORY:

2007 – Present **Agricultural, Community, Environmental and Rural Development Consultants (Pty) Ltd. t/a ACER (Africa) Environmental Consultants**
Director and Senior Environmental Consultant

2005 – 2007 **AQUAZUL (Aquaculture Consultant/Facilitator) [Self Employed]**
Projects Included:

2005 – 2006 **Agricultural Research Council (ARC)**
Project Manager for the Department of Science and Technology (Government) Small Scale Community Aquaculture development initiative in KwaZulu Natal Tugela Estates project.

2005 – 2006 **Agricultural Research Council (ARC)**
Project Manager for the Department of Science and Technology (Government) Small Scale Community Aquaculture development initiative in KwaZulu Natal Makhathini Flats Cage culture Project (Tilapia *spp.*).

2005 – 2006 **Agricultural Research Council (ARC)**
Project Manager for the Department of Science and Technology (Government) Small Scale Community Aquaculture development initiative in KwaZulu Natal Riverview Hatchery (Tilapia).

2006 **Golder Associates**
Assessment of the Aquaculture potential of the Sondos Agricultural Project near Khartoum in the Sudan.

2003 – 2005 **Stellenbosch University (Aquastel)**
Farm Manager Riverview Tilapia Farm – Assessment of Tilapia (*O. mossambicus*) for commercial pond culture in Northern KwaZulu-Natal.

Languages:

LANGUAGE	SPEAK	READ	WRITE
English	Excellent	Excellent	Excellent
Afrikaans	Fair	Excellent	Fair

References:

Mr A Zaloumis
CEO – iSimangaliso Wetland Park
Email: apz@worldonline.co.za

Mr Vishane Ramharak
AECOM
Email: vishane.ramharak@aecom.com

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Permitting and Environment Manager
Alcatel Submarine Networks
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Izinga Consulting
Email: nicholson@izingaholdings.co.za

GILES CHURCHILL

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe my qualifications and experience.

Giles John Churchill
1 February 2025

Environmental Assessment Practitioners Association of South Africa

Registration No. 2019/1687

Herewith certifies that

GILES CHURCHILL

is registered as an

Environmental Assessment Practitioner

Registered in accordance with the prescribed criteria of Regulation 15. (1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).

Effective: 01 March 2025

Expires: 31 March 2026

Chairperson

Registrar

SAQA